

Self Study Report (SSR)

For NAAC Accreditation of BIET, Bhadrak

Submitted by:



BHADRAK INSTITUTE OF ENGINEERING & TECHNOLOGY
AT/PO: BARAPADA, DIST- BHADRAK-765113
ODISHA

SECTION B: PREPARATION OF SELF-STUDY REPORT

1. Profile of the Affiliated / Constituent College

Name :	BHADRAK INSTITUTE OF ENGINEERING & TECHNOLOGY
Address :	At/Po: Baarapada, Dist- Bhadrak – 756113, Odisha
City :	Bhadrak
Website :	www.bietbhadrak.ac.in

1. For Communication:

Designation	Name	Telephone with STD Code	Mobile	Fax	E-mail
Principal	Prof.(Dr.) Mohan Charan Panda	06784 – 261633	9556041223	261632	principalbiet@rediffmail.com
Dean (Administration)	Prof. (Dr.) Amarendra Chaini	06784 – 261633	9853023631	261632	principalbiet@rediffmail.com
Steering Committee Coordinator	Prof. (Dr.) Jibanananda Jena	06784 – 261633	9437955099	261632	principalbiet@rediffmail.com

3. Status of Institution:

Affiliated Institute	<input checked="" type="checkbox"/>
Constituent Institute	<input type="checkbox"/>
Any Other (specify)	<input type="checkbox"/>

4. Type of Institution:

a. By Gender	<input type="checkbox"/>
i. For Men	<input type="checkbox"/>
ii. For Women	<input type="checkbox"/>
iii. Co-education	<input checked="" type="checkbox"/>

b. By Shift	<input checked="" type="checkbox"/>
i. Regular	<input type="checkbox"/>
ii. Day	<input type="checkbox"/>
iii. Evening	<input type="checkbox"/>

5. Is it a recognized minority institution?

Yes ☐

No ☒

If yes specify the minority status (Religious/linguistic/ any other) and provide documentary evidence

6. Source of funding:

Government ☐

Grant-in-aid ☐

Self-financing ☒

Any other ☐

7. a. Date of establishment of the Institute: 01/08/1997

b. University to which the Institute is affiliated /or which governs the Institute (If it is a constituent Institute): **Biju Patnaik University of Technology, Odisha**

c. Details of UGC recognition

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)
2 (f) act 1956		

d. Details of recognition/approval by statutory/regulatory bodies other than UGC (AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Approved by AICTE, New Delhi and recognized by the Govt. of Odisha

Under Section/ Clause	Recognition / Approval details Institutions / Department / Programm						Day Month and Year (dd-mm-yyyy)	Validity	Remarks
	F.No. Eastern/1-2449855110/2015/EOA						07-04-2015	1 Yr	
	Shift	Level	Course	Full / Part time	Affiliating Body	Intake Approval for 15-16			
	1 st Shift	Post Graduate	Civil Engineering	Full Time	BPUT, Rourkela	24			
	1 st Shift	Post Graduate	Mechanical Engineering	Full Time	BPUT, Rourkela	24			
	1 st Shift	Post Graduate	Electronics & Telecommunication Engineering	Full Time	BPUT, Rourkela	24			
	1 st Shift	Post Graduate	Computer Science & Engineering	Full Time	BPUT, Rourkela	24			
	1 st Shift	Under Graduate	Civil Engineering	Full Time	BPUT, Rourkela	120			
	1 st Shift	Under Graduate	Electrical Engineering	Full Time	BPUT, Rourkela	60			
	1 st Shift	Under Graduate	Mechanical Engineering	Full Time	BPUT, Rourkela	120			
	1 st Shift	Under Graduate	Electronics & Telecommunication Engineering	Full Time	BPUT, Rourkela	90			
	1 st Shift	Under Graduate	Computer Science & Engineering	Full Time	BPUT, Rourkela	90			
	1 st Shift	Under Graduate	Information Technology	Full Time	BPUT, Rourkela	60			

8. Does the affiliating university Act provide for conferment of autonomy (as recognized by

the UGC), on its affiliated Institutes?

Yes ☐ No ☒

If yes, has the Institute applied for availing the autonomous status?

Yes ☐ No ☐

9. Is the Institute Recognized?

a. by UGC as a Institute with Potential for Excellence (CPE)?

Yes ☐ No ☒

If yes, date of recognition: (Dd/mm/yyyy)

b. for its performance by any other governmental agency?

Yes ☐ No ☒

If yes, Name of the agency and Date of recognition:

10. Location of the campus and area in sq.mts:

Location *	Rural
Campus area in Sq. mts.	60500.503 Sq. mts.
Built up area in Sq. mts.	56377 Sq. mts.

(* Urban, Semi-Urban, Rural, Tribal, Hilly Area, Any Other specify)

11. Facilities available in the campus (Tick the available facilities with numbers along with other details in appropriate places) or provide information on the facilities covered under the agreement, in case the institute has an agreement with other agencies in using any of the listed facilities.

Auditorium/seminar complex with infrastructural facilities

BIET, Bhadrak provides a large platform for its students to improve their talents in academic and various cultural activities such as music, drama, song, and dance. It has a fully air- conditioned auditorium, facilitated with LCD, OHP, Whiteboard, ultra modern sound and lighting system for organizing Seminars, conferences and different cultural activities and is enough to accommodate 600 participants. Apart from this, it has six more air- conditioned seminar halls configured with multimedia projector and advanced sound system with a capacity of 200 seats each to conduct important workshops and seminars.

Sports facilities

Play ground:

- ❖ BIET has a lush green football field of (120X140) Sq. mt, where different practice sessions and intramural football matches are organized. Students are provided with jersey, studs, stockings, net, football etc. for successful practice and matches.
- ❖ It has a basket ball court of (32X19) Sq. mt with 30 mm transparent fiber boards and light facilities. Students are provided with training by a well trained coach during

the prescribed hours. Our students have a good record in the national level basket ball championship.

- ❖ A well equipped Volleyball court is available in the institute to facilitate the students for successful practice and organizing inter and intramural matches.
- ❖ BIET is having a cricket field of 65 meter radius surrounded with a lush green outfield. The students are provided with complete cricket kit for their practice and participation to achieve success in this field.

Swimming pool

BIET has an International standard five track swimming pool (25x18 meters). It has a modernized water recycling system to maintain the cleanness of the pool. A permanent trainer is appointed to train and encourage the students for participation in different state and national level competitions. Separate time slots are allotted for boys, Girls and faculties.

Gymnasium

BIET has a high-tech multi-gym for various physical exercises to keep the students and staff fit and fine. A special weightlifting trainer is appointed to train the students for various competitions organized across the country. Our students have also been awarded in various weightlifting competition.

Hostel

Boys' Hostel

- i. Number of hostels - 3
- ii. Number of boarders - **2150**
- iii. Facilities (mention available facilities)

General facilities available:

- Student welfare officers along with caretakers are appointed.
- Wi-Fi net facility throughout the hostel campus.
- Computer laboratory with 24 Hours Browsing facility
- A separate building called CENTRAL MESS for Tiffin, lunch and dinner
- Two AC guest houses are available inside the campus for guardians and parents
- Photocopy on subsidy rates and PCO center with ISD & STD facilities
- Gents Parlor and Cafeteria.
- Dispensary (Homeopathic and Allopathic) and 24 hour ambulance service (2 Nos.)
- 24 hour medical and security services
- 24X7 centralized AC library facility
- Water coolers with purifiers
- Round the clock power supply system with back up facilities
- 24x7 security facility

Girls' Hostel

- i. Number of hostels - 1
- ii. Number of boarders - **1085**
- iii. Facilities (mention available facilities)

General facilities available:

- Student welfare officers along with Matrons are appointed.
- Wi-Fi network facility throughout the hostel campus.
- Two A.C. guest houses are available inside campus for guardians and parents.
- Dispensary (Homeopathic and Allopathic) 24 hour ambulance service (2 Nos.)
- 24 hour medical and security services
- Centralized AC library facility up to 7 PM.
- 24X7 centralized AC library facility
- Water coolers with purifiers
- Round the clock power

Working women's hostel - NA

i. Number of boarders

ii. Facilities (mention available facilities)

- Residential facilities for teaching and non-teaching staff (give numbers available -- cadre wise)

100% accommodation facility is provided for teaching staff both in campus staff quarters and rented houses outside the campus. Separate arrangement is also made in the hostels for bachelor accommodation and for non-teaching essential staff.

Teaching:

Professor -15

Associate Professor -20

Assistant Professor - 91

Supporting Staff:

Technical Staff - 31

Non Teaching Staff - 35

- **Cafeteria –**

A well furnished cafeteria is inside the BIET campus to cater to the refreshments of both students and staff till late hours.

- **Health centre -**

The Institute has a health care centre inside the college campus which functions for 24X7. Two doctors (both allopathic and homeopathic) are on duty. Free medical service is provided here. Apart from this, all types of preventive medicines along with two ambulance services are dedicated for the students and staff members.

- First aid, Inpatient, Outpatient, Emergency care facility, Ambulance Health centre staff

First aid	✓
Inpatient	✓
Outpatient	✓
Emergency care facility	✓
Ambulance	2

Qualified doctor

Full time - 1

Part-time - 0

Qualified Nurse& other staff

Full time - 2

Pat-time – 0

Facilities like banking, post office, book shops

Banking-

United bank of India has its branch in the college campus along with one ATM service to cater the needs of students and staff for transactions.

Post office –

Post office is available adjacent to college main gate.

Book shops –

Book shop is available inside the college campus to meet the requirement of students and staff members.

Transportation facilities -

25 no of buses are at transport service for students and staff members.

• Animal house – Nil

• Biological waste disposal – The biological waste disposal plant is under construction inside the college campus.

• Generator or other facility for management/regulation of electricity and voltage

24 hours un-interrupted power supply is available to all the departments, offices and hostels. We have 3*250 KVA, 1*125 KVA, 1*62.5 KVA stand-by Diesel Generators of a total 937.5 KVA installed inside the college campus for un-interrupted power supply.

• Solid waste management facility - No

• Waste water management – Waste water from all the hostels inside the campus are treated using anaerobic digestion followed by activated carbon filter in the waste water treatment unit and then used for gardening purpose.

• Water harvesting - We have a water harvesting zone inside the college campus. This is running under NSS wing of our institute.

12. Details of programmes offered by the college (Give data for current academic year)

Sl No	Programme Level	Name of the Programme/Course	Duration	Entry Qualification	Medium instruction	Sanctioned /approved Student Strength	No. of Student admitted
1	Post Graduate	Civil Engineering	2 Years	BE, B. Tech, M. Sc, MCA	English	24	15
		Mechanical Engineering				24	19
		Computer Science & Engineering				24	12
		Electronics & Tele. Comm. Engineering				24	3
2	Under Graduate	Civil Engineering	4 Years	12th/10+2	English	120	51
		Electrical				60	19

		Engineering					
		Mechanical Engineering				120	67
		Electronics & Tele Comm. Engineering				90	2
		Computer Science & Engineering				90	10
		Information Technology				60	0

13. Does the Institute offer self-financed Programmes?

Yes ☒ No ☐

If yes, how many?

PG-04, UG-06

14. New programmes introduced in the Institute during the last five years if any?

Yes ☒ No ☐

Number

PG-04

15. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as departments, unless they are also offering academic degree awarding programmes. Similarly, do not list the departments offering common compulsory subjects for all the programmes like English, region languages etc.)

NO

Faculty	Department	UG	PG	Research

16. Number of Programmes offered under (Programme means a degree course like BA, BSc, MA, M. Com...)

NO

a. Annual System

b. Semester system

c. Trimester system

17. Number of Programmes with

a. Choice Based Credit System

b. Inter/Multidisciplinary Approach

c. Any other (specify and provide details)

NO

UG and PG: Semester Based Credit System

18. Does the Institute offer UG and/or PG programmes in Teacher Education?

Yes

☐

No

☒

a. Year of Introduction of the programme(s)..... (Dd/mm/yyyy) and number of batches that completed the programme

b. NCTE recognition details (if applicable)

Notification No.:

Date: (Dd/mm/yyyy)

Validity:

c. Is the institution opting for assessment and accreditation of Teacher Education Programme separately?

Yes

No

19. Does the Institute offer UG or PG programme in Physical Education?

Yes

☐

No

☒

If yes,

a. Year of Introduction of the programme(s)..... (dd/mm/yyyy) and number of batches that completed the programme

b. NCTE recognition details (if applicable)

Notification No.:

Date: (dd/mm/yyyy)

Validity:

c. Is the institution opting for assessment and accreditation of Physical Education Programme separately?

Yes

☐

No

☐

20. Number of teaching and non-teaching positions in the Institution

Position	Teaching Faculty						Non Teaching Staff		Technical Staff	
	Professor		Associate Prof.		Asst. Prof.					
	M	F	M	F	M	F	M	F	M	F
Sanctioned by the UGC/ University/ State Government <i>Recruited</i>	-	-	-	-	-	-	-	-	-	-
<i>Yet to recruit</i>	-	-	-	-	-	-	-	-	-	-
Sanctioned by the Management/ society or other authorized bodies <i>Recruited</i>	13	02	20	-	47	44	29	2	34	1
<i>Yet to recruit</i>	-	-	-	-	-	-	-	-	-	-

***M-Male *F-Female**

21. Qualifications of the teaching staff:

Highest	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teacher							
Ph. D.	13	02	-	-	-	-	15
M. Phil	-	-	-	-	-	-	-
PG	-	-	20	-	47	44	111
Temporary Teacher							
Ph. D.	-	-	-	-	-	-	-
M. Phil	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-
Part-time Teacher							
Ph. D.	-	-	-	-	-	-	-
M. Phil	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-

22. Number of Visiting Faculty / Guest Faculty engaged with the Institute.

NO

23. Furnish the number of the students admitted to the Institute during the last four academic years.

For UG

Sl · N o.	Branch	Categories	Year 1		Year 2		Year 3		Year 4	
			Mal e	Female	Mal e	Femal e	Mal e	Femal e	Mal e	Femal e
01	CIVIL ENGG.	SC	9	6	6	--	9	3	5	1
		ST	1	--	1	--	--	--	2	1
		OBC	--	--	--	--	--	--	--	--
		GENERAL	24	4	16	7	40	26	13	13
		OTHERS	4	3	3	3	4	4	3	--
02	ELECTRICAL ENGG.	SC	2	--	1	1	1	--	--	1
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	14	--	8	2	11	1	20	--
		OTHERS	2	1	3	--	4	--	1	--
03	MECHANICA L ENGG.	SC	4	--	2	--	6	--	4	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	54	--	70	--	70	1	44	--
		OTHERS	8	1	10	--	8	--	6	1
04	ELCRONICS & TELE COMMUNIC ATION ENGG.	SC	--	--	--	--	1	--	--	1
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	--	2	1	1	2	6	4	7
		OTHERS	--	--	--	--	1	--	2	1
05	COMPUTER SCIENCE & ENGG.	SC	--	--	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	3	--	--	1	5	3	1	2
		OTHERS	3	4	1	--	--	1	--	--
06	INFORMATIO N TECHNOLOG Y	SC	--	--	--	--	--	--	--	--
		ST	--	--	--	--	--	--	1	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	--	--	--	--	1	--	--	--
		OTHERS	--	--	--	--	--	--	--	--

FOR PG

Sl . No.	Branch	Categories	Year 1		Year 2		Year 3		Year 4	
			Male	Female	Male	Female	Male	Female	Male	Female
01	CIVIL ENGG.	SC	2	1	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	5	7	4	2	--	--	--	--
		OTHERS	--	--	1	--	--	--	--	--
02	COMPUTER SCIENCE & ENGG.	SC	--	1	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	7	4	6	1	--	--	--	--
		OTHERS	--	--	1	--	--	--	--	--
03	MECHANICAL ENGG.	SC	--	--	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	13	4	8	--	8	1	--	--
		OTHERS	2	--	--	--	--	--	--	--
04	ELCRONICS & TELE COMMUNICATION ENGG.	SC	--	--	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	--	3	1	4	--	--	--	--
		OTHERS	--	--	--	--	--	--	--	--
05	MCA	SC	2	--	--	--	--	--	--	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	1	5	1	4	6	3	5	4
		OTHERS	--	--	--	--	--	--	--	--
06	MBA	SC	--	--	--	--	--	--	1	--
		ST	--	--	--	--	--	--	--	--
		OBC	--	--	--	--	--	--	--	--
		GENERAL	49	11	10	6	10	5	7	10
		OTHERS	--	--	--	--	--	--	--	1

24. Details on students enrollment in the college during the current academic year:

Type of Student	UG	PG	M. Phil	Ph. D.	Total
Students from the same state where the college is located	143	39	Nil	Nil	182
Students from other states of India	6	10	Nil	Nil	16
NRI students	Nil	Nil	Nil	Nil	Nil
Foreign students	Nil	Nil	Nil	Nil	Nil
Total	149	49	Nil	Nil	198

25. Dropout rate in UG and PG (average of the last two batches)

UG

Nil

PG

Nil

26. Unit Cost of Education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

(a) including the salary component

49455.73

(b) excluding the salary component

7405.80

27. Does the college offer any programme/s in distance education mode (DEP)?

Yes

No

a) If yes, is it a registered centre for offering distance education programmes of another University

Yes

No

b) Name of the University which has granted such registration.

c) Programme carry the recognition of the Distance Education Council.

Yes

No

28. Provide Teacher-student ratio for each of the programme/course offered

UG: 1:15 to 1:20

PG: 1:12

29. Is the Institute applying for?

Accreditation: Cycle 1 ☒

Cycle 2 ☐

Cycle 3 ☐

Cycle 4 ☐

Re-Assessment

(Cycle 1 refers to first accreditation and Cycle 2, Cycle 3 and Cycle 4 refers to re-accreditation)

30. Date of accreditation* (applicable for Cycle 2, Cycle 3, Cycle 4 and re-assessment only)

Cycle 1: (Dd/mm/yyyy) Accreditation Outcome/Result

Cycle 2: (Dd/mm/yyyy) Accreditation Outcome/Result.....

Cycle 3: (Dd/mm/yyyy) Accreditation Outcome/Result.....

**** Kindly enclose copy of accreditation certificate(s) and peer team report(s) as an annexure.***

31. Number of working days during the last academic year.

32. Number of teaching days during the last academic year

(Teaching days means days on which lectures were engaged excluding the examination Days)

33. Date of establishment of Internal Quality Assurance Cell (IQAC)
IQAC 26/03/2009 (dd/mm/yyyy)

34. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC.

AQAR (i) (Dd/mm/yyyy)

AQAR (ii) (Dd/mm/yyyy)

AQAR (iii) (Dd/mm/yyyy)

AQAR (iv) (Dd/mm/yyyy)

35. Any other relevant data (not covered above) the college would like to include. (Do not include explanatory/descriptive information)

1.1 Curriculum Planning and Implementation

1.1.1 State the vision, mission and objectives of the institution, and describe how these are communicated to the students, teachers, staff and other stakeholders.

- To contribute to India and the World through excellence in scientific and technical education and research.
- To serve as a valuable resource for Industry and Society and remain a source of pride for all Indians.
- To foster prosperity through technological development by means of education, innovation and collaborative research and emerge as a premier technical institution

- To generate new knowledge by enjoying in cutting edge research and to promote academic growth by offering state-of-the art under graduate, post graduate and doctoral programmes.
- To undertake collaborative projects which offer opportunities for long-term interaction with academic and industry.
- To develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professionals.
- Academic integrity and accountability.
- Appreciation of intellectual excellence and creativity.
- An unfettered spirit of exploration, rationality and enterprise.
- To provide quality education of international standards for producing technocrats and future leaders in a disciplined and conducive environment as an integral part of our social commitment to promote education in eastern India

Vision and mission are communicated to students, teachers, staff and other stakeholders through Institute website, student's handbook, teacher's handbook, Institute's brochure, display boards, etc.

The main objective of the Institute is to provide dynamic, student-centered, comprehensive, and accessible educational opportunities that address the diverse needs of the community.

Objectives:

- Empowering students to be academically and professionally competent to successfully confront the challenges in the fields of Natural and Physical

Sciences; Business, Management and Economics; Engineering and Technology; and Education.

- Inculcating norms, values and etiquette that are socially relevant to the human development, needs of the majority and making them responsive towards the ideals of a democratic society.
- Harnessing the most competitive technocrats to make them fit for all scenarios to come.
- Providing placements in Prospective IT & Core Companies.
- Privileging sufficient practical exposures to create action plans and execute the solutions
- Motivating the students to develop a passion to win and a global mindset.
- Conducting programmes on personality development, add-on skills, entrepreneurship, ethics and co-curricular and extracurricular events on regular basis for the all round development of students.
- Enhancing the MOUs with number of industries for better institute-industry interaction, students' placements, projects, in-house training and technology transfer on current topics.

Programme Educational Objectives (PEOs)

- Solve problems of our society using fundamentals of mathematics, science, every Engineering disciplines
- Function and communicate effectively, individually and as a team, using professional ethics and social awareness
- Strive for excellence in higher academic pursuit for international standards
- Take up continuous learning as the lifelong goal for a successful career

Programme Outcomes (POs)

- Ability to apply knowledge of mathematics, computer programming and other related science to engineering
- Ability to apply knowledge of management, social sciences and ethical principles to derive maximum benefit for the organization and society
- Ability to analyze the problem of complex nature
- Ability to design solutions to engineering problems by using modern tools
- Ability to evaluate the process to meet the desired needs of engineering industries and research organizations
- Ability to apply specialized knowledge and skills in inter-disciplinary areas in emerging contexts
- Ability to function on multidisciplinary teams
- Ability to devise engineering solutions for environmental protection and sustainability

- Ability for effective communication for presenting complex engineering problems and solutions
- Ability for lifelong learning
- A knowledge for contemporary social issues and ethical practices

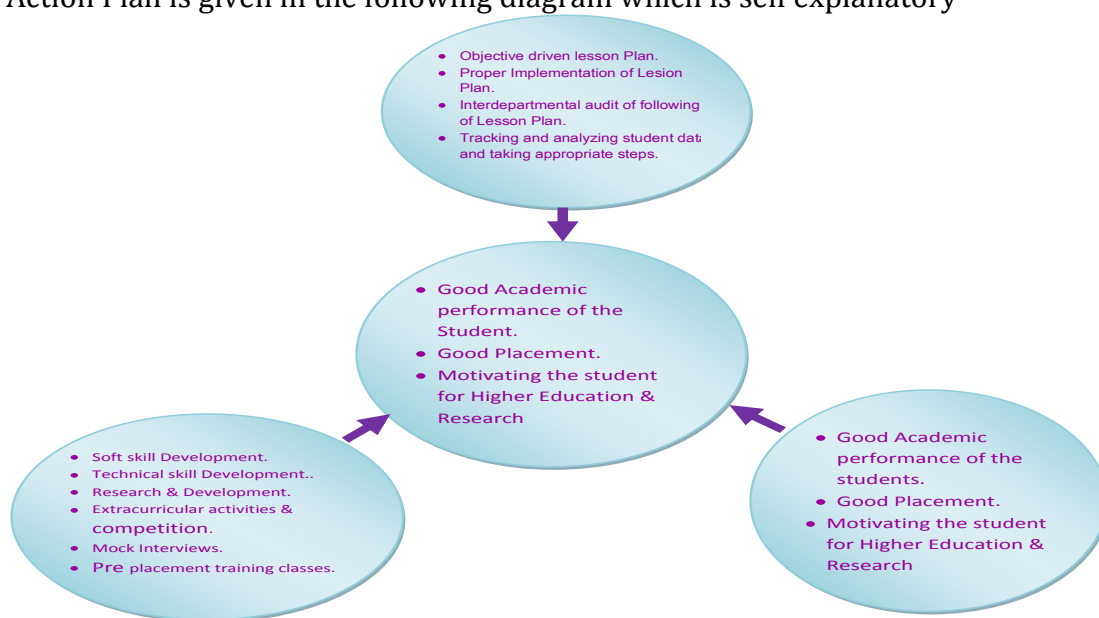
The objectives, PEOs and POs have been published and disseminated among the stakeholders by putting them on:

- Website
- Teachers' handbook
- Students' handbook
- Display boards
- Monthly news letter (campus flash)

1.1.2 How does the institution develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

- The institution follows the curriculum designed by the Biju Pattanaik University of Technology, Rourkela, Odisha.
- At the beginning of every academic year, all the departments chalk out an academic calendar which includes lecture hours, topics to be taught and other co-curricular activities to be conducted during the year.
- The heads of the departments distribute the syllabi among the faculty members of their departments.
- All faculty members maintain continuous evaluation diary which contain
 - Lecturer Notes
 - Administrative, curricular and co-curricular activities
 - Study Objective
 - Lesson Plan
 - The topic and the class engaged
 - Teaching methods
 - Questions & results of the surprise test
- As per the schedule date internal tests for students like Unit Test-1 and Unit Test -2 are conducted in each semester.
- Remedial classes are conducted in different subjects to improve the weaker students.
- Industrial visits are arranged to bridge the gap between theoretical knowledge and real life scenario from time to time.

- New and innovative teaching techniques in addition to the traditional lecture method are evolved to make students involved in the teaching learning process. The faculty members employ peer teaching, discussion method, experiential learning, use of audio-visual aids using LCD, case study, projects, surveys, models, Quiz etc in the delivery of academic programmes.
- Special lectures are conducted by inviting experienced and exposed personalities from different premier Universities/Institutes, Research Organizations and Industries.
- Effective proctorial system is implemented in each and every department of the institute to accelerate the mentor system. Each member of the teaching faculty is entrusted with the task of mentoring 20 students. They are responsible for academic and personal mentoring in order to strengthen the bonds of appreciation and affection between teachers and students.
- Action Plan is given in the following diagram which is self explanatory



1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or institution) for effectively translating the curriculum and improving teaching practices?

- The College prepares an Academic Calendar that specifies the curriculum to be taught by a teacher, duration of the session, the date of commencement of internal and external examination and the like. The institution receives regular circulars, letters and emails from the university, regarding the changes or modifications in the curriculum. The Principal informs the concerned teachers about the change and gives them a copy of the same. Thus the faculty members receive all sorts of support from the university and institution to understand the curriculum properly. The faculties of the Institute convey their ideas and

suggestions to the Board of Studies of the University through members of the Institute.

- When university implements new patterns of the syllabi, the University organizes workshops for effective implementation of the curriculum for the teachers. The institution encourages its faculty members to participate in such workshops.
- Use of modern teaching aids (e.g. LCD-Projector, digital board, etc) for conducting special classes smoothly.
- Participating in various faculty development programs, workshops, seminars, conferences, etc to enrich their knowledge. The Institute bears all the expenditures including travel allowances, registration and participation fees etc.
- Digital libraries, E-learning, E-journals like science direct, Springer, IEEE etc. facilities are provided to all the faculty members of the institution which help them in teaching and delivering good lectures.
- Wi-fi and Internet facility is available throughout the campus for better teaching learning process.
- Many innovative and orientation programs are conducted in the institute to improve the skills of the faculty.
- Innovative teaching-learning methodologies are used to make the teaching process more attractive.
- Consultation with Senior Professors.
- Consultation with industries and R&D Institutions by the teachers to enhance the practical knowledge of the teachers to transform the students as industry ready professionals.

1.1.4 Specify the initiatives taken up or contribution made by the institution for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

Though the curriculum is designed and revised by the Biju Patnaik University of Technology (BPUT), Odisha, by means of effective curriculum delivery, the institute provides supports in terms of

- Having staff delivering the curriculum who are appropriately qualified and experienced, not only in the subject matter but with the level of the curriculum they are delivering and with curriculum initiatives, such as Curriculum for Excellence
- Ensuring appropriate staff training and development (eg. use of ICT in learning and teaching)

- Encouraging faculties to evaluate their own learning and teaching practice.
- Encouraging innovation in learning and teaching – planning how practice can be shared amongst lecturers
- Preparation of Objective Driven Teaching Plan at the beginning of each semester.
- Faculty development programs such as: Internal seminars, conferences, workshops, guest lecturers are organized to improve teaching-learning process of the Institute.
- Students are sent to various companies for the completion of their Industrial training.
- Students are motivated to attend different seminars, conferences and to involve themselves on doing research work and publication of papers.
- Students are encouraged to do innovative project work of national interest
- Students are encouraged to participate in various technical events/ competitions conducted in-house and outside campuses.
- The departmental library of the institute has been created for the use of teachers and students wherein all the rich stock of latest books are made available to the faculty for their reference.
- In addition to the regular subject classes, the Institute also organizes special lectures by inviting experts from various fields to share their knowledge and experiences with the students and faculty members. The Institute also organizes special Personality Development Programs for its students.

1.1.5 How does the institution network and interact with beneficiaries such as industry, research bodies and the university in effective operation of the curriculum?

Industry

The Industry-Institute Cell of BIET invites experts from various industries. Eminent personalities from reputed companies are invited to the institute for delivering lectures and interaction with the students. Students are sent to various Industries to bridge their gap of theoretical knowledge with practical implementation. The college regularly interacts, takes periodic feedback from the Industry where the students are engaged for projects, internships, jobs and analyze to take measures on the finding. The institute annually organizes Campus connect programme in collaboration with INFOSYS for faculty and students. It is recognized by IBM as IBM center of excellence.

The institute has executed MOU with following industries:

- MoU between BIET – FACOR has been signed in the year 2007-2008 and work is progressing. The amount sanctioned is 5.5 lakh for carrying out the investigation.

- BIET, Bhadrak and Ispat Alloys Limited Balasore, agreed to sign an MoU shortly. The technology transfer regarding waste water treatment shall be done after the agreement is signed by both the authorities.

Research Bodies

- The Institute has a separate incubation centre for Research and Development. The R&D centre is being headed by Dr. G.C.Behera, Dean (R&D). The research work of the organization is being monitored by the Research Monitoring Committee (RMC). The Institute encourages for conducting a Research Council (RC) Meeting in every one year, in which eminent personalities from premier institutes (IITs, NITs) and R&D organizations take part for monitoring and advising the research works at BIET.

The college administration encourages faculty members to take up membership of professional research bodies and to participate in research activities at national and international level. The college administration also motivates students to actively participate in summer school programmes, seminars, workshops, panel discussions etc. held at various places in the country.

University

The institution constantly keeps in touch with its affiliated university. Regular formal and informal meetings are conducted throughout the academic sessions to keep abreast of the latest trends in their fields of study. Many new things are acquired and also communicated by our faculty members during Board of Study meetings held in the University.

1.1.6 What are the contributions of the institution and/or its staff members to the development of the curriculum by the University?(number of staff members/departments represented on the Board of Studies, student feedback, teacher feedback, stakeholder feedback provided, specific suggestions etc.

The college formally as well as informally obtains feedback on curriculum from staff members, students, alumni, parents, employers, academicians, and community by conducting meetings, and through college functions, workshops, discussions etc. The feedback report is presented in front of the Board of Studies, BPUT, Odisha by our principal Dr. M.C.Panda., who is one of the council member of the University. Faculty members who are the statutory academic bodies communicate suggestions/recommendations during different meetings conducted by the academic council, to redesign programmes/syllabus for appropriate and effective inclusion of recent updates in a particular field. The following faculty members are members of the academic council of BPUT, Rourkela, Odisha

Sl. No	Name of the Faculty member	Department
1	Dr. G.C.Behera	Civil Engineering
2	Dr. J Jena	Mechanical Engineering
3	Prof. A. K. Palit	Basic Science
4	Prof. P. S. Puhan	Electrical Engineering

1.1.7 Does the institution develop curriculum for any of the courses offered (other than those under the purview of the affiliating university) by it? If ‘yes’, give details on the process (‘Needs Assessment’, design, development and planning) and the courses for which the curriculum has been developed.

Apart from the subjects offered by the university, we offer the following courses to enrich the sustainability of students in the global market.

ORACLE

- PPT(Pre placement training)
- Soft Skill Development

For the above courses the need based syllabus is designed in consultation with the faculty, Head of the Institution and the concern collaborating organization (Purpleleaf).

1.1.8 How does institution analyze/ensure that the stated objectives of curriculum are achieved in the course of implementation?

Methods of analysis to ensure the stated objectives of curriculum are achieved in the course of implementation as follows:

- All the faculty members of the institution follow the lesson plan for the successful completion of the syllabus. The faculty members are required to fill in continuous Lesson progress note in every semester, which is evaluated by the senior professors and head of the department.
- Mock tests are conducted regularly for improvement of the students.
- Feedback system - During each semester, there is a provision of an online feedback system, where the students evaluate their teachers on the basis of certain criterion which are available on the feedback form.
- Analysis of student performance and examination result,
- Placement of students,
- Quality enhancement of teaching-learning skills of faculty members,
- Research activities like minor and major research projects,
- Participation of students in various cultural and sports activities, competitive examinations, etc.,
- Participation in social outreach and extension activities.

It is observed that by the implementation of the aforesaid methodologies, the University specified objectives for the curriculum is met as stated below:

- Most of the students achieve good marks in their respective examinations and acquire a notable position at par highly competitive job market.
- Students from most of the branches secure university ranks in the top ten list.
- Students of our institution achieve success in various inter-college and intra-college competitions.
- Our Alumni's are securing top positions in different organizations both academic and corporate sector

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/ skill development courses etc., offered by the institution.

Concurrent with the desired goals and objectives, the Institute promotes the advancement of academic/professional and skill development knowledge in various courses. The following skill development programmes are conducted by the different departments.

SI No	Name of the Programme	Department
1	AUTO CAD, Bridge Construction . Renewable Energy Source	Civil Engineering
2	AUTO CAD, PROE, ANSYS, Optimization Technique	Mechanical Engineering
3	MAT LAB, and Applications, Power System Protection	Electrical Engineering
4	VLSI, Embedded System,	Electronics & Telecommunication

1.2.2 Does the institution offer programmes that facilitate twinning /dual degree? If 'yes', give details. **Nil**

1.2.3 Give details on the various institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability. Issues may cover the following and beyond:

- **Range of Core / Elective options offered by the University and those opted by the college**

Core Options:

The university designs the curriculum in every three year as per the requirement of globe. The suggestions and modifications in the core subjects have been incorporated by the advisory committee members for each discipline. Common and core subjects are given from Semester-I to Semester-VIII.

Elective Options:

Elective options are there, as per University curriculum and well executed by the college. Nearly 30% of the subjects are given as Electives from Semester-III to

Semester-VIII for Under Graduate students. The same percentages of the subjects are given as Electives from Semester-III to Semester-IV for Post Graduate students also.

Add on Courses:

The different Courses are identified by the departments to meet the Industrial requirement and imposed in the curriculum so that the students can enrich their knowledge and demonstrate outstanding performance among their competitors. Apart from this, various Motivational classes, Time Management Classes etc. have been organized at the department level.

• **Choice Based Credit System and range of subject options**

As there is no provision of choice based credit system under the university, **the institute follows semester based credit system designed by the university.** The courses are offered as per curriculum and syllabus prepared by the BPUT, Rourkela. However, the subject options as electives are available after 3rd semester. The elective subject prescribed by BPUT has been chosen based on the students' interest and as per the requirement in the Global market.

• **Courses offered in modular form**

Courses are provided unit wise and are arranged in the modular form at the U.G level by the University. The modules so arranged are also used for testing the students in the Internal Assessments and for the University Exams.

• **Credit transfer and accumulation facility**

Credit transfer and accumulative facility exists as per the rule of the affiliating university.

• **Lateral and vertical mobility within and across programmes and courses**

As per the University guideline (Clause No-2.5) any student, pursuing B. Tech programme, may be allowed a change of branch in the institution after completion of course requirements for the first year programme. The selection shall be on the basis of merit, assessed through the combined results of the first and second semester examinations declared in the form of Cumulative Grade Point Average (CGPA) at the end of the first year which should be 8.00 or more. This is an incentive to meritorious students.

Those students who clear all the papers of both the semesters of the first year are only allowed to apply for a change of branch. Change of branch may be accorded subject to the condition that the consequent total student strength in the 'gainer' programme shall not exceed by 10% of the approved seats and the net student strength in the loser programme shall not deplete by more than 10% of the actual student strength existing on the rolls, prior to the change during the process.

An institution deciding to award benefit of branch change shall constitute a committee (Branch Change Committee) with the Principal as its Chairman. The committee shall invite options from the students and prepare a merit list based on CGPA and allot change of branch in order of their preferences. Institutional decision on the matter shall

be final. The Institute shall intimate the decision on branch change within seven calendar days from start of the semester.

• **Enrichment courses**

Enrichment of courses with additional relevant short term courses, seminars and workshops are organized. Advanced and enriched courses are offered as Electives during the final year UG and PG Degree Programmes. Besides, the students are also encouraged to take up add-on course which can enhance their employability after their graduation and post-graduation.

1.2.4 Does the institution offer self-financed programmes? If ‘yes’, list them and indicate how they differ from other programmes, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

Since the institution is an un-aided institution, all the courses offered by the institution are self-financing programmes.

The following is the list of self financing post graduate programmes offered by the institute

Program	Level	Course	Full Time / Part Time	Affiliating University	Intake Capacity

The various self financing under graduate programmes are

Program	Level	Course	Full Time / Part Time	Affiliating University	Intake Capacity

Students in these courses are admitted on the basis of merit list that is prepared by the JEE (Main) conducted by CBSE under the direction of Govt. of Odisha. The curriculum of these courses is developed by affiliating University. The management of the institution spends for the infrastructure and salary of the teaching and non-teaching staff. Highly qualified and meritorious candidates with research potential are appointed on regular basis as per the norms of AICTE to teach specialized courses and to give impetus to research activities. Salary of teachers is as per the norms of AICTE. Selection of the

teachers is processed by the Selection Committee as per AICTE norms. The fee structure of the disciplines is as per the guidelines of Govt. of Odisha.

1.2.5 Does the college provide additional skill oriented programmes, relevant to regional and global employment markets? If 'yes' provide details of such programme and the beneficiaries.

The college provides following skill-oriented programmes relevant to regional and global employment markets to keep pace with changing global trends and requirements.

- Preplacement Training classes for aptitude, reasoning, Group Discussion, soft skill and Personal Interview.
- Soft Skill Development (SSD) programmes .
- Technical (TSD) Skill Development (SSD) programmes .
- Industry visit – in the final semester
- Vocational Training - during summer and winter recess
- Seminar/conference/workshop
- Poster presentation
- Debate/Quiz/Assignment
- Paper Contest
- Design Contest
- Participation in external seminar/conf
- Participation in external Tech fest/Tech quiz
- Participation in short term courses
- Participation in Advanced courses
- Entrepreneurship Awareness Programme

The Institute also invites Guest speakers from the industry which provides regional and global employment opportunities for the students. Special classes are arranged for communication skills taking into considerations of the rural and multi lingual backgrounds of the students. Students in second year are allowed to appear BEC Vantage examination conducted by British Council. The students of second and final year are imposed with the Pre Placement Training classes to enhance their communication skill, aptitude, Managerial and technical skills. In the department level, different globally recognized certificate courses viz. JAVA, ORACLE, ANSYS, CFD, AUTO CAD, PROE, VLSI, MATLAB etc. are organized for the students to meet the standards of the industries.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice” If “yes’, how does the institution take advantage of such provision for the benefit of students?

No, the Institute has no provision of conducting any distance mode of education as per University guideline.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the institution to supplement the University's Curriculum to ensure that the academic programmes and Institution's goals and objectives are integrated?

Efforts are made by the institute to supplement the University's Curriculum and ensure that the academic programmes and Institution's goals and objectives are integrated. The institution aims to impart such knowledge as may be necessary for the all-round development of the character of students thereby making them capable of being better employed and at par with the highly competitive job markets. The efforts made to reach out to the goals and objectives are as follows:

- A series of Focused Group Discussions among faculty members at departmental level throw light on the limitations in the syllabus.
- To make up any deficiencies, the institution supplements the university's Curriculum by imparting special courses like Personality Development, Coaching classes for various Competitive exams like GATE etc.
- The institution also organizes Remedial classes for the improvement of the average students.
- Guest lecturers are invited for sharing expertise knowledge on specific domains.
- Students and teachers both are inspired to attend refresher course, seminars, summer schools, winter schools etc which help them to enrich their knowledge
- Seminars, Workshops are organized
- Beyond Syllabus classes are regularly conducted on emerging fields.
- Inculcation of the practice of dignity of labor, sustainable development, Value orientation through NSS forums, camps, special lectures, workshops.
- There is a well-designed modern Central Computing Laboratory with advanced audio-visuals multi-media, and computers with Internet connections for Computer Science and other subjects.
- Innovative Teaching-Learning Procedure for most subjects with ICT based teaching aids like audio-visual mode of teaching (Flow Charts, Overhead Projector, LCD Projector, and Laptop). Computers and Internet are part of today's teaching learning process.
- Faculty Exchange Programmes/Extension Lectures/Endowment Lectures are organized in the institution. They stimulate the minds of the learners and thus help them in uplifting their intellectual standard. The College provides ample

opportunities for their career advancement by arranging career oriented lectures and counseling sessions.

- The Institute has a proctor system for continuously monitoring student progress.
- Encouraging faculty members for higher studies and research.
- Online Feedback system of students for evaluation of faculty members.
- Timely analysis of feedbacks obtained from different stakeholders is used for institutional decision making.
- Encouragement of faculty to research.
- State-of-the art infrastructure.
- Spacious library with good collection of books, journals, magazines, periodicals, internet facility and e-resources.
- Highly qualified, experienced and dedicated faculty members.
- □ The training and placement cell of the institution regularly interacts with the HR managers of companies and collects first hand information about the demands and expectations of the corporate sector regarding skill set of students. These demands of the companies are then communicated to the feedback committee which in turn formulates add on courses and extra classes which are then conducted to make up the deficiencies in the students to make them employable.
- Value added and skill development programmes are organized by Institute.
- Co-curricular activities like paper, project, quiz competitions are organized for students.
- Students are encouraged for Industrial visits and intern programs.
- Discipline in conducting University examinations.
- Transparency in evaluation at Institute and University level.
- The regular interactions with all the stakeholders on various activities make them well informed, satisfied and aware of ongoing developments in latest technologies.

1.3.2 What are the efforts made by the institution to enrich and organize the curriculum to enhance the experiences of the students so as to cope with the needs of the dynamic employment market?

Since the college is affiliated to the BPUT, Rourkela, it does not have the option of formulating its own curriculum. Nevertheless, the college makes sincere efforts to enrich and implement the curriculum that is designed by the university to meet global standards and intellectual requirements of students. Our faculty members enrich it with their own expertise and experience, so that the students gain qualities of employability that enable them to get jobs in this highly competitive world.

Self Development:

- Deputation of the faculty members to orientation/refresher courses, workshops on curriculum development, examination reforms, quality initiatives, and management issues.
- Deputation of teachers for personality development and capacity building programmes.
- Organizing seminars, project-works and Counseling on curriculum and employability options for students.
- Faculty Development Programme, workshops and seminars are arranged on regular basis by inviting guest lecturers, professionals from different premier institutes and industries.

Employment, Global and National demands:

- Evoke a unique personality from them and to improve their speaking power, smartness, gestures behaviors etc.
- Employer's feedback: The training and placement cells of our college make communications with the HRs of the reputed organizations to collect the updated information about the recent market trends and corporate expectation so that students can be moulded according to the need.
- We organize the campus connect program in collaboration with Infosys Pvt. Ltd. so that students can map their theoretical knowledge into practical implementation.
- Alumni feedback is taken periodically to understand the recent market trend.

1.3.3 Enumerate the efforts made by the institution to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

The college runs co-educational system. To integrate diverse but inter-related issues like gender, climate change, environmental education, human rights, ICT etc. in a positive manner in the curriculum, the college has established Women Grievance Cell, Anti-Ragging Committee, and Disciplinary Committee etc.

Gender Sensitization:

Gender sensitization programmes such as discussions on women safety, women's rights, physical fitness, and gender equity are conducted through the NSS. Our institution has a Women's Grievance Cell to handle the sensitive issues regarding the Women's right and security. The Cell was formed through a selection among all senior lady faculties of each department.

Climate Change and Environmental Education:

Environmental Engineering Studies is a compulsory subject of 100 marks for inculcating Environmental awareness, Climate Change, pollution control and its

abatement etc. Seminars and conferences on Solid Waste Management, Global Warming, Carbon emission etc. are being organized by the institute.

Human Rights:

Anti-Ragging cell, Grievance and Redressal Cell and sexual harassment cell are active in the college campus and caters issues regarding Human Rights violations.

Information Communication Technology (ICT):

The class rooms of the organization are facilitated with over head projectors and LCD projectors with audio and visual system so that the students will have a better exposure to the real practical scenario. There is an E-learning laboratory in the Computer Science Engineering Department for organization of various video lectures with the resource persons.

1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students?

The institution has established a tie up with different soft and core industries which conduct a training course to bridge the gap between education and employment. Final year students are encouraged to voluntarily enroll for this course. The Department of Humanities and Social Sciences regularly conducts student seminars to train the participants for enhancement of presentation skills and soft skills. The training & Placement Cell helps in developing soft skills of students like personality development, communication skills, skills for facing interviews and participating in group discussions, aptitude development, etc.

The NSS wing of the institution engages the students in community development activities which motivates the students to take up the cause of Social Service. Separate boys and girls camp are organized in the nearby villages to participate in the cleaning of the villages, create awareness among people on issues such as adult literacy, women safety, women rights, health care, physical fitness, gender equity, voter awareness, female literacy, prevention of child labor, and awareness about blood donation, etc. The institute also takes care of employability of the nearby villagers by providing training on mushroom cultivation, teak plantation, driving, mobile repairing etc.

❖ moral and ethical values

The following measures are taken to develop moral and ethical values.

- The Institutes' NSS team regularly visits surrounding areas and villages where people are made aware of various social, moral, ethical principles and ways of life.
- Students are motivated by special lectures to develop moral and ethical values in them
- Yoga and meditation programmes are also arranged
- Spiritual discourse is conducted by Swami Shankarachariya.
- Community orientation programmes such as Blood Donation Camps are organized once in a month.

❖ **employable and life skills**

Communication skills are vital for students for better and brighter career prospects. Therefore, the college organizes classes to develop communication skills to participate in group discussions, and to prepare PowerPoint presentations. The Training and Placement Cell organizes lectures to orient the students regarding new job opportunities. It is a regular practice of the institution to invite expert resource persons to conduct workshops on the development of technological competence among the students. The institute also offers a certificate course on BEC Vantage so as to enrich the communication skill of the students. Students are also allotted different responsibilities for organizing events like cultural programmes, Science Tech Expo, celebration of anniversaries of eminent personalities such as Swami Vivekananda, Mahatma Gandhi, etc. In this way, students learn life skills such as teamwork, discipline, hard work, etc.

❖ **better career options**

The College organizes an orientation programme at the commencement of every academic session to introduce various programmes, activities, facilities, and values of the institution to new students. Separate training and placement cell is existing in the campus. They organize different seminars and workshops along with the industry to Institute cell (I2I), Pre Placement Training classes for guiding the students towards securing good jobs. Simultaneously, each department organizes seminar and workshop every year to enrich the students with technical knowledge. The college also runs programmes in the field of management studies. An ideal combination of professional, vocational, add-on and other job-oriented courses are available for students. Entrepreneurial skills are imparted to enhance their job prospects.

❖ **community orientation**

NSS camps are organized for the students every year. Social issues and plantation of trees are given importance during the camps. Blood donation camp is organized by NSS frequently. The students come forward and donate blood for the benefit of the public. The students organize different campaign to keep the city clean and hygienic

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

Students'-Feedback on Curriculum is obtained by the College from each student after the completion of the course, in a definite format every semester. The college has implemented online student feedback system.

Alumni Feedback: Every year institute organizes Alumni Meet in which feedback is collected to enrich the curriculum.

Parents Feedback: The College obtains feedback on curriculum from the Parents at the time of the parents-teachers meetings organized by each department regularly.

Employers Feedback: the institute organizes curriculum development workshop, where employers are also invited. Their feedback is collected during these interactions.

Community: The Institution takes part in different community programmes and social services through its NSS Unit. Here the students and teachers interact directly with different members of the community where they get feedback on the curriculum.

Advisors: The Institute has a set of Advisors that consists of senior professors, who provide valuable feedback on different issues including curriculum and co-curricular.

Exit Feedback: The institute has a separate format for taking the feedback from the graduate students. The teachers collect the exit level feedback from the graduates regarding learning processes after the end of academic session every year.

(Copy of Alumni, student, parent and employer feedback formats are attached in Annexure-5)

1.3.6 How does the institution monitor and evaluate the quality of its enrichment programmes?

The institution monitors and evaluates the quality of its enrichment programmes like improvement in teaching methods, research and extension activities, and other development initiatives through various committees like Grievance and Redressal Cell, Research and Development Committee, and Library Advisory Committee. Their suggestions/deliberations are forwarded to the Principal for purposes of deliberation and implementation. The Principal, with the help of members of various committees to take care of its enrichment programmes. The conveners of all enrichment programmes conducted during the academic year present the report annually to the Principal. The institution thus, makes sure that the programmes offered and other extra-curricular and co-curricular activities bear the relevance to some important regional, global, national issue and thus, inculcate moral and ethical values among learners. Moreover feedback from the stakeholders helps in monitoring and evaluating the quality of the enrichment programmes.

1.4 Feedback System

1.4.1 What are the contributions of the institution in the design and development of the curriculum prepared by the University?

It is an affiliated Institute to the Biju Pattnaik University of Technology and therefore there is no direct scope for framing institution's curriculum on its own. The designing and development of courses are done mainly by members of the Board of Studies that is set up by the university. The college, however, significantly contributes to curriculum design and development through its faculty members who are serving on the Board of Studies. Existing courses are restructured and updated to meet emerging national and global trends. This is done by taking inputs from the syllabus of reputed institutes, and by gathering information from faculty members that the latter have gathered during their participation in orientation/refresher courses/seminars. Inputs from alumni, students and other stakeholders are communicated to the university by faculty members who are serving on the Board of Studies for its consideration. Keeping pace with the fast changing needs of the society, the college attempts to regularly introduce new courses and programmes, and to provide requisite infrastructure rapidly to implement all the courses effectively.

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If 'yes', how is it communicated to the University

and made use internally for curriculum enrichment and introducing changes/new programmes?

Yes there a formal mechanism to obtain feedback from students and stakeholders on Curriculum. The feedback thus obtained by the College is analyzed. The teachers from this college who are members of Boards of Studies, Syllabus Committees, and Academic Councils of the University communicate the outcome and the suggestions that are obtained after analyses for continuous improvements to the affiliating university for appropriate inclusion.

The Institution gathers feedback and communication from the stake holders on curriculum. Some of the sources of feedback are:

Students: The students, who are the primary and most significant source of information, furnish Feedback through questionnaire at the end of each academic session. Informal discussions are also held from time to time to derive their responses on the curriculum use. The principal also interacts with the students to collect their opinion on the curriculum, the methods and extent of implementation.

Alumni: Alumni Meet provides a platform to ex-students of the college to participate in college activities, and to give their valuable suggestions on the existing curriculum.

Employers: Employer's are given open option to give critics and suggestion on the curriculum, which is obtained through the feedback Proforma that deals with content relevance, teaching competency, classroom management, and students' participation, course duration, curricular and other activities during the short term training period as well as after joining the organizations by candidate.

Parents: They are active participants in almost all the activities of the college. A healthy interaction with parents is facilitated and encouraged from time to time.

Academic Peers: National seminars, conferences, workshops and extension lectures are organized at Institute. Workshops and extension lectures organized at college, and participation of faculty members in orientation and refresher courses facilitate exchange of ideas with peer groups.

Other Stake Holders: AICTE, NBA, and UGC are other stakeholders. Active interaction with them through submission of information/data asked, meetings on agenda like examination reforms, pattern of question papers, student details, etc. conferences and meetings are constantly organized and feed back is obtained. Above all evaluation is required for corrective actions. Evaluation is done at a macro level by the University and at a micro level by the Institution. Formative evaluation is carried out during NAAC Self-Appraisal Report Process evaluation which is done by assessing the variety of methods and media used **and their appropriateness Product evaluation is done by evaluating the students continuously during implementation.**

1.4.3 How many new programmes/courses were introduced by the institution during the last four years? What was the rationale for introducing new courses/programmes?)

It is understood that global economy very much depends on higher education. So government of India has taken initiatives to emphasize the higher educational programmes in the country. Accordingly, following programme is introduced during last four years :

Sl. No.	Year	Name of the course	Year of approval	Sanctioned Intake
1	2012	Thermal Engineering		
2	2012	Structural Engineering		
3		Comp.Sc Engineering		
		Electrotronics & Telecommunication		

CRITERION II: TEACHING - LEARNING AND EVALUATION

2.1 Student Enrollment and Profile

2.1.1 How does the college ensure publicity and transparency in the admission process?

Publicity:

- Before the commencement of the new academic session, the affiliating university notifies on its website and in leading newspapers about the important dates like date of registration for all the courses, dates of first, second and consecutive merit lists of all colleges affiliated to it.
- At the same time, college ensures publicity in the admission process by publishing in leading regional and national daily newspapers and so also in electronic media.
- The college publishes Annual Prospectus for wide circulation which reflects updated information regarding the courses offered, seats available in different streams, the eligibility criteria, fee structure and admission process and facilities available in the Institute.
- College ensures publicity in the admission process by notification hosted on College website www.bietbhadrak.ac.in to provide ready and relevant information to stakeholders regarding admission.
- In order to attract the students for admission, hoardings are displayed on different important places of public attraction in the city area.
- Teams of teachers personally visit schools/colleges in the neighboring areas to publicize the achievements, infrastructure, the courses available and other information related to admission in self-finances courses that are running in the college.
- Since our alumni are spread all over India & abroad, they help us greatly in publicity and admissions.

Transparency:

Hundred percent transparency is ensured in the admission process since the college strictly adheres to the rules and regulations formulated by the AICTE / BPUT, Rourkela and follows the reservation policy that are in force.

- The admission process is controlled by Orissa Joint Entrance Examination Board.
- The total admission process of UG and PG courses is done by the university through online counseling.

2.1.2 Explain in detail the criteria adopted and process of admission (Ex. (i) merit (ii) common admission test conducted by state agencies and national agencies (iii) combination of merit and entrance test or merit, entrance test and interview (iv) any other) to various programmes of the Institution.

- For undergraduate programs, students are selected on the basis of merit list of common entrance, conducted by the All India JEE every year. A minimum mark is specified for qualifying the test and ranks are awarded based on the marks secured. Students exercise their options to select the Institute and branch as per their choice and priority.
- For appearing All India JEE, a candidate should have cleared or have appeared in class 12 exams with Physics, Mathematics and one of the subjects from Chemistry / Computer Science / Biotechnology / Biology. Engineering Diploma Holders can also appear for the exam. The Minimum % of the qualifying examination is 45% for the above criteria students.
- Admission for M.Tech. is through PGAT (Post Graduate Admission Test) conducted by the OJEE, Govt. of Odisha.

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

- The minimum and maximum percentage of marks for B. Tech programme during the academic year 2014-15 was 50% and 75% respectively.
- The allotted student list is published by the All India JEE only at the Institute's portal for the individual access. As a result the data of other institution could not be available. However, the institution, as compared to the other institutions within the city/district, has the record of getting its seats filled at the earliest.

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If 'yes' what is the outcome of such an effort and how has it contributed to the improvement of the process?

The Institute has an Admission Cell, which is responsible to review the admission process and student profile annually. As because the total admission process is through online, the Admission Cell of the Institute collects and provides the detailed information about the students categorically to frame an analytical study on the following aspects :

- Academic background
- Economic status
- Gender representation
- Admission standard curve
- Importance of different streams

- Industry trends

Outcome: This helps to understand the market trend (i.e. prospective students expectations for different branches) and industry expectations and other relevant factors which are important in the society.

Improvement of the process: This process helps in reducing the gaps in teaching learning that increase the existing students 'satisfaction. This leads to higher fame of the institute thereby attracting new students for admission in the future sessions

2.1.5 Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion

SC/ST

Students from SC/ST/OBC are allotted seats as per Govt. of Odisha policies. Tuition Fees reimbursement, fees exemptions and endowment benefits are also extended to these students in our institution as per the Govt. rules. These students are provided special fee concession.

Women

Girl students are also admitted as per the existing rules of the state government. The girl students are provided with separate hostels with all required amenities for comfortable and safe living.

Differently abled

No such student presently exist, however necessary measures shall be taken, if such students are admitted in future.

Economically backward sections

For economically backward students we have TFW scheme & 5% of the intake is reserved under TFW quota. The Institution has a mechanism for socially backward and economically weaker students, to guide and provide financial support in form of fee-waiver, installment scheme and scholarships as per the government regulations.

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase / decrease and actions initiated for improvement.

Programme	Courses	Number of applicants				Number of students admitted				Demand Ratio
		2013-14	2012-13	2011-12	2010-11	2013-14	2012-13	2011-12	2010-11	
PG	Civil Engg.					7	-			

	Mechanical Engg.					8	9			
	Computer Sc. & Engg.					8	-			
	Electronics & Tele. Comm. Engg.					5	Nil			
	MBA					16	15	19	33	
	MCA					5	9	9	10	
UG	Civil Engg.					36	86	38	54	
	Electrical Engg.					15	17	22	47	
	Mechanical Engg.					82	85	55	60	
	Electronics & Tele. Comm. Engg.					2	10	22	17	
	Computer Sc. & Engg.					2	9	3	16	

2.2 Catering to Student Diversity

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

The college provides friendly infrastructure to the best of its capability for the differently-abled students. The college makes best possible efforts to address the needs of differently-abled students like arranging extra classes for them.

2.2.2 Does the institution assess the students' needs in terms of knowledge and skills before the commencement of the programme? If 'yes', give details on the process.

Yes.

The institute conducts Orientation Programme for newly admitted students which emphasize the following:

- Information and opportunities to explore academic success strategies

- Recent Market trend
- General awareness on different subjects and its market potentiality
- Importance of non-engineering subjects, fundamental concepts on various issues
- Importance of values and ethics, attendance, etiquette, discipline and punctuality
- The ability to articulate and understand the advantages and challenges
- The ability to negotiate the physical environment of the campus.

Orientation Programme Experts are:

Bridge classes are conducted for the said students before the commencement of regular class works to instill the fundamental concepts in Mathematics, Physics, Chemistry, Communicative English and other basic subjects of engineering. During the process, assessments are made at regular intervals and they are instructed accordingly for the better performance.

2.2.3 What are the strategies adopted by the institution to bridge the knowledge gap of the enrolled students (Bridge/Remedial/ Add-on/Enrichment Courses, etc.) to enable them to cope with the programme of their choice?

After mapping the gap of the newly enrolled students in their respective domain we conduct the following Bridge/Remedial/Add-on/Enrichment Courses :

- Slow learners are identified.
- Teachers give extra time to students in the form of tutorials to help them cope up with the programme in which they are enrolled.
- Meritorious students are encouraged to help slow learners.
- Remedial classes are also conducted for tackling individual problems of students in their respective subject/s.
- Simplified version of books are recommended to slow learners or/and below-average students.
- Experts and scientists from the industries and research are invited for giving lectures to bridge the knowledge gap of the enrolled students.
- Special training to the students is provided by conducting add-on courses to minimize the knowledge gap of the students during the regular class itself.
- Useful practical training is given to the students during the laboratory periods itself.
- Industrial visits are arranged to the students every year for all departments to build their strong practical knowledge to meet the future needs of the industries.
- Additional laboratory exercises are conducted to the enrolled students during the evening time beyond the scheduled class timings

- Special training is given to the students on the recent needs of the industries on domain based. The staff members with various specializations doing the same
- The role of proctors is very significant. Taking the students in groups, they counsel for concentration on their study and development of their mind-set. The students are taken into confidence with a view to improve their learning ability. The purpose of proctorial system is to maintain one to one relationship with students for academic development by recommending the faculties for remedial classes.
- Enrichment courses like personality development programmes are also conducted to improve students' personality and motivate them for an innovative and creative mindset.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

The college sensitizes its staff and students on issues such as gender, inclusion, environment etc. by taking the following measures:

- Male and female staff members in our institution are treated in an equal manner.
- The staff members and students are treated equally in religious aspects.
- Grievances Redressal cell is activated and it functions separately for the benefit of the women employees and girl students.
- The institution never discriminates on gender and religion basis.
- All kinds of academic help are provided for the benefit of the economically and socially weaker section students.
- NSS camps are organized for the students every year. Social issues and plantation of trees are given importance during the camps.
- Blood donation camp is organized by NSS frequently. The students come forward and donate blood for the benefit of the public.
- College teachers also discuss issues related to gender sensitization, environment and national affairs with the students in their classes. Informal discussions with non-staff on these issues take place regularly.

2.2.5 How does the institution identify and respond to special educational/learning needs of advanced learners?

The institution identifies the advance learners based on the response of students, their pace of comprehension and assimilation, their articulation of ideas, conceptual abilities and progression in learning subjects as rated by the faculty. The teachers' feedback on the advanced learners is through the inputs that they get from interaction in the classes, through class tests and quiz, etc. The institute responds to special educational/learning needs of such students by taking the following steps:

The students are provided

- Motivational talks and training by resource persons from outside as well as inside the institution which is meant to encourage them to strengthen the skills to become effective participants in their own learning Process.
- The students of various departments are encouraged to take part in symposiums, workshops and seminars to gain knowledge in the advanced topics.
- The students are encouraged to do projects and mini projects in the advanced topics under the guidance of the faculty members.
- The college library provides lot of journals and eBooks, through which the students can gain knowledge on the advanced topics. The faculty members teach content beyond the syllabus, after the completion of syllabus to enrich the knowledge of the students in the advanced topics.
- Organizing extension lectures as per the needs of advanced learners.
- Encouraging and guiding these students through coaching classes for competitions like GATE, IES etc.
- Advanced level books are recommended to them by faculty members.
- The Institute has signed MOU with some national and International Institutes and organizations and students are exposed to advanced learning through such institutes/Organizations.

2.2.6 How does the institute collect, analyze and use the data and information on the academic performance (through the programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc. who may discontinue their studies if some sort of support is not provided)?

The academic committees in consultation with examination committee collect the data of academic performance of students from the office of the college. These committees then analyze the data. The academic committee is headed by the principal. For each year, there is a coordinator and under each co-ordinator there are class teachers. Sixty students are allotted to each class teacher. The class teachers along with the proctors interact with the students to collect the difficulties related to their academics and non-academic issues. The matter is conveyed to the coordinator and then to the principal and take the following remedial measures.

- The performance of the students is sent to their respective parents through SMS and letters at the end of each semester.
- Consistent attempts are made to streamline the students towards attending the classes. Those students who remain absent in this process are counseled for compensating the classes and accordingly their parents are intimated. This is done through phone call and parent teacher meets in the Institute to discuss and sort out the problems for suitable solutions.

- Faculty members of various departments identify the academically weaker students and provide mentoring. The regular counseling is also done to all the students by the faculty members.
- We take care of the economically weaker students through the TFW scheme sponsored by the Government of Odisha and through full and half free-ship scheme of the Institute to continue their study as per college norms.
- Special remedial classes are conducted during the evening 5.00 PM to 6.00 PM for the slow learners.
- Special coaching classes are conducted for the slow learners after the completion of the syllabus in a regular manner.
- Surprise tests are also conducted by the faculty members
- Simplified study material is made available to them.

2.3 Teaching-Learning Process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blue print, etc.)

Academic Calendar:

- For both UG and PG, academic calendar (date of commencement of teaching, dates of mid-term and external examinations, list of holidays, etc.) is prepared by the affiliating university. The college also plans its own academic calendar on the lines of academic calendar provided by the university. The planning and organization of teaching, learning and evaluation of all the courses of each discipline is done by a committee which consists of the Principal, Dean (Admin), members of time-table committee, members of the examination committee and Head of every department of the college.
- The time-table committee of the college prepares comprehensive time-table for all the faculties and allots class rooms as per the requirements of the time-table. The departmental time-table committee then prepares a detailed time-table for their respective departments in accordance with centralized time-table of the college.

Teaching Plan:

- Before the commencement of teaching-learning, a meeting of all the faculty members of a particular department is addressed by the head of that department to discuss the courses/syllabus for the following semester/ session. During this meeting, the distribution of the syllabi among the faculty members based on their preference/interest/expertise is finalized.
- All the faculty members of a particular department then prepare comprehensive teaching plan for their respective courses for the current semester/session. Monitoring and necessary mid-term corrections are made primarily by the Heads

of the departments in consultation with respective teachers in the departmental meetings.

- The teaching schedule of each individual teacher is scrutinized and approved by the Head of the department.
- The students are provided with the syllabus, unit wise break ups and the schedule of faculty assignments through time table on the first day of the class at the commencement of the semester. This helps the students to plan their learning and preparation for the evaluation

Evaluation Blue print:

Evaluation policy for each course is fixed well in advance and is communicated to students at the beginning of an academic year.

- Examination section based on their logistics; prepare the time frame for conducting the internal mid-term & test examinations (exam schedule, evaluation schedule, result announcement schedule, marks submission schedule). This enables the examiners and examinees to know the time frame for completion of the process of evaluation and results. Regular notification regarding examination is also a feature of the teaching-learning and evaluation process of the institution.
- Two midterm tests are conducted internally before the final examination is conducted by the university.
- Assignments/seminars also form part of the internal evaluation process.
- Evaluation of answer sheets of internal examinations is completed within one week from the date of examination and marks of individual subject are displayed within the following two weeks.
- Combined score of two internal tests is sent to the university (these marks have 30% credit in a student's final score). The passing marks (combined score in the internal assessment) is the criteria to appear in final university exams.
- A minimum of 75% attendance in each course separately has to be necessarily obtained by a student to appear for the final examinations.
- The university conducts the end semester examination as per the academic schedule which has 70% credit in a student's final score.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

The Primary aim of the IQAC (Internal Quality Assurance Cell) is to develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the institution. IQAC contributes towards the improvement of teaching-learning process by taking the following steps:

- Enhancing the infrastructure in terms of space, equipment, laboratories, libraries etc.

- Planning and introducing more teaching aids to improve the teaching-learning process and encourage innovative practices.
- Ensuring timely, efficient and progressive performance of academic activities according to the calendar.
- Motivating the students on the relevance and quality of academic and research programmes
- Organizing training programmes/workshops on ICT-based pedagogical skills to make the teaching staff proficient in ICT and to enhance their teaching-learning process
- Motivating faculty members to attend inter-disciplinary programmes, faculty development programmes and research related programmes
- Appreciating, encouraging and providing support required by all staff for their quality sustenance and quality improvement in teaching, research and administration.
- Obtaining feedback from students to ensure the quality of teaching-learning process
- Organizing educational tours to make teaching-learning more effective and practical in approach
- Increasing facilities for undergraduate education, e-learning, usage of Lab equipments (add on experiments and design of experiments), usage of laptops and Wi-fi facility
- Better faculty competence, exposure to industrial practices.
- Providing sponsored research facility to faculties.
- Internal periodical reviews at department level.
- Formations of Departmental Committees.
- Periodic reviews of faculty-performance.
- Usage of current research topics in seminar presentation by the students

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, collaborative learning and independent learning among the students?

Students of Bhadrak Institute of Engineering and Technology have always been the centre of all its academic and co-academic Endeavour's. All possible efforts are made to ensure their all-round growth and development in a safe and congenial environment.

- The institute has access to the e-journals like SPINGER, ELSEVIER, IEEE, ASME, so that the students and teachers can have a better exposure to the new areas of research work.

- The final year students undertake projects on recent trends under the guidance of faculty members. Other semester students are involved by the faculty members in the consultancy and research work.
- The college has a well-furnished and updated central library with internet and reprographic facilities and sufficient space for reading, e-library, departmental libraries and computer labs with internet, well-equipped laboratories, a well-developed computerized language lab, CAD Lab, Auditoriums, seminar halls, smart classrooms, projectors, and computer aided teaching-learning methods, remedial classes, coaching classes, etc.
- The institute organizes Science and Tech Expo every year, where different competitions like paper presentation, poster presentation, debate, essay writing, working model etc. are held so that the students can enhance their knowledge on recent trends.
- Every department has its own students' association, which organizes their annual functions with different events like paper presentation, Technical quiz etc. Simultaneously, student chapters of various Professional Societies are formed involving students to conduct the technical, co-curricular activities to improve their skills.
- The institute organizes pre placement training classes which include aptitude test, role play, GD, personality development, spoken English classes and communication sessions, with an aim to develop the students to face on-campus as well as off campus interviews. This training is imparted by both internal faculty members of different departments and professional organizations.
- Encourage faculty to develop new experimental/teaching method.
- The Institute also encourages the use of internet and computers by the staff and students to keep them abreast of the latest developments in their respective field of study.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

The College provides open access to educational and life-long learning opportunities by inculcating healthy habits like, discipline, leadership, entrepreneurship, etc. thereby contributing to the social, cultural, and economic development of our region.

- Students who are interested in Research and Development work are continuously motivated and encouraged to present their Project/Research work in different National/International Seminar/Conference/Workshop and Publish their work in National/International Journal and Seminar/Conference Proceedings.

- Faculty members are engaged with their research work in association with potential students and they always try to share their innovative concepts with the students.
- Organizing students' seminars and Participation in mock-parliament
- Correlation of theoretical classes with study tours -- Visit to Scientific laboratory & industries for experiential learning.
- Students are involved in organizing different events like Science & Tech Expo and departmental annual function.
- The college promotes creativity among students by encouraging them to publish their write-ups in the college magazine 'PRAYAS'.
- Creative endeavors like articles, stories, poems etc. of students also find a place in the wall magazine of various departments of the college. These creative efforts provide young, budding writers a platform to express their creative talent. Besides providing an opportunity to publish their articles, the magazine also involves the students as student editors.
- Almost all the departments engage themselves actively in arranging various types of co- curricular and cultural events like quiz, poster-making, paper-reading, debates, essay-writing, dance, etc. that help students in refining and redefining their personality.
- Mini projects and final projects are designed and developed as a part of creativity, innovation and idea mapping.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? Eg: Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

Following technologies and facilities are available for the use of faculty members for effective teaching:

- The faculties adopt e-learning from the resources of NPTEL and open education resources.
- The Institute has Wi-Fi environment with 45 Mbps internet capacity to provide additional learning materials on latest technologies.
- For the improvement of academic programmes and to acquaint the students with the application of modern technology, the Institute has set up a Digital Library and Language Laboratories. The audio visual materials, technical charts, cut models etc, are used for effective teaching-learning.

- Lab Manuals along with list of experiments are provided to the students.
- Online Journals and study materials (e-learning) through NPTEL materials are made available to the students.
- The teachers participate in different work shop organized by NMEICT.
- Computers with internet in all the departments of the college.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

In order to expose students and faculty members to advanced level of knowledge and skills, the college takes following initiatives:

- Seminars and extension lectures are organized on regular basis by all the departments to update their knowledge. This helps them to gather information about the latest developments in their fields. Seminars on current issues are organized from time to time in the college. Prominent scholars and people from corporate circles are invited to share their knowledge for the benefit of the students.
- Students are assigned with various creative tasks, such as writing articles and matter for wall magazine and college magazine, interacting with resource persons during seminars, workshops etc. The students are encouraged to present papers in seminars on recent developments. Such interactions are mutually beneficial to the students and the faculty.
- Mandatory Vocational Training for the students studying in 6th semester is conducted in association with industries to get acquainted with industry work culture.
- Regular industry visits are organized by the training and placement cell of the college.
- Faculty members and students are encouraged to participate in various National, International Seminars, Refresher courses, Workshop.
- The usage of the language laboratory is an attempt to improve communication skills and language learning for support of employment.
- ICT method enables modules, on-line learning and other learner-centered classroom strategies such as peer, pair and group learning for the students.
- Library and computer resources are utilized to promote self-reading and self-learning.
- Assessment of learning outcomes in the process of knowledge and skill transfer is evaluated during the end semester project works.
- The faculties adopt e-learning from the resources of NPTEL and open education resources.

2.3.7 Detail (process and the number of students \benefitted) on the academic, personal and psycho-social support and guidance services (professional counseling/mentoring/academic advise) provided to students?

Detail of academic, personal and psycho-social support and guidance services is given below:

Academic Support

- Guidance to students to choose their subject/s at the time of admissions,
- Remedial classes
- Coaching classes for various competitive examination (UGC sponsored),
- Guidance to students for GATE/CAT etc. during classroom teaching,
- Books (teachers give specimen copies to needy students or they help them to borrow books from the library),
- Personal attention to students by teachers to deal with their queries and doubts

Personal and psycho-social support

- In order to resolve day to day academic and other problems of the students, counselors and proctors have been assigned / fixed for various groups of students, and each group comprises 20 students. They meet and counsel the respective students once in a week to overcome their difficulties encountered during their courses of study.
- The institute appoints student welfare officer and care takers who give personal and psycho-social support the students.

Guidance Services:

- Giving them counseling /mentoring/ advice to participate in Inter college sports and cultural and co-academic activities at university, state & national levels.

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faulty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

Innovative teaching approaches/methods adopted by the faculty: Faculty members continuously do research to evolve innovative teaching methodologies. Some of the innovative teaching methodologies adopted are:

- The teachers circulate tutorial problems, assignments, lecture notes and other relevant materials to the students.
- Formation of different groups among the students and encouraging peer learning, which help the students who are academically less performing.
- The students are given many tasks such as group assignment competition, problem solving and mini projects. These activities help the students to learn on their own.
- PowerPoint presentations by students to develop their presentation skills
- The faculty members are also provided with training for use of latest software so that they can themselves create modern teaching aids to be used in their classrooms.
- From time to time the Institute faculty members adopt approaches and methods such as seminars, conferences and special lectures.
- The faculty members are encouraged to participate in National and International level seminars. They are provided with financial assistance for this purpose. The faculty members who attend such seminars and conferences share their experience with students and faculty with latest information and talent developments.

Efforts made by the institution:

- Infosys Campus connect courses
- Impact of innovative practices on student learning:
- Learning processes become increasingly personalized, tailored to the individual's needs and interests.
- Enabling individuals to better develop and realize their personal potential.
- Exploited to allow the learner to not only enjoy learning, but acquire skills that empower him/her to actively engage in the development of his personal skills and competences and improve their performance and achievement

2.3.9 How are library resources used to augment the teaching- learning process?

The serene and peaceful atmosphere of the fully-computerized and air-conditioned Central Library makes it an ideal place for undistracted pursuit of knowledge and skills by the students. At present, the Library has a collection of over 63829 books; 104 journals both national and international; e-journals like IEEE, Springer, Elsevier, ASCE, ASTM, DELNET, ASME etc; 48 magazines and 23 newspapers, apart from that scores of VCD's and DVD's to aid in audio-visual teaching. Besides, the library is a proud member of DELNET and member of INDSET, AICTE CONSORTIUM for 368 international e-journals. The library also provides reprographic facility and allied services.

The Library is air-conditioned and open for 24 hours with a reading-room capacity of 500 students. Besides these, every department has its own departmental library.

Standard text books and books by authors of national and international repute in the subjects concerned are stocked. The college follows a policy of buying multiple copies of many of these books, to make them available to a maximum number of students.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If 'yes', elaborate on the challenges encountered and the institutional approaches to overcome these.

The stipulated time frame for completing the syllabus sometimes offers challenges – loss of classes due to unexpected holidays. Teaching plans are made accordingly, in order to complete the curriculum within the schedule time frame. Any short fall due to lack of time is made up through special classes after the classroom and weekends.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

Monitoring:

- It is monitored through feedback from the students every semester and the feedback is also noted for the faculty's appraisal and for corrective actions.
- The Principal and HOD go on rounds and randomly choose a class to monitor the quality of teaching.
- Corrective and preventive actions are taken through discussions in department meetings.
- Oral Feedback from the stakeholders.

Evaluation:

- After the result analysis at the end of each semester, the student performance in each subject is analyzed and whenever the performance is to be improved, the teacher-in-charge is counselled by the Principal.
- Evaluation is done by comparing the teaching process with the laid down methods documented.
- The institute follows a Self Assessment System. The faculty members assess themselves on 20th of every month. The report is then evaluated by the HOD of the corresponding department along with the principal and corrective actions are made.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum

Recruitment:

Recruitment of teaching staff is normally done as per AICTE norms i.e. by inviting applications from eligible candidates either through paper advertisement or directly

from identified candidates, screening applications by a committee and through interview by an expert committee for the screened candidates. Newly recruited staff is given orientation for his / her work and that is continuously monitored for their development by the Management and Principal with the coordination of respective HoDs. Performance Appraisals of the employees is done by the immediate Head of the Department & Head of the Institution and is reviewed at the next level of supervision. On satisfactory completion of probation, an employee is considered for confirmation in service.

Retention

The faculties are encouraged for their academic advancements through technical/research paper presentations in conferences/journals and also paid remunerations based on the impact factor of the journal. The registration fees for the conference are paid along with duty leave. Faculty members recruited with PG qualifications are encouraged and motivated for PhD and Research. The faculties, who are pursuing PhD, are given three academic leaves per month. Incentives are also paid to faculty members for additional responsibilities. LTC and medical leaves are also provided to the faculty members as per their requirements. The faculty members are facilitated with free transportation and medical facility. There are separate quarters for married and bachelor staff members, which encourages a sense of belonging with the institute and they can work in harmony with other faculty members in the department. As such the retention rate of faculty is high because all the faculties are paid with the latest scale of pay, allowances and annual increments.

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Ph. D.	13	02	-	-	-	-	15
M. Phil	-	-	-	-	-	-	-
PG	-	-	20	-	47	44	111
Temporary Teacher							
Ph. D.	-	-	-	-	-	-	-
M. Phil	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-
Temporary teachers							
Ph. D.	-	-	-	-	-	-	-
M. Phil	-	-	-	-	-	-	-
PG	-	-	-	-	-	-	-

The professional growth of the Institute is adequate during the span of Seventeen years because more than 90% of the faculties are post graduates and having more than 5 years of experience and most of our faculty members have registered for their PhD programmes.

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

- As such the Institute is offering conventional courses of engineering along with computer science (CSE) and Information Technology (IT).
- As far as CSE and IT is concerned, the Institute always fulfills the required norms for faculty prescribed by AICTE.
- The course of Bioinformatics is not yet introduced in the Institute. As far as IT is concerned, the Institute always fulfils the required norms for faculty prescribed by AICTE.
- In order to meet the scarcity of senior faculty members to teach new programmes or modern areas of study, senior and experienced faculty members are invited from different renowned institutions.
- Our faculty members are also imparted training in reputed institutes to meet the requirements of learning. Sometimes they are sent to different national level institutions to attend workshops and conferences for updating of latest developments in the field of technology.
- Accordingly, our faculty members are brushed themselves up in their teaching-learning process.

2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

a) Nomination to staff development programme

Academic Staff Development Programmes	Number of faculty nominated
Refresher Courses	18
HRD Programmes	24
Orientation Programmes	56
Staff training conducted by the university	15
Staff training conducted by other institutions	24
Summer / winter schools, workshops, etc	

b) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning

Teaching learning methods/approaches The faculty members of the institute are encouraged for adopting new methods of teaching and learning approaches. The institute has collaboration with WIPRO and INFOSYS. The institute encourages the faculty members to participate in the Infosys campus connect programme. The faculty members are encouraged to attend workshops and seminars conducted by different premiere organizations like Infosys, TCS, Cognigent etc. which also enhances the industry to institute interaction. ISTE Chapter of our college has organized one day Regional seminar on "Innovative Approaches to Improve Technical Education in India" on 11th October 2010.

Handling new curriculum

- The Principal conveys changes in the curriculum to the teaching staff through the heads of every department.
- The college organizes orientation programme at the beginning of every semester to discuss the curriculum and evaluation process.

Content/knowledge management

The heads of every department holds meeting with faculty members of his/her department and divides the syllabus amongst them according to their respective fields of interest/expertise. Later, meetings are held by the faculty members of a particular department to discuss problems that they face during the classes. Simultaneously, In order to face the challenges, our faculty members are imparted training to make them acquaint with the course content of the challenging areas.

Selection, development and use of study materials.

- Training of teaching staff for preparing PowerPoint presentations by computer department.
- Training regarding the use of e-journals and e-books.
- The teachers follow the course material available on NPTEL.
- The institute encourages the faculty members to prepare the study material for their own subjects. For common subjects the study material is prepared by the senior faculty members of the organization.

Assessment

The Principal orients teachers regarding the methods of assessment at the beginning of every academic session as and when required.

Cross cutting issues

Environment related activities are held by the environment related committee and NSS units. Events to create awareness about AIDS, female feticide, gender sensitization and other similar activities are also organized during camps of NSS to sensitize the society.

Audio Visual Aids/multimedia

Teaching innovations during the last five years:

1. Presentation of contents using LCD & over Head Projector (OHP).
2. E-learning methods
3. Delivery of lectures by the professors from IITs and NITs to the students using Video Conference.

Teaching innovations are used to update the recent trends in Science and Technology and it is useful to the students to present the topics in Workshops / Seminars / Conferences and project preparation. Students are motivated to present seminar as to help them to select their project and research topics.

OER's

Our library is a digital library which provides open access systems where students and faculty members are allowed to browse their documents through terminals to search their materials. The library provides the catalogue, cabinet and computer system (web OPAC search).

Teaching learning material development, selection and use

Implementation of e-resources of lecture notes by the faculty members.

c) Percentage of faculty

Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies – 5%

participated in external Workshops / Seminars / Conferences recognized by national/international professional bodies – 75% (Approx.)

Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies – 50% (Approx.)

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

- The faculty members are allowed / encouraged to acquire higher qualifications and register for Ph.D.
- The faculty members are encouraged to organize national/international conferences and the Institute gives financial supports to the maximum extent possible.
- Encouraging the faculty to attend Orientation and Refresher courses, Training Programmes, and other workshops.
- Granting leave for attending national/international seminars organized by various reputed institutions and reimbursed the registration fees.

- Granting study leave to faculty members for pursuing doctorate and other research assignments.
- Encouraging teachers to publish research papers in peer reviewed national/international journals.
- Encouraging teachers to set up collaboration with other research agencies.
- Providing three academic leaves per month for teachers who are pursuing PhD.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

Best Teacher Award with cash prize and citations are given to the faculties who are performing well in grooming the students. It is one of the encouragements given to the teachers. Faculties who are showing improved performance are recognized with additional increments.

In addition, those presenting papers in National and International periodicals are acknowledged for their outstanding performance.

Authors of books and manuscripts are encouraged and their services are applauded with cash prizes and appropriate incentives for instance.

(List of awards received by the faculty members is attached in annexure 6)

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes. Evaluation of teachers by the students is done through online Students Feedback system in each semester. The feedback from the students is received for each individual faculty member. Every Faculty's research performance is discussed twice in a year in Research Committee meetings. External peers like visiting professors and other eminent personalities visit the college to interact with teachers and convey their opinions/suggestions regarding their teaching-learning activities. This leads to an informal evaluation of teachers by external peers and enables them to upgrade their teaching skills and methods.

These analyzed evaluated, reports are perused by the Principal. In turn the outcome of the feedback analysis is informed to each teacher for future improvement and encouragement. The outcome of the evaluation and its analysis are intimated to the individual teachers for their understanding of their strength and weaknesses. At the end of every academic year Confidential Report is filled by individual faculty and submitted to HoDs of respective departments. The HoD evaluates the performance of individual faculty members. Consequently Confidential Reports are forwarded to higher authority for his comment.

2.5 Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

Details of the examination system are communicated to students, parents and other stakeholders in various channels of communication such as the Institute handbook issued to each student, orientation program, Institute's website and academic committees.

Details of the components of evaluation, the dates for the semester examination and registration are printed in the academic calendar of the handbook and explained in detail during the Orientation Programme. General instruction on evaluation process received from the University is immediately informed to the faculty members by the examination department. The dates of registration and examination are displayed on notice boards and website well in advance as per the instruction of the University.

An Academic Calendar prior to the commencement of the academic year is prepared by BPUT. Same will be followed by the institution. Information relating to performance evaluation is communicated to the students through notice boards and parents through progress reports, SMS, emails, parent meetings, telephone calls and registered letters.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

The University is the sole authority for implementation of reforms in examination and evaluation. All affiliated Institutes and the University (BPUT) together have brought about several reforms in the academic teaching programmes and evaluation/examination system, recently in 2012-13 session.

Major reforms initiated by the institution/ affiliating university are:-

- Institute follows the university's evaluation system for conducting examinations such as End term or semester basis and two/three mid terms within a semester.
- One such reform process stipulates that the exam results be announced within 30 days after completion of the examination.
- The institute extends necessary cooperation for the implementation of these reforms. The revised academic regulation includes all the evaluation reforms of the University which is published on February, 2012

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

As stated earlier, the institute has limited role in bringing new reforms for conducting university examinations and evaluation process. The evaluation reforms of the university are followed strictly on the best of the spirit.

- The internal test evaluation performances in the answer sheets are shown to the students and any doubt about evaluation is made clear to the students.

- All the records are maintained i.e. answer sheets, award lists, weekly tests are kept in record.
- Whenever class tests and term tests are taken the results of the students performance/awards are shown to the students to encourage them or counsel them for better future performance.
- The Institute appoints examiners for the practical examinations and viva voce examinations as per the University directives
- The Institute sends its faculty members as examiners to evaluate semester answer scripts to the affiliating University.

2.5.4 Provide details on the formative and summative assessment approaches adopted to measure student achievement. Cite a few examples which have positively impacted the system.

The college adopts formative and summative evaluation to measure student achievement in a programme. Formative evaluation designed to test the cognitive skills of the students is based on tests, assignments, quiz, field trip reports, seminars, term papers and practicals. Continuous internal assessment has 30% weightage. For summative assessment, university conducts a final examination which has 70% weightage in the total evaluation. Final result is prepared on the combined basis of formative and summative assessment.

Impact on the System

In the total evaluation, formative assessment ensures regularity in classrooms and day-to-day performance of students. It makes students innovative and improves their performance in the annual examination.

2.5.5 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the students results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

Monitoring of the progress of the Students is done by:

- The institution monitors the progress and performance of students throughout the duration of the course/programme through classroom lectures and internal (Class tests, Unit tests, university examinations) assessment method.
- Attendance of Students: Strict vigilance on attendance is kept, attendance registers are checked regularly, and students who are falling short in attendance are contacted personally and if necessary their parents are also informed.
- Parents—Teachers meetings.

The progress of the students is communicated to the students and their parents by:

- Student – Teachers Interaction in the class and outside the class take place.

- Parents – Teachers Meetings are organized.
- The Examination and Result Sub-committee meets and reviews the performance of students in Class Tests, Annual Examination & University Examinations and communicates the progress and performance of students throughout the duration of the course/programme through communication to students and parents through correspondence.

Analysis of the students results for PG Courses (last four years)

Programme wise details pass %				
Programme	2009-10	2010-2011	2011-12	2012-13
Civil Engg.				
Mechanical Engg.				
E&TC Engg.				
Copm. Sc. & Engg.				

Analysis of the students results for UG Courses (last four years)

Programme wise details pass %										
Programme	2009		2010		2011		2012		2013	
	Appeared	Passed	Appeared	Passed	Appeared	Passed	Appeared	Passed	Appeared	Passed
Civil Engg.	26	19	61	55	66	63	66	64	65	62
Electrical Engg.	60	40	57	24	66	62	66	57	66	57
Mechanical Engg.	59	34	51	44	65	65	68	63	66	61
E&TC Engg.	65	35	53	50	66	62	98	79	96	88
Copm. Sc. & Engg.	56	41	60	48	65	58	69	57	70	62
Information Tech.	07	07	36	27	42	39	68	56	14	11
MBA	43	32	60	31	60	58	33	30	19	Nil
MCA	46	37	60	60	58	51	11	08	10	10

2.5.6 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightage for behavioral aspects, independent learning, communication skills etc.)

- Results of class tests, Mid-term and Test Examination and annual examination are regularly displayed in the College notice board and also in the departmental notice board.
- The students are addressed individually regarding their performance in internal examinations of the College.
- The answer scripts are shown to the students to let them see their drawbacks and mistakes and suggestions are given to improve their performance.
- In laboratory classes as part of internal assessment the students are evaluated on continual basis for their learning, behavior and communication.
- In a semester for conduct of laboratory classes, the students evaluation has made a reasonable impact and given good performance during their examinations
- The internal assessments are made by the institute keeping in mind the following aspects / factors of students' performance during the academic year:
 - class attendance
 - class assignments
 - Score in the term examination etc.

A theory paper has 100 marks. The weightage for two class tests and the end semester examinations will be as follows:

- Class Test - I of one hour duration = 15 marks.
- Class Test - II of one hour duration = 15 marks.
- End Semester Examination of three duration = 70 marks.

In spite of all the above aspects of the students, their behavioral aspects, independent learning and communication skills etc. are also taken into consideration during the assessment of a student.

2.5.7 What are the graduate attributes specified by the college/ affiliating university? How does the college ensure the attainment of these by the students?

- **Academic excellence**
 - In-depth and extensive knowledge and skills in their chosen discipline,
 - Contextual understanding of past and present knowledge and ideas,
 - Intellectual curiosity and willingness to question accepted wisdom and to be open to new ideas.
- **Critical thinking and effective communication**
 - Capacity for independent, conceptual and creative thinking,
 - Capacity for intellectual exchange, informed argument and reasoning,

- Ability to communicate effectively for different purposes and in different contexts,
- Ability to work independently as well as part of a team.
- **Learning and personal development**
 - Openness to and interest in life-long learning through directed and self-directed study,
 - Awareness of personal strengths and weaknesses,
 - Inculcation of the capacity for self-reflection, self-discovery and personal development.
- **Active citizenship**
 - Awareness and appreciation of ethical and moral issues,
 - Awareness and appreciation of social and cultural diversity,
 - Understanding of social and civic responsibilities, and of the rights of individuals and groups,
 - Appreciation of concepts of enterprise and leadership in all aspects of life,
 - Readiness for citizenship in an inclusive society.

2.5.7 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

Internal Assessment:

All grievances regarding evaluation, including the internal assessment marks awarded for the students, are redressed by the examination cell and the various Heads of Departments. If there is any clarification the student can approach the concerned faculty. If a grievance cannot be addressed by the course faculty, the student has the option to take it up with the Head of the Department to get an explanation for the marks or weightage given.

End Semester Examination:

If the grievance is against the End semester examination results, the institution assists the students by helping them to apply for **revaluation or Rechecking** to the office of the Controller of Examination of the affiliated University through Examination section of the college. The staff of the examination section under instructions from Principal forward applications for revaluation to the office of the Controller of Examinations and follow it up regularly to ensure the speedy redressal of grievances. Within 10 days of the announcement of the results, students can apply for re-evaluation. **RTI** is also active which is availed by some students

2.6. Student performance and Learning Outcomes

2.6.1 Does the college have clearly stated learning outcomes? If 'yes' give details on how the students and staff are made aware of these?

The college has clearly stated learning outcomes in its statement of its vision and mission. It translates learning outcomes into reality by developing students into confident, well- equipped, culturally conscious, ethically strong, socially modern and globally competent people. The outcomes are displayed in all Notice boards, Staff Cabins and Laboratories.

2.6.2 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

- The Institute aims at helping students to reach their potential through the provision of a supportive, vibrant and challenging learning environment. Accordingly, the curriculum, teaching and learning and assessment at college are student-centric.
- The College has framed several academic committees that aim at enhancing the quality of learning, teaching and assessment in the Institute by providing academic leadership for the continued development of excellence in academic practice. The College is committed to creating an environment, where students are supported to achieve their potential and then working towards creating an inclusive learning community.
- Students are active partners with shared responsibilities for their own learning and achievement. This strategy recognizes the need to develop progressively self-directed and confident learners with the knowledge, skills, attitudes and values, which enhance their employability and progression opportunities.
- Well-equipped laboratories as per the syllabus provided by the University
- Central library and library of every department with a collection of more than one lakh books
- Well-developed classrooms with LCD and OHP
- E-Journals like SPINGER, ELSEVIER, IEEE etc.

2.6.3 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (student placements, entrepreneurship, innovation and research aptitude developed among students etc.) of the courses offered?

The college takes following measures and initiatives to enhance social and economic relevance of its courses:

- College Training and Placement Cell trains and guides students to make them fit as per the requirements of the job market, and to face interviews and group discussions.
- College laboratories and libraries help students to inculcate innovation and research ability.
- Faculty members of the college inculcate research aptitude in students by giving them minor projects during their course of study.

- Personality development and career development programme by Training & Placement department.
 - Establishment of I2I cell regularly organizes seminars for the benefit of the student.
 - The college organizes interactive talks which are delivered by eminent persons/experts of various fields
 - Conducted job oriented short-term programme for students to develop their skills.
 - Entrepreneurship Development Program organized by ED cell.
 - Organized placement services for the students and placed good number of students in reputed companies and industries.
 - The institute organizes Alumni Meet every year, where the students interact with the alumni and get an exposure to the real market scenario.
 - The institute organizes HR meet every year, where the students get exposed to the requirements of the market.

2.6.4 How does the institution collect and analyze data on student performance and learning outcomes and use it for planning and overcoming barriers of learning?

The College has formed IQAC to collect and analyze data on student learning outcomes. The College uses this data:

- To find advanced & slow learners and plan separate strategies for them
- To improve learning outcomes of both the categories
- To remove their learning barriers by providing them remedial classes, peer learning, etc.

2.6.5 How does the institution monitor and ensure the achievement of learning outcomes?

- The college monitors the achievement of learning outcomes through IQAC and Examination Committee in the following ways:
 - Categorizing slow and advanced learners and framing policies accordingly
 - Conducting internal examinations
 - Holding class discussions.
 - Organizing seminars/guest lectures, etc.
 - Remedial classes
 - Coaching Classes
 - Written assignments
 - Feedback from students and alumni

2.6.6 Does the institution and individual teachers use assessment/ evaluation outcomes as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

Yes, individual teachers use assessment/evaluation outcomes as an indicator for evaluating student performance, achievements of learning objectives and planning. In this process, the level of students can be gauged. Efforts are done for their betterment (eg. Remedial coaching, individual guidance). Accordingly, the teachers also get opportunity to self-evaluate their teaching methods.

Any other relevant information regarding Teaching-Learning and Evaluation which the college would like to include.



3.1 Promotion of Research

3.1.1 Does the institution have recognized research center/s of the affiliating University or any other agency/organization? NO.

3.1.2 Does the Institution have a research committee to monitor and address the issues of research? If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

The college has a College Research Monitoring Committee (RMC) that addresses and monitors research activities of the college. The composition of this research committee is as follows:

- 1.
- 2.
- 3.
- 4.

Recommendations:

- To encourage faculty members to participate and present research papers in national/international conferences/seminars.
- To motivate faculty members to attend refresher/orientation/teaching training programmes periodically.
- To conduct national/international conference/workshop/guest lecture to promote research culture among faculty members and students of the college.
- To develop centralized research facility in the faculty of science.
- To enter in to collaboration with industries, NGOs, training agencies and research institutes.
- To encourage faculty members to undertake major/minor research projects from various funding agencies.
- To conduct short-term training programmes for enhancing the skills of the technical staff.
- To continuously augment research and extension activities of the college.

Impact of the Recommendations of Research Committee:-

- Institution has received grants from the various funding agencies such as AICTE, DST, DBT to promote the research activities of the Institute.
- Faculty members of the Institute participated in various seminars and conferences both national and international as a resource person/delegate.

- International and national level conferences have been organized at regular intervals to share the research knowledge with outside world.
- Institute has successfully filed 5 numbers of patents.
- Institute is handling consultancy projects funded by different industries like NALCO, JK Paper Mill, Moitra Metals, B. S. Industries etc.

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

- **Autonomy to the principal investigator**
- Full autonomy is given to the Principal Investigator by the institution to facilitate smooth progress and implementation of research schemes/projects.
- **Timely availability or release of resources**

The Institution makes all necessary arrangements for timely availability or release of resources for smooth progress and implementation of research schemes/projects.

- **Adequate infrastructure and human resources**

Adequate infrastructure and human resources are provided by the institution for smooth progress and implementation of research schemes/projects. The college authority has provided space in each department to carry out minor research projects and research activities for the faculty. Provided computer and internet facilities for all departments.

- **Time-off, reduced teaching load, special leave etc. to teachers**

Care has been taken to reduce the teaching load for desiring researchers for undertaking research work and also special leave is sanctioned to researchers for presenting the papers in national and international conferences, seminars, workshops and symposia as per HR policy of the Institution.

- **Support in terms of technology and information needs**

Internet, LAN and journal and e-journal subscription is made available to the Principal Investigator by the institution to facilitate smooth progress and implementation of research schemes/projects.

- **Facilitate timely auditing and submission of utilization certificate to the funding authorities**

The institution monitors and facilitates timely auditing and submission of Utilization Certificate to the funding authorities.

- **Any other**

The institution encourages and extends all help possible to promote research activities in the institution.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

- The institute organizes Science Tech Expo every year, where students expose themselves through their innovation.
- The students are encouraged to participate in different tech-fest, Science fair, Technical paper competitions.

All the departments of the college also organize sponsored seminars to create curiosity among the students as well as to get a chance to meet the distinguished experts of the related area.

- Students are also provided the opportunity of internship in industries.
- Guest lectures are organized to facilitate interaction of students with eminent academicians and researchers.
- During classroom teaching, teachers discuss about recent developments in the field of research in their respective subjects.

3.1. 5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.

Name of faculty	No. of Ph.D. students registered	No of Ph. D. students awarded/submitted	Research Project	Individual / collaborative research activity

3.1.6 Give details of workshops/ training programmes/ sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

(The list of workshop/ seminar organized by the instruction is attached in annexure 7)

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

Name of the Department	Prioritized research areas	Expertise

3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

To create responsibility in managing research projects in skilled way and for sustainable development of the society, International & National scientific luminaries are invited including experts from Industries / Government & Non Government sectors to share and deliberate the latest development and future potential of research activities as a part of motivation programme for faculties and students. Numerous eminent professors and scientists visited the campus, interacted with faculties and students & delivered valuable lectures to motivate research, quality academics and innovation activities.

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

The Institute has developed research culture among the faculty members and students as a result, most of the faculty members have registered for their research programmes. The ambience of research in the Institute is evident by the publication of research papers by the staff and the research projects undertaken by the scholars and students. Faculties are given special leave and financial assistance as suggested by Research Advisory Council. About 75% of faculty members are actively involved in Research Activities. To keep abreast of the new development in the respective areas of specialization, the faculty members are encouraged to participate in National and International conferences, seminars, refresher, orientation courses, other training programs, organized by the Institute and other universities of the country. The Institute also grants on duty (OD) leave to the faculty members for attending various programmes under the Faculty development Programme (FDP) scheme.

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)

The research center promotes interdisciplinary research activity in Engineering and basic sciences. The faculty members of the institute have published good number of research papers and authored books. They have also acted as chair persons for National conferences and referees for National and International Journals.

Students are encouraged by way of research projects in the thrust areas of Engineering & technology such as VLSI, Robotics, Mobile computing, Structural Engineering, Image processing, Manufacturing Technology, Power system, Waste Water Treatment, Solid waste management, Fluidization, welding Technology etc.

Frequent institute- industry research programmes have been organized in order to create self-confidence and transfer of practical knowledge of research output which advocates producing quality technocrats of excellence.

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

Year	Head of Expenditure	Financial Allocation (in Lackhs)	% of utilization

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Yes. There is provision to provide seed money to the faculty for research. Alternately, a part of research expenditures are reimbursed by the management. The amount disbursed and the percentage of the faculty availed the facility in the last four years:

3.2.3 What are the financial provisions made available to support student research projects by students?

Available resources in the form of machinery, Technical Manpower, Power Supply and e-resources are already made available to support student research projects. As the case may be and duly recommended by supervisor and head of the department, financial assistance is extended by management. The financial Support is provided to the students for participating in Tech-Fest with their projects in different National level institutions.

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

Department/faculty interaction in undertaking inter-disciplinary research: The college has a Research Committee which comprises of subject experts from various departments. Various departments/faculty of the institute interact with the committee

in undertaking inter-disciplinary research. Successful endeavors and challenges faced in organizing interdisciplinary research. Inter-disciplinary research is encouraged.

Broad Area of Work	Participating Departments	Name of the Faculty members involved

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

Optimal use of various equipment and research facilities are ensured by:

- Maintaining Log books and usage registers.
- The Research Committee monitors the research activities and keeps track of the uses of the various resources and facilities for research.
- Training is provided to lab attendants and students to ensure effective handling of equipments and other instruments of laboratories.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

[illegible]

3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years.

Institute provides all facilities like library e-resources, laboratories, technical manpower, subscription to research journals, leave for smooth running of research activities. Time to time Industry-Institute-Interactions are made regularly inviting researchers of the Industries and Institutes.

Institute encourages research activities of the faculties by providing financial assistance, leave and duty leave to attend different seminars, conferences and workshops at different institutes of the state and nation. Institute has received different grants to upgrade the labs

Name of the Project	Duration year from To	Title of the Project	Name of the funding agency	Total Grant		Total Grant received till date
				Sanctioned	Received	

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

- Well equipped modern laboratories with relevant & sophisticated equipments
- College has provided separate space as R & D Cell for doing research activities. A number of faculty members have enrolled under the concerned University to carry on their research work in the institute campus.
- The central library subscribes journals, magazines, books, etc. of various disciplines and fields to facilitate research activities.
- Computers and internet facility is available in all the departments of the college.
- Space/Enclosures to carry out Minor Research Projects.

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

An in- house body, called research monitoring committee (RMC) is functional to monitor research activities in-house. The body is represented by all Heads of the Departments, senior Professors, Dean R&D (secretary, RMC body), and Principal etc.

The house is usually chaired by management i.e. Chairman & Secretary of Gandhi group of Institutions.

The institute has unique system of research evaluation by a body consisting of eminent experts from different fields. The expert body is called Research council and the opinion expressed by the body is recorded in the form of minute which is authenticated by the chairman of RC. The chairman, chosen from among the experts, having International distinction is Prof.B.K.Dhindaw (EX. Prof.IIT KGP, EX. DEAN IIT Ropar, EX. Dean IIT BBSR, NASA expert)

Composition of Research Advisory Board:

Name	Designation	Internal / External	Organization	Official Address

It is sincerely believed that during expert committee visit, adequate papers will be submitted to the expert for verification. It is emphasized here that the modus operandi for research monitoring methods is adopted by following well established method, practiced presently in CSIR laboratories. To the best of our knowledge, our monitoring methods are unique and hardly adopted by any other technical Institute of our country.

As a part of Institute, we provide good infrastructure, equipments, journals, seminars, workshops to overcome the riddles of research work. We frequently organize seminars with internal sources to examine and evaluate the program of the research and provide proper guidance. Institute also provides financial assistance to the researchers where ever required such as fee for conference registration, workshops and contingency.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities? If 'yes', what are the instruments / facilities created during the last four years.

We have received project grants from AICTE under the schemes MODROBS, CAYT, RPS to upgrade the LABs. Simultaneously we have consultancy works funded by industries for various departments. The facilities created in the different departments are as follows.

Sl No	Name of Particulars	Year of Purchase	Cost of Equipments (Rs.)

3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

In different organizations research facilities are made available to the students and research scholars.

The institute has signed the following MoUs with different organizations:

- MoU between BIET – IMMT- NALCO was signed in the year 2007-2008 and work is progressing. The amount sanctioned is 27.5 lakh for carrying out the investigation.
- MoU between BIET – IMMT – NALCO was signed in Feb 2009 for an amount 27.7 lakh
- MoU between BIET – Aastropure was signed in Feb 2009
- Signed MoU with **“Innovate7 Technology”** and BIET on 15th November 2008 for academic and research excellence in the area of Computer Science Engineering and Information Technology
- Collaborative programmes on research guidance between BIET&NML has been continuing since 2006
- MOU with Life Science Foundation India, Morigeri, Karnataka for PG Diploma in Nano Biotechnology
- BIET, Bhadrak and J K Paper Mills, Rayagada
- Collaborative R&D and Industrial trial Programmes on development of “Ductile Iron Spun Pipe” was conducted and completed between BIET – BPUT –CET – IIT for IDCOL at Kalinga Iron Works Barbil in 2008.
- Collaborative project between BIET – Maitro Metal

Collaborative (National & International) research work between BIET and other institutions such as IITs, NITs, and Institutes of repute is:

- IIT, KGP – BIET – Bio-Tech. Dept.
- NIT, RKL – BIET – Met. & Mat. Engg. Dept.
- NIT, RKL – BIET – Chemical Engg. Dept.
- NIT, RKL – BIET – Computer Sc. & Engg. Dept.
- NIT, RKL – BIET – Electronics & Communication Dept.
- ISI – BIET – ISI Kolkata.
- NITTTR – BIET – Salt Lake Kolkata.
- BIET-Institute of Mechanics, Lomonosove Moscow State University, Russia.
- BIET-Prudent Soft tech Pvt Ltd, Hyderabad
- BIET-Innovate 7, Bhubaneswar
- BIET-Oracle India Pvt Ltd, Bangalore
- BIET-Infosys Technology, Bangalore

- BIET-(AE&I Dept) and Prolific System, Bhubaneswar
- BIET- Wipro mission 10x
- BIET-IBM centre of excellence.
- Young Brain India – BIET, Bhadrak for Electronics Department
- Twintech- BIET, Bhadrak for Auto CAD, Pro-E, CATIA, ANSYS
- VLSI Tech Hyderabad – BIET, Bhadrak
- AAS Technologies (P) LTd, Yakutpura,Hyderabad.-BIET, Bhadarak for R&D
- HYMA Industries,Kukatpally, Hyderabad-BIET, Bhadrak for R&D
- BRG Steel, Angul-BIET, Bhadrak for Industrial collaborative project.
- Shyam Ferro Alloys, Durgapur-BIET, Bhadrak for Industrial collaborative project.

3.3.5 Provide details on the library/ information resource center or any other facilities available specifically for the researchers?

The college has an information resource centres (Library and Internet Centre) to cater to the needs of researchers. The facilities are:

- The institute has a Central library and each department has its own departmental library, all of which are well stocked with books and journals on state of the art ,technologies and new frontiers of research. Books are regularly procured for the libraries and e-journals are subscribed regularly.
- A dedicated Internet browsing centre for students.
- Institute has subscribed to e-journals such as IEEE, Elsevier, ASME, Springer, ASCE, Mc Graw-Hill, ASTM, J-Gate.

Important information on various subject interests is generated through seminars, conferences, symposia, workshops, etc. It has been a duty of the library to enlist such activities around the world and inform the academic community.

- Thirty computer terminals are provided for the researchers to access online journals and NPTEL audio-video study materials.
- 45 Mbps dedicated internet facility is provided for the researchers and faculty in Library for online transactions.
- Digital Library to access back volumes of Journals.
- Reprographic facility for making hard copies of transactions.

3.3.6 What are the collaborative research facilities developed/ created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology etc.

Nil

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of

* Patents obtained and filed (process and product)

We have already filed nine patents to the patent office, Kolkata and the details are given below:

1. "A process for the production of wear resistant ceramic tiles from low carbon fly ash as the major base material". Patent office No: 253/KOL/2012 of 09.03.2012
2. "A process for the production of aluminum based metal matrix composite reinforced with in-situ alumina-silicon carbide-carbon ceramic composite". Patent office no: 1366/KOL/2012 of 29.11.2012
3. "A novel process for the production of Aluminium based Metal Matrix Composite reinforced with AL₂O₃-SiC-C Ceramic Powders Prepared from Fly Ash" Patent office No: 504/KOL/2013, Date: 02.05.2013
4. "Development of a new process for making Fly Ash Based Insulators & Dielectrics" Patent office No.: 373/KOL/2013 dated 2.4.2013.
5. "Development of a Bioprocess for removal of silica, alumina and phosphorus simultaneously from iron ore by single microbial interaction". Patent Office No: 1169/KOL/2013 of 10.10.2013
6. "A novel process-development for Bioremediation of Cadmium and Lead using Hot Spring Bacterial Consortium" Patent office No: 427/KOL/2014 of 03.04.2014
7. "An improved process for making self setting sodium silicate bonded sand moulds". Patent office No: 428/KOL/2014 of 03.04.2014
8. "Development of Novel High carbon ferrochrome slag based Geopolymer for high strength Construction Applications" Patent office No: 429/KOL/2014 of 03.04.2014
9. "Alkali activated AOD slag-Redmud based Geopolymer for Heavy construction applications" Patent office No: 430/KOL/2014 of 03.04.2014

* Original research contributing to product improvement

- Production of wear resistant synthetic tiles from Fly ash
- Aluminum based metal matrix composite reinforced with in-situ alumina-silicon carbide-carbon ceramic composite
- Production of neem-phenyl

* Research studies or surveys benefiting the community or improving the services

- Decision Support System to Prevent Malaria in Tribal Area of Rayagada District in Odisha – A Data Mining Approach by Mr. Rajiv Senapati

* Research inputs contributing to new initiatives and social development

- A process for the production of wear resistant ceramic tiles from low carbon fly ash as the major base material
- A process for the production of aluminum based metal matrix composite reinforced with in-situ alumina-silicon carbide-carbon ceramic composite

- A novel process for the production of Aluminium based Metal Matrix Composite reinforced with AL₂O₃-SiC-C Ceramic Powders Prepared from Fly Ash
- Development of a new process for making Fly Ash Based Insulators & Dielectrics
- Development of a Bioprocess for removal of silica, alumina and phosphorus simultaneously from iron ore by single microbial interaction
- A novel process for the production of fly ash based ceramic cutting tools

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

NO

3.4.3 Give details of publications by the faculty and students:

* Publication per faculty

* Number of papers published by faculty and students in peer reviewed journals (national / international)

* Number of publications listed in International Database (for Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

* Monographs

* Chapter in Books

* Books Edited

* Books with ISBN/ISSN numbers with details of publishers

* Citation Index

* SNIP

* SJR

* Impact factor

* h-index

(The list of paper published in national/international journals; national/international conferences is attached in annexure 8)

3.4.4 Provide details (if any) of

* Research awards received by the faculty

(The list of awards received by faculty members is attached in annexure 9)

* **Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally**

(The list of recognition received by faculty members from reputed professional bodies and agencies is attached in annexure 10)

*** incentives given to faculty for receiving state, national and international recognitions for research contributions.**

Incentives are given to the faculty members for publishing research articles, papers in the reputed high impact factor national and international journals.

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

- For establishing Industry-Institute Interface, a cell named as “Industry to Institute Cell (I2I Cell) has been setup. A senior faculty of Technical branch is the coordinator of this cell.
- This cell has an Advisory Board constituted by members from Industries, other institutes, Heads of various Technical departments, CSIR & IMMT which meet once in every year to formulate the action plan and evaluate its performance and implementation for an effective interaction with Industries.
- The progress is periodically reviewed by the Research Monitoring Committee.
- The broad areas of activities undertaken by the I2I Cell are;
- Conducting Expert Talks for students by inviting specialists / experts from Industries, premier technical & research institutes at regular intervals, throughout the year.
- Organizing Industrial Visits for students to various industries at frequent intervals.
- Organizing HR meets in association with Industry representatives.
- Conducting personality and skill development programs for students in association with experts from industries.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

To expand technical assistance, institute has its own policy for consultancy as follows:

- Infrastructural Support – This includes journals, software & hardware support, manpower, learning facility and transportation and leave to faculty members handling consultancy assignment, secretarial and infrastructural support / assistance etc.
- Introductory letters are sent to CEOs of various industries along with the list of equipment with specifications for possible areas of consultancy work, list of faculties who would be able to handle such assignments with their technical background, qualifications and experience etc.
- Entering into MoUs with Industries in specific areas of activity.
- Inviting Industry professionals to visit the Institute / Departments and interact with faculties / technicians and organizing their visits to labs, infrastructural facility centers etc.

- Holding assignments related interaction / discussions with Industry professional by special pre-appointed visits. The concerned team of faculty members and technicians visits as and when required during the tenure of the assignment.
- The College advocates and publicizes the available expertise for consultancy services through its publication in monthly news bulletin **Campus Flash**. The awards and the achievements of the faculty members are highlighted through news items in the news bulletin as well as reports read out on the College stage.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

BIET encourages the staff to utilize their expertise and available facilities for consultancy services in the following ways:

- Faculty members who are expert in specific field are encouraged by reducing their academic and administrative work load while executing consultancy works with the industries.
- Special preference is given to the expert during appraisal.
- Faculty members are encouraged to obtain consultancy work through their personal contacts and visits to industries.
- By giving incentives such as Duty Leave to faculty members for their contributions in consultancy services

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

1. **Year 2011-12- Development of some Electronic materials using Industrial waste: Red mud.** The project has been taken up in collaboration with S'O'A University. The principal investigator is Professor R.N.P Choudhary , ITER, SOA University Department of Physics Bhubaneswar, Co-PI Prof. Dr. Piyush Ranjan Das, Department of Physics, Institute of ITER, Bhubaneswar, Co-PI Professor K. Seshadri Sashtri, BIET, Bhadrak, Co-PI Dr. R.R.Dash, Dean (R&D), BIET, Bhadrak, Co-PI Prof. Subodh Panda, Electronics & Instrumentation, BIET, Bhadrak. Two instruments namely impedance analyzer and Kithley Electro scope have been purchased. A Sintering Furnace up to 1600°C has been purchased. The project has been applied for financial help to ministry of mines Govt. of India.
2. **Year-2011-12- Development of advanced Aluminium based Metal matrix composite reinforced with Alumina-Silicon Carbide in-situ composite.** Prof. R.I.Ganguly and Dr. R.R.Dash, Dean (R&D).

The Project was applied to National Aluminium Company and was funded by the company. The project is completed and report submitted.

3. **Year 2011-12-** Project was undertaken in-house and a faculty member of Department of Metallurgical and Material Engineering has registered for Ph.D in NIT Warangal. The work has been carried out at GIET in this project. The project has been

applied to AICTE for financial assistance and the some of the equipments will be purchased. The Semi pilot plant trial has not yet been undertaken.

4. Year 2011-12- Production of Advanced cutting tools by Hot Pressing of Alumina-Silicon Carbide In-situ composite powder.

This is a multi institutional project involving GIET, IMMT, Bhubaneswar and NML, Jamshedpur. The work started in house in the respective Institutions and the Research was conducted instead of Hot Pressing, Cold Isostatic Hydraulic Press was used. A Stainless Steel Ball Mill has been purchased.

5. Year 2011-12- Development and Production of Wear Resistance Ceramic Tiles. Dr. R.I.Ganguly, Dr.R.R.Dash, Dean (R&D).

The project was done in collaboration with material science centre IIT Kharagpur. A Project was funded by NALCO report has been submitted. The findings have been patented.

6. Year 2011-12- Development of Bioleaching Process for Extraction of Novel Bio material.Prof. Sudip Sen and Dr. S.Raut, Biotechnology Department.

The Project was submitted to the following industries BRG Steel, Angul, Odisha and Shyam Ferro Alloys , Durgapur, Dist-Burdwan, West Bengal. The Project has been accepted by them and the work has been started. The companies are helping GIET to develop the infrastructure for carrying out Bioresearch.

7. Year 2011-12- Embedded System Design for Robot Application in Textile Industry. Asst. Prof. Dilip Kumar Chaudhury, Computer Science & Engineering Department.

The Project has not been applied for any financial assistance. The faculty concerned is at present in IIT Delhi doing his Ph.D work.

8. Year-2011-12- Texture Based Defect Detection of fabric Image- Prof. D.K. Chaudhary and Dr. Jagadish Panda are associated with this project.

This is now a Ph.D project of D.K.Chaudhary at IIT Delhi.

10. Year 2012-13- Bio degradation of Polyethylene Wastes (Project applied to DBT)- Dr. Sangeeta Raut, Asst. Prof. Biotechnology Department.

The work was conducted at GIET and at IIT Kharagpur. A few publications have been made. Financial assistance was requested to DBT. A Project has not been granted. Further efforts are being made.

11. Year 2012-13- Bio-Remediation of As (III) and As (V) in Contaminated Ground water. Dr. Sangeeta Raut, Asst. Prof. Biotechnology Department.

The work is done in house and was applied for financial grant to CSIR after consulting with CSIR-NML Research Laboratory. Finally, the application was not considered however, further efforts are made in these directions.

12. Year 2012-13- Upgradation of Alumina in Nalco fly ash through bioleaching & subsequent recovery of Aluminium through Pyro hydrometallurgical routes. Dr. Sangeet Raut and Prof. Sudip Sen, Biotechnology Department.

This project is now sponsored by NALCO. The progress is highly satisfactory. Now this is in collaboration with CSIR-IMMT, Bhubaneswar. The progress of project will be reviewed by NALCO and we continued for 2years more.

13. Year 2012-13- Sequence Alignment of Candida Albicans with AZT in mitochondrial DNA. Dr. T.V.G. Rao, Biotechnology Department.

The project is carried out at Biotech Department by Dr. T.V.G.Rao. The financial grant has not yet been applied but the efforts are on.

14. Year 2012-13- Invitro Callus Culture Ranuolfia Serpenite. Mr. Sunil Kumar, Sr. Lecturer, Biotechnology Department.

This project in house R&D project Mr. Sunil Kumar is engaged in his Ph.D work in this project.

14. Year 2012-13- Screening and Molecular Characterization of Microbes of Eastern Ghats with special reference to Industrially Important Enzymes Producing Bacteria from Hot Spring of Taptapani, Odisha- Prof. Sudip Sen, Biotechnology Department.

This is an in house project and Prof. Sen is doing Ph.D in this subject. Also a small part of this project has been submitted to DST, Odisha for small funding of rupees 10 Lakhs.

15. Year 2012-13- Development of A High Performance Multilevel Inverter: An Economic Approach. Dr. M. Jagan Mohan Rao, Applied Electronics and Instrumentation Engineering Department.

The project is in progress and it has been submitted to AICTE for financial grants.

16. Year 2012-13- New approaches in Telemedicine. Asst. Prof. K. Babu Rao, Department of Electronics and Telecommunication Engineering.

This project has been submitted to AICTE for financial grants.

17. Year 2012-13- New Stepped Notch Micro Strip Antenna for Wireless Communication. Biswajit Karan, Asst. Prof. Department of Electronics and Telecommunication Engineering.

In house project and we have submitted the same to AICTE for financial grants.

18. Year 2012-13- Space Shuttle Ceramic Tiles from Alumina and Geo Polymer Fly Ash. Dr. B.K.Panda, Director DISIR, Rajgangpur, Dr. Anup Swain, BBSR, Dr. Y.K.Mohanty, Head Chemical Engineering Department, GIET, Gunupur.

This project was not funded by NALCO and now it has been recasted and the project is entitled "Geopolymer from Industrial Waste: A material for 22nd Century". Submitted to an industry namely BRG Steel Ltd. They have accepted the project. We are waiting for the final letter. The group members are Dr. P.K.Rana, Department of Metallurgy, Dr. R.R.Dash, Dean (R&D), Dr. R.I.Ganguly, Head, and Metallurgy.

19. Year 2012-13- Development of A Biochemical Process for Higher Recovery of Nickel Orissa Chromite Overbudden. Dr. Sangeeta Raut, Biotechnology Department.

This project is handed over to Dr. Sangeeta Raut, Biotechnology Department. The progress of the project is satisfactory. Further work is in progress.

20. Year 2012-13- Studies on Electrolytically Grown Metal Fractals (Zinc and Copper Powder). Dr. R.R.Dash, Dean (R&D), GIET, Gunupur

At present this is an in house R&D project. Raw materials have been arranged and work is in progress.

21. Year 2012-13- Production of Electrolytic Zinc powder from Zinc dross from galvanizing plant. Dr. R.I.Ganguly, Head Metallurgical Engineering, GIET, Gunupur

The raw materials have been arranged. Instruments have been setup and the work is in progress.

22. Year 2014-15 Recovery of Iron Oxide from Iron Slimes- A Bio Process. Prof. Sudip Sen, Biotechnology Department.

The exploratory work is in progress, dry magnetic separator has been purchased in the chemical Department through MODROBS for the project work.

23. Year 2012-13- Production of Aluminium based Metal Matrix Composite reinforced with Al₂O₃SIC-C Composite powder prepared form Plasma Synthesis of High Carbon Fly-ash. Asst. Prof. R.Govinda Rao, Metallurgical Engineering Department.

The project has been applied for financial assistance to AICTE. The faculty member (Asst. Prof.) is carrying out his Ph.D work in this project in the Institute with external registration at NIT Warangal. A good deal of progress has been achieved in this project.

24. Year 2012-13- Production of Aluminium alloys reinforced with Al₂O₃SIC Ceramic Composite Powder prepared from Colliery Shale. Prof. Venkat Siva, Mechanical Department.

Exploratory work is being done in this project and very encouraging results are obtained. The project will be done in collaboration with metallurgy and materials department IIT Kharagpur and will be applied for financial assistance from DST, Govt. of India.

25. Year 2012-13- Production of Cylinder Head from Aluminium Based Metal Matrix Composite reinforced with Al₂O₃SIC Composite Powder and Industrial Evaluations. Asst. Prof. K. Venkat Naidu, Metallurgical Engineering Department.

The work has not yet started.

26. Year 2012-13- Production of Polymer Matrix Composite Reinforced with In-situ formed Ceramic Particulates. Prof. T.K.Dora, Chemical Engineering Department.

The work is in progress and action has been taken to apply for financial assistance to Naval Research.

27. Year 2012-13- Spot Welding of Ultra High Strength Automobile Sheet, Steels. Dr. A.Biswas and Dr. P.K.Talapatra.

The project leader Dr. A. Biswas has left this Institute and Dr. P.K. Talapatra Co-PI is working in this project. The work plan has been prepared.

28. Year 2012-13- Preparation of Nano clay for application in high strength ceramics. Dr. P.K. Rana, Basic Science Humanities, GIET, Gunupur

3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

The income generated through consultancy is utilized for the purpose it is intended and a 10% of it is given to the concerned faculty as an incentive.

3.6 Extension Activities and Institutional Social Responsibility (ISR)

3.6.1 How does the institution promote institution-neighbourhood- community network and student engagement, contributing to good citizenship, service orientation and holistic development of students?

The Institution promotes college neighborhood network through the extension programmes with its focus on problems based on needs.

NSS (National Service Scheme) Unit of the Institute selects the volunteers and allows the students to render the service to society in the form of entrepreneurial development, medical services and thriving awareness among members on social issues. The extension activities carried in the neighborhood are listed below:

- Special and normal camps carried out by NSS units, students conduct socio-economic surveys in the adopted village to identify specific problems. The programmes are conducted to solve the problems identified with the help of the villagers.
- Foot rallies are generally conducted to sensitize the community at large on different issues like donating blood, creating AIDS awareness, Leprosy eradication, Prevention of Filariasis, Sanitation and health, environment protection, etc.
- College has the fine practice of raising funds and collecting other necessities to help the victims of natural calamities.
- Literacy programmes
- Road laying, electrification of villages
- Free driving and facilitate for driving license
- Computer literacy programmes for govt. teachers of nearby schools

- PGDCA courses for tribal students

3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

The college strives to instill civic responsibility in young minds through its extension programmes and value-based courses so that students develop into sensitive and socially responsible citizens. The institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles involves:

- NSS Programmes
- Blood donation camp
- Women Development cell
- Departmental Students' Association

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The institution solicits stakeholder perception on the overall performance and quality of the institution through students, parents, alumni and other members of the society through:

- Formal feedback from students;
- Informal interaction with parents and other members of the society;
- Informal interaction with alumni during Alumni Meet, etc.;
- Informal interaction with other eminent persons during guest lectures, practical exams, seminars, etc.

3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

The college organizes its extension and outreach programmes through its units of NSS. Under National Service Scheme, the institution designs the future plan of activities for the academic year by conducting a meeting with the College Advisory Committee. The future plan of activities includes the institutional work, community work and the Special Camping Programme.

During December-January, the College Advisory Committee reviews the status of NSS Activities. The NSS Advisory Committee is constituted with the following members:

- Chairman of the Committee
- Male Staff Representatives from each department
- Female Staff Representatives
- Member Secretary & NSS PO

- Male Student Representatives from each department
- Female Student Representatives from each department

Purpose	2014-15	2013-14	2012-13	2011-12
Blood Donation				
Plantation				
Awareness Programme				
Garbage Cleaning drive				
Employability Initiatives				
Women Empowerment				
Total				

The major outreach and extension programmes conducted in last four years are as follows

Impact of Extension and Outreach Programmes:

- Instills an attitude of volunteerism and commitment.
- Enables understanding of various issues pertaining to the community.
- Helps students in better decision-making, to adapt themselves to change, improve their self-esteem, equip themselves for their professional career, etc.
- Encourages students to develop a lifelong ethic of service to society.

3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National/ International agencies?

The college performs various activities through NSS and other forms of community development services. During induction, the coordinators of these sections narrate to the students on the benefits and scope of the extension activities. The information about the proposed activities is disseminated on the college notice board, circulars, web notifications, and also by oral interaction / briefing by the section in charges. Achievements of students are acclaimed and highlighted in the college assembly, college publications and local news papers to attract other students to participate in such activities. The activities of NSS unit are being published in the yearly news letter **PRAYAS**.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

The following social surveys and research are undertaken by the College to ensure social justice and empower students from under-privileged and vulnerable sections of society:

- Decision Support System to Prevent Malaria in Tribal Area of Rayagada District in Odisha – A Data Mining Approach by Mr. Rajiv Senapati

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

Objectives: The college encourages extension activities to promote social-justice, social responsibilities and good citizenship amongst its students.

Outcomes of the extension activities:

- The local community benefitted immensely through the work put in by our students.
- Frequent programmes with the slum dwellers of the local area by our College have indeed raised the quality of life of these people.
- Organizing free Medical Check-up Camps, providing free medicines and vocational training workshops have brought about a noticeable difference in the lives of the community.
- The Blood Donation Camps organized by the NSS Units, the Students' Union and Staff form another significant contribution to the community
- Environmental awareness programmes organized

Students' academic learning experience

- The surveys conducted by the departments and involvement in extension activities also develop a practical approach in their academic pursuits.
- Participating in the Environmental awareness programmes increase the environmental awareness of the students.

Values and skills inculcated:

- Involvement in extension activities develop community orientation, community leadership, and may produce philanthropists and social workers in future.
- Extension and outreach programmes instil volunteerism and philanthropy in the students.
- The experience gained through extension and outreach programmes helps students make better decisions, adapt to change, improve their self-esteem and better prepare for their career, among other benefits.
- The such programmes encourage students to develop a lifelong ethic of service to society

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The institution ensures the involvement of the community by igniting and encouraging their participation for developmental works. There is active & sincere participation of local communities in student- centric development program & frequent outreach activities which inspire the rural inhabitants to maintain their livelihood.

- Participation in afforestation drives.
- Blood donation camps: Participation of NSS unit.
- Students work with people from nearby areas during NSS camps.
- Medical camps are organized at rural sites to ensure that students work with the community.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

Nil

3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

Sl No	Session	Award details
1	2014-15	<ul style="list-style-type: none"> • 1st Prize for highest number of blood donors received from Bhadrak District Head Quarter Hospital Blood Bank • Award received from SCB Cuttack Blood bank
2	2013-14	
3	2012-13	

3.7 Collaboration

3.7.1 How does the institution collaborate and interact with research laboratories, institutes and industry for research activities. Cite examples and benefits accrued of the initiatives - collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

The institute organizes various interactive sessions with experts of industry and other research organizations by:

- Deputing faculty members for exposure to industrial practices
- In plant training and industrial visits for students
- Guest lectures by industry experts on state of art technologies
- Getting permission to carry out experiments and training in institutes of repute
- Making use of laboratories by research candidates of other institution
- Faculty sent to other reputed Universities and Institutes of higher learning for attending refresher courses.

3.7.2 Provide details on the MoUs/collaborative arrangements (if any) with institutions of national importance/other universities/ industries/Corporate (Corporate entities) etc. and how they have contributed to the development of the institution. NO

3.7.3 Give details (if any) on the industry-institution-community interactions that have contributed to the establishment / creation/up-gradation of academic facilities, student and staff support, infrastructure facilities of the institution viz. laboratories / library/ new technology /placement services etc.

Interactions with the industry-institution-community by the College that have contributed to the establishment/creation/up-gradation of academic facilities, student and staff support, placement services, etc. of the institution:

Research: Collaboration with FACOR Bhadrak; NIT, Rourkela; and IIT KGP helped up-gradation of academic facilities and infrastructure facilities of the institution, viz., laboratories.

Career Counselling Cell: Counselling Programmes for students were organised with the following Institutes/Agencies:

- Infosys Campus Connect Programme
- PURPLELEAP
- Pre placement training classes

Employability Training Programme by NSS Unit (through SWABALAMBAN):

3.7.4 Highlighting the names of eminent scientists/participants who contributed to the events, provide details of national and international conferences organized by the college during the last four years.

List of eminent scientists/ participants who contributed to the events is attached in Annexure - 11

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of the established linkages that enhanced and/or facilitated -

- **a) Curriculum development/enrichment**
- The institute is an affiliated institution with no scope of change in curriculum as curriculum to be followed is prescribed by affiliating university.
- **b) Internship/ On-the-job training**

Students are sent to NALCO, Damanjodi for summer training.

c) Summer placement

As of now, the college has no such facility.

d) Faculty exchange and professional development

Faculty members of the college attend professional development programmes like Refresher /Orientation Course:

e) Research:

f) Consultancy:

g) Extension

- Blood Donation Camp every month organized by NSS unit with Blood Bank, Red Cross, Odisha

h) Publication

List of publications is attached in Annexure - 13

i) Student Placement

Many organizations hold career counseling and campus interviews to recruit the gifted students who prove to be their asset at a later stage. The College has established T&P Cell for promotion of linkages between the College and various organizations in order to cater to the needs of the stakeholders and better placement of our students. The cell has organized counseling programmes with following organizations such as Infosys, TCS, CTS, JK Paper Mill, Vedanta Alumina, L&T Infotech, Honeywell, Capgemini, WIPRO, KEC International, Welspun, Siemens, IBM etc.

j) Twinning programmes: NIL

k) Introduction of new courses: NIL

l) Student exchange: NO

m) Any other: NO

3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/ collaborations.

Efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations:

- Planned and established linkages/collaborations related to academic and research activities for students and faculty members in various specializations.
- Inviting Expertise from various divisions from other industries for delivering Guest Lectures, key note address in Conferences, invited speaker in workshops and symposiums.

Industrial visits have been organized with the help of various collaborating agencies.

4.1 Physical Facilities

4.1.1 What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

The policy of the institution for creation and enhancement of infrastructure to facilitate effective teaching and learning is formulated by the Managing Committee of the college, in consultation with the Maintenance Committee and Purchase Committee. The up gradation of existing infrastructure and development of new infrastructure to enhance academic standards and efficiency is planned and monitored by these committees. Constant and proper monitoring of the existing infrastructure helps in the optimal use of existing facilities.

4.1.2 Detail the facilities available for

(a) Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.

The institute provides the following facilities for curricular and co-curricular activities.

There are 53 numbers of class rooms. The class rooms are well furnished audio visual facilities. Each class can accommodate approximately about 75 students.

- The College Library utilizes a space of **810 m²** with a Reading Room for free access of students, a Teachers' Reading Room. It has rare books at the disposal of Researchers, Scholars, Undergraduates and Post-graduate Students of various disciplines. Significant initiatives have been implemented by the committee to render the library, student/user friendly. The college Library, a "Knowledge Centre" for accessibility, has been developing on modern lines as a prominent 'Learning Resource Centre'. Complete Accession Numbering System & Cataloguing of all books and journals and user friendly Multi-Digit Alpha Numeric Decimal based numbering system.

Local Area Network (LAN) using LIBSYS software has been procured for automating in-house activities and services of the library. Installed 24 **computers** for Online Public Access Catalogue (OPAC) is made available to the users to identify the status of availability of documents in the library. **3 photocopier** facilities is available. Information on Competitive Examinations are the unique facilities for career planning and development programs. Online search and full text e-journals provided are being made available.

There are 70 numbers of well-designed modern Computer Laboratory with advanced audio-visuals multi-media facilities like LCD Projector, Overhead Projector, and Smart

board. There is a staff to maintain the systems and to provide technical assistance to the faculty members and students.

One A/C Auditorium (for 500), A/C Conference Hall (for 30), R&D Cell, A/C T&P Cell, Common rooms with all facilities for faculties and supporting staff are available.

- **Server Room:** The college has installed LAN with a High Configuration Server. Installation of server based local area network (LAN) facility to Provide Fast flow of data across computers, Internet connection in departmental computers to browse and download study materials, research papers etc.
- All the Departments have been provided with computers & Internet Connections. The computers/Laptops are also interfaced with LCDs to train and develop Power Point presentations for the Teaching.
- Adequate number of class rooms, tutorial rooms, R&D room, Departmental Library etc for each department. Well equipped laboratories with power backup supply is available with adequate furniture, fittings and set-ups etc.
- The College has a conference hall **with advanced audio-visuals multi-media facilities like LCD Projector and Computer with High Configuration of the Latest Generation with Internet connections** to organize administrative meetings.
- Well equipped seminar halls are available for each department and a central A/C Seminar Hall for 500 persons is there for Institute level presentation.
- Total campus filled up with open gardens with number of different flowers and plantations to provide students with refreshment of mind and to develop concentration which provides eco-friendly green environment.
- Common rooms, rest rooms for both boys and girls are available.
- Aqua-guard clean drinking facility for every block / building.

b) Extra -curricular activities - sports, outdoor and indoor games, gymnasium, auditorium, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

Since students are interested in co - curricular and extra - curricular activities along with their studies therefore the BIET provides the following facilities.

BIET has two badminton courts with floodlight facilities which is used for regular daily practice session under the tutelage of the PET. The equipment in the club include badminton rackets, shuttles, nets, etc.

Two tables of in two halls with abundant lighting facilities are available for Table Tennis. A trained coach imparts regular training during the practice sessions.

BIET has an International standard football field. The equipment in the club include jersey, studs, stockings, net, etc. required for practice sessions and matches.

GIET features a basket ball court having 35 mm fiber-glass boards and have floodlight facilities of superior grade. A trained coach provides training during the prescribed hours. Inter college Basketball tournaments have been organized each year.

The club contains all the equipment of the game necessary for conducting training, practice and matches.

A cricket field of 60 meter radius is available, where intercollegiate cricket tournament has been organized. The college also organizes intramural cricket tournaments for the students. Simultaneously, the faculty club of the Institute organizes cricket tournament among the faculty members every year.

BIET has an auditorium with 600 seats. Major academic programmes are organized in this air-conditioned auditorium. Common symposia, seminars on common topics are organized here.

BIET promote cultural events followed by the annual cultural function to encourage the different cultural activities among the students. The staff and students organize Annual function for the college. During these celebrations various literary and cultural activities are organized. There is an open air stage (Rangmanch) adjacent to the auditorium is available for these purposes.

- All the Engineering departments have Students Associations at the respective departmental level. Several events, such as Technical Quizzes, group discussions, paper presentation contests, software contests, extempore and mock interviews etc were conducted as part of their association activities.
- The NSS unit organizes different activities which include social welfare, visit to old age home, plantation of trees, providing basic education to the poor local children, donation of old cloths to Missionaries of Charity. BIET is the only private college which organizes blood donation camp every month through its NSS unit.
- For all-round development of individual and society yoga is the panacea. We organize yoga classes on campus. A good member of students take part in the yoga classes.

- Health is wealth. We give maximum attention for health and hygiene of our students. The campus is kept clean. The hostels are free from all sorts of filth. Students co-operate in health awareness programmes. Time to time we provide vaccination to all the students and staff members of the Institute.
- A well equipped communication skill development laboratory has been set up followed by a smart class room for special training.

4.1.3 How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution / campus and indicate the existing physical infrastructure and the future planned expansions if any).

BIET started in the year 1997 with an intake of 200 and has grown steadily to a present intake of 1230. The infrastructure has been built in accordance with the increase in take and is optimally utilized for academics and administration of the institute.

Boys' hostel

- Number of hostels - 3
- Number of inmates - 2150

Girls' hostel

- Number of hostels - 2
- Number of inmates - 1400

There is a central mess with Roti making machine, rice boilers and advance facilities is available in the college campus for preparing food for the students.

For outside campus hostels separate mess facility is provided for boys and girls. Internet (Wi-Fi) facilities are provided to the students to work for their academics and projects in the hostels.

Recreational facilities, gymnasium, yoga center, etc.

- The college provides yoga facilities and open air theatre inside the campus.
- The institute is having well equipped gymnasium with ladies and gents trainers. There is a separate timing for girls and boys.

• Computer facility including access to internet in hostel

All the hostels (town as well as campus) are connected through Wi-Fi for 24x7 hours. All the students are having their own username and password to access the internet.

• Facilities for medical emergencies

The Institute is having its own dispensary with 2 doctors (both allopathic and homeopathic) to take care of the medical problems of the students. It contains lab also

where general disease can be tested. We are having well equipped two ambulances for all the time to take care of any emergency.

- **Library facility in the hostels**

Central Library (Knowledge Center) is situated on the campus to accommodate several students at the same time. Students can access the library for all the 24 hrs a day. However students can access the digital library facility round the clock.

- **Internet and Wi-Fi facility**

A dedicated 45 Mbps internet facility is available 24 hours. It facilitates the students to download lectures of eminent professors of various universities, video clippings, course plans and presentations on advanced topics.

- **Recreational facility-common room with audio-visual equipments**

The Institute is having the separate common room for boys and girls. Each department is having the project lab where the final year students can do there project work beyond the regular time.

- **Available residential facility for the staff and occupancy Constant supply of safe drinking water**

The Institute is having its own residential facility for professors, associate professors and lecturers and bachelor quarters is also there with safe drinking water and in un interrupted power supply.

- **Security**

CCTV cameras have been installed to monitor the activities taking place near the hostels. Watchmen have also been deputed for 24 hours to keep a vigil. The Institute is having two security officers for both inside and outside campus hostels, under them many security guards are working.

4.1.6 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

A dispensary is there in the campus having two well qualified doctors (both homeopathic and allopathic) along with paramedical staff. There is also a pathology lab for the necessary testing. The doctors are provided accommodation inside the campus so that they can provide the service for 24 hours. Dispensary contains appropriate quantity of medicine and injection. Two well equipped ambulances with oxygen are present at any time in the campus. For serious issues the students are referred to the nearest government hospital which is two km away from the campus.

4.1.7 Give details of the Common Facilities available on the campus –spaces for special units like IQAC, Grievance Redressal unit, Women’s Cell, Counselling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

All the departments are provided with common rooms, rest rooms for staff and students. Health centre is equipped with First Aid kits, two ambulances, two doctors and three pharmacists. Separate parking facility is available for staff and students on the campus.

Central Guest houses with all facilities are available for outstation guests, parents and resource persons for different activities.

A store is provided with all the basic requirements for living in Hostels.

A fully functional SBI has been set up to provide the banking services to students and staff. Beauty clinic/saloon, snacks bar, milk parlor, books & magazine stall etc. are housed in a market complex inside the campus.

We have SBI-ATM Bank ATM to serve the students and staff for instant cash requirements on our campus.

Grievance Redressal unit, Women's Cell:

Suggestion Boxes are provided in every building and placed at vantage points in the college (including the Library and Hostels) for the students / staff to register their grievances/suggestions: HOD/Principal/ regularly attend to these on daily basis.

In addition, there is grievance redressal Committee, to whom they (students) can contact and inform their Grievances. Besides, there is an exclusive mechanism to address the issues relating to women and their Grievances.

This cell is meant for maintaining the records of grievances, actions taken thereon and settlement of grievances. The cell is headed by the Principal, consisting of administrative officer and six senior faculty members. The grievance box is maintained by the college where students have to drop their grievance, if any. The box is opened regularly and checked. Any grievance found in it is scrutinized and necessary actions are always taken by the Cell. In case of emergency, the Principal conduct meeting and address the problems immediately.

Counseling:

In order to resolve day to day academic problems of the students. Institute has proctorial system. In this system each faculty is assigned a group of 20 students. They counsel the respective students once in a week, to rectify the difficulties, encountered during their course of study. This process continues for all the years of course (i.e.) from first year to final year. During the last semester of the programme, students are advised for higher studies and guidance for overall development of the students. It has been very much beneficial and useful.

Placement Unit:

The Institute offers placement and career counseling services to students. Training and placement cell provides all the necessary training needs of the students as per industry requirements.

Special training programs are conducted to all final and pre final year students to train on the different aspects required for career placements. The unit works extensively in developing the students attitude as well as aptitude & analytical skills through regular programmes such as group discussions, personality development & communication skills, human resources techniques and preparing the written test in the form of mock test. A group of trained professional rollout different soft skill development programme and technical development training programme in house on a frequent interval.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

Yes, the institute is having the library committee consisting the following:

Sl No	Name	Designation in committee
1	Prof. (Dr.) Gopal Charan Behera	Convener
2	Prof. (Dr.) Jibananda Jena	Member
3	Prof. Ashis Kumar Palit	Member
4	Prof. Sanjay Kumar Mohanty	Member
5	Prof. Pratap Sekhar Puan	Member
6	Prof. Amarendra Chaini	Member

Major responsibilities of the committee are as follows:

- The committee formulates development plans and sends its recommendations to the college administration for effective and timely implementation.
- It formulates guidelines for the library for procurement of expensive books, e-journals, hardware and software as per the requirements of various faculties.
- It monitors all the activities of the library and gives its suggestions for optimum utilization of library resources.
- It ensures availability of reading material on the basis of the latest syllabi.
- It takes up remedial actions related to grievances expressed by students and teaching staff.

4.2.2 Provide details of the following:

- * Total area of the library (in Sq. Mts.): 810 sq mt
- * Total seating capacity: 340 Nos
- * Working hours – 8 AM TO 5 PM

On working days 24 hours

On holidays 24 hours

Before examination days 24 hours

During examination days 24 hours

During vacation 8.00 am to 5.00 pm

* Layout of the library

Individual reading carrels Nil

Lounge area for browsing and relaxed reading 200 Sq. mt.

IT zone for accessing e-resources 25.6 Sq. mt.

4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

Most of the departments of the college constitute a Library Committee of their respective department at the commencement of every academic session. Faculty members of a department suggest titles of books and journals that are needed for the purpose of teaching the syllabi and for research to the Library Committee of the college. The Library Committee of a particular department forwards this demand to the Principal of the college. The demand finally goes to the Library Committee of the central library to purchase the referred books/journals. The numbers of books/journal purchased during last four years are:

Library Holdings	2009-10		2010-11		2011-12		2012-13	
	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost
Text Books	8347	2944313	6299	1984353	5389	2305040	1458	570809
Journals/ Periodicals	83	872845	88	940868	87	825141	122	246602
e-resources	02	357830	01	285410	01	266510	08	1209557
Text Books	8347	2944313	6299	1984353	5389	2305040	1458	570809
Journals/ Periodicals	83	872845	88	940868	87	825141	122	246602

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

➤ OPAC

BIET Library has been using web-enable integrated library system (Libsys package) to provide access to its resources through Web OPAC. Library is fully automated.

The OPAC system of the GIET Library offers a friendly and flexible search option to users through which they can search the desired information from any bibliographical record of library database. Web OPAC helps users to make a word-based search to meet very specific needs. It also helps to know:-

- Periodic list of recent additions to the library
- What are the materials checked out by him/her?
- And reserve materials that are currently in circulation. Materials currently procured.
- List of print journals subscribed by our Institute library
- List of articles available from all the print journals subscribed.
- Electronic Resource Management package for e-journals: Electronic Resource Management system for e-journals has been managed through our library portal.
- Federated searching tools to search articles in multiple databases : Library is managing federated search facilities using in-house developed application through library portal

➤ **Electronic Resource Management package for e-journals:** Available

➤ **Federated searching tools to search articles in multiple databases:** Available

➤ **Library Website :** Under process

➤ **In-house/remote access to e-publications :**

Yes BIET library provides access to back volume issues of e-journals as it is part of our subscription method and other materials not covered under above are given access by downloading and preserving by our in-house developed applications.

➤ **Library automation :** Our institute library is fully automated using integrated management software Libsys. It manages its activities like Charging, Discharging, reservation, journal indexing etc through this software. Users have access to our database through Web OPAC. BIET Library has its own Information Processing Lab comprising 20 systems dedicated exclusively for users. Internet connectivity has been given 24x7 for accessing worldwide scientific information and databases such as IEEE, SCIENCE DIRECT, MCGRAW- HILL, ASME, ASCE, J-GATE, ASTM, and SPRINGER etc. through intranet. Bandwidth of internet is 25 mbps. Our library has also a membership of DELNET which helps user to access other than library databases through Inter Library Loan services.

- **Total number of computers for public access:** 20 nos. of computers have been available for public access.
- **Total numbers of printers for public access:** Two printers have been given to users for printing download materials.
- **Internet band width/ speed:** 45 mbps
- **Institutional Repository:** We have an institutional repository maintained by in-house developed applications. It contains all institutional publications.
- **Content management system for e-learning:** In-house developed CMS system provides access to NPTEL materials and other faculty developed study materials which are available in our intranet. NPTEL Video Lectures (2 terra byte data) are available for the students and staff. 1GB additional memory is provided to each department for e-learning facility.
- **Participation in Resource sharing networks/consortia (like Inflibnet)**
DELNET service is under active subscription.

4.2.5 Provide details on the following items:

- **Average number of walk-ins:** 500/day
- **Average number of books issued/returned:** 350/day
- **Ratio of library books to students enrolled:** 20:1
- **Average number of books added during last three years:** 2000/year
- **Average number of login to opac (OPAC):** 400
- **Average number of login to e-resources:** 2000/month
- **Average number of e-resources downloaded/printed:** 500/month
- **Number of information literacy trainings organized:** Nil
- **Details of “weeding out” of books and other materials:** Nil

4.2.6 Give details of the specialized services provided by the library

➤ **Manuscripts**

Few manuscripts and rare materials are scanned and kept for the use of faculty members and students.

➤ **Reference**

Reference section consisting of text books, dictionaries, encyclopedias, almanac, yearbooks, English & Oriya literature collections etc. Students can refer books available in this section for more information regarding a topic. Readers may approach the Reference Desk for information or any assistance in the use of the Library Collections and Services. 5695 books are available under reference category. Back volumes of journals and magazines are also available in the form of hard bounded books for reference purpose. Reference services are also provided through telephone and internet.

➤ **Reprography**

Library provides photocopying service to the students & faculties of the institute. This service is given free to the faculties. We have a separate reprographic section for the user.

➤ **ILL (Inter Library Loan Service)**

The college doesn't provide this service.

➤ **Information deployment and notification (Information Deployment and Notification)**

The library displays announcements of forthcoming conferences, seminars and workshops. It also provides career / Employment information to the students.

➤ **Download**

Institute library has given a dedicated room with 20 systems to access e-journals and other e-resources with downloading facilities as per their requirements. Simultaneously, the faculty members download the e-journals using departmental computers.

● **Printing**

There is a separate printing section available, where students can print the required materials. The faculty members use the printers available in their respective departments for printing the downloaded materials.

● **Reading list/ Bibliography compilation**

Regularly compiling bibliographies and reading list on different subjects as per the needs of the clients.

● **In-house/remote access to e-resources: Available**

● **User Orientation and awareness**

The library regularly conducts orientation programme for the benefit of new students and faculty members in the beginning of academic year. Training sessions are also organized whenever a new product or service is introduced. Users are taken around the library to familiarize them with various resources and services available for them.

- **Assistance in searching Databases**

Our skilled library professionals are regularly providing assistance in searching our library database through Web OPAC and other databases available outside library premises through federated searching.

- **INFLIBNET/IUC facilities:** Available

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

The support provided by the Library staff to the students and teachers of the college is in the form of:

- Computers, Internet & Reprographic Facility
- Library staff to help readers trace the books
- Reading room for students & a separate space with study table for staff
- Display of new arrivals, are arranged to encourage readers to use existing and new arrivals.
- The new additions to the library are informed to the Departments.
- Faculties are informed about the latest additions relating to their projects/thrust areas of research.
- The Library has a collection of rare & reference books are stored separately in closed access and are provided on demand.
- Maintaining peaceful and academic environment.

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

The library staff is deputed to extend any help required by physically challenged students. An informal feedback on library services is obtained from students, faculty members and research scholars to make the library more user-friendly.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services. (What strategies are deployed by the Library to collect feedback from users? How is the feedback analyzed and used for further improvement of the library services?)

The library gets informal feedback from its users (teachers, students, non-teaching staff, and alumni) in the form of suggestions and recommendations. The Library Committee analyses this feedback and forwards it to the Principal for appropriate action. Such feedback is used for making the library more user-friendly and to improve its services.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the institution.

- **Number of computers with Configuration (provide actual number with exact configuration of each available system)**

Sl. No.	System	CPU (Ghz)	HDD (GB)	Ram (MB)	No.of Units
01	Dell	Core i3-2.8	500	4096	
02	Wipro	C2D-2.4Ghz	160	1024	
03	Zenith	Dual Core-2.4Ghz	160	2048	
04	Wipro	C2D-2.4Ghz	160	2048	
05	Wipro	Dual Core-2.4Ghz	160	1024	
06	Wipro	Core 2 Duo	320	2048	
07	Dell	Core i3	320	4096	
08	Dell	Core i3	500	2048	
09	HP	Core2Duo-2.4Ghz	160	1024	
10	IBM	P - IV 3.0 Ghz	80	4096	
11	HCL	P-IV	40	256	
12	Dell	Core 2 Duo	320	2048	
13	Dell	Dual Core	2	500	
14	Dell Inspiron	Core 2 Duo 2.80 Ghz	1	320	
15	Wipro	DualCore-2.2Ghz	320	2048	
TOTAL					

- **Computer-student ratio: 1:4**

- **Stand alone facility:**

- **LAN facility:**

The college is having a well connected Campus LAN which is a hybrid LAN in terms of wireless and wired connectivity. The total campus is Wi-Fi and is internally connected with wired LAN.

- **Wi-fi facility:**

Entire campus along with the hostels is Wi-Fi enable

• **Licensed software**

Sl. No.	Name of the software
01	Windows 2012 Server
02	Windows 2008 Server
03	Windows 2003 Small Business Server
04	Red Hat Linux 9.0
05	Windows XP Professional Edition
06	Office XP 2003 Professional Edition
07	Visual Studio.net with MSDN
08	Windows 2000 Professional Edition
09	Windows 98 Second Edition
10	Oracle 9i DBA with 5-user
11	Novell Netware 5.0
12	AUTOCAD 2002 LAN Version
13	Turbo C++ with compiler
14	Oracle 10i DBA with 5-user

• **Number of nodes/ computers with Internet facility: 781**

• **Any other**

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

- The institute has separate computer centre with internet browsing facility looked after by System Administrator.
- The students of the institute can access internet.
- The Faculty and staff of the institute can also access internet in computer center.
- No extra charge is taken either from the faculty or from the students for internet access and computing facility.
- The campus Wi-Fi enabled for the easy use of internet by the students and faculty.
- Each department has their own computing facility for their faculty and students.
- LAN facilities are also available.

- Hot-spot Wi-Fi facility is accessed with Laptops in campus at least 300 to 500 on any day in the campus.
- Beyond practical class time students can make use of computer facility for practicing their tutorials and to carry out mini projects.

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

- All the systems are upgraded in every three years.
- Individual up-gradation of the computers is taken up as per the need and requirements of the various departments.
- Enough provision is made available in the annual budgets for the procurement of the computer systems.
- Once new systems are procured, they are replaced with the existing systems as per the requirements of the departments.
- All the computer systems in the campus are regularly monitored by the system administrator with maintenance staff.
- The trouble/problems experienced by the computers in the various laboratories are entered by the lab programmers/technicians in the complaint register which is kept in the central office.
- The maintenance staff will then go to the respective labs for identification of the problems and resolves the same at the respective places.
- In case of major problems i.e. replacement of component/part during warranty they are sent to the respective service centers and got replaced at the earliest.
- To provide a reliable, secure, adaptable, scalable and fault tolerant data communication network.
- Uninterrupted power supply is made available to the campus, so that the e-classes are conducted without any interruption.
- Individual dedicated internet services are earmarked to various departments for continuous un-interrupted internet facility.
- All the major IT components are in AMC with respective service providers and are maintained regularly.

4.3.4 Provide details on the provision made in the annual budget for procurement, upgradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

Year	2010-11	2011-12	2012-13	2013-14
Procurement of Computers (In Lakhs)	6.21	4.28	6.87	3.90
Upgradation of Computers (In Lakhs)	3.14	3.27	2.99	3.07
Deployment and Maintenance of Computers(In Lakhs)	1.38	1.61	2.03	1.58

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

- The individual department develop their course through power point presentation for conducting classes
- Scheduling of smart class rooms for students
- Online feedback system is available
- Emphasis is given on NPTEL
- Audio-visual learning approach
- Softcopy of many learning resources, e-books are provided to students
- Video-on Demand facility is available

4.3.6 Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching - learning resources, independent learning, ICT enabled classrooms/learning spaces etc.) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

The institution is always placing the students at the center of the teaching learning process.

- The institute understands that the teachers have to be reoriented from time to time. The institution encourages the staff and technical assistants to undergo training on the computer-aided teaching and training and conducts departmental seminars and workshops for training on computer applications.

- The Department of Computer Science and Information Technology also organizes training sessions on the use of Internet for learning resources, conducting seminars and workshops in various fields related to use of computer hardware and software.
- Well equipped computer Labs, LCD projectors and OHPs are available to the faculty for conducting seminars, workshops, computer aided training, faculty development programmes and conferences.
- The E Journal and E Library facility is available for both students and faculty members to gain knowledge.
- The campus is fully enabled Wi-Fi access to avail internet facilities. The faculty is always available for any need based assistance in the use of ICT.
- Students are regularly encouraged to give seminars in the present emerging technology in a separately made well equipped seminar hall through ICT methods and are guided by other talented teachers.
- Every department has its own project labs to develop and innovate the ideas of the students and teachers.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

4.4 Maintenance of Campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?

Sl No.	Items	Amount Spent in 2010-11	Amount Spent in 2011-12	Amount Spent in 2012-13	Amount Spent in 2013-14
1	Buildings	18.20	19.69	21.46	23.81
2	Library	0.95	1.04	1.27	1.27
3	Furniture	0.60	0.72	0.77	0.83
4	Equipments	5.54	5.79	6.18	6.68
5	Vehicles for	15.31	20.50	22.98	24.23

	transportation				
6	Maintenance	4.61	5.22	5.89	6.57
7	Dispensary	3.35	3.71	4.07	4.40
Total Expenditure		48.56	56.67	62.62	67.79
Total Budget Allocation		50.00	55.00	60.00	65.00
% of Utilization		96.71 %	100.03%	100.04%	100.04%

4.4.2 What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?

- There is a full fledged Building Sub-Committee and Maintenance Sub-Committee for construction and maintenance of physical infrastructure (buildings, water supply, and power supply and supervision). These committees not only supervise construction of new infrastructure, but also maintenance of it.
- There is a full time campus caretaker cum electrician to attend to the minor faults, repairs on a regular basis.
- The college has its own a stand-by silent generator system.
- The maintenance of computers and scientific equipments is done by the hardware section.
- Permanent staffs are there for maintenance of toilets, bathrooms, service areas and security are done.
- A supervisor with workers is appointed for gardening purpose.
- Full time security guards are appointed.

4.4.3 How and with what frequency does the institute take up calibration and other precision measures for the equipment/ instruments?

Calibration of precision equipment/Instruments is taken up as and when suggested by the respective lab in charges and the Heads of the Departments. Usually when new equipment is replaced for a worn out one, the new equipment is kept as the bench mark equipment for calibrating other similar instruments

The Institute has a technical cell whose staff members are appointed to look after the maintenance / repair of equipments and instruments available on the campus. The cell regularly maintains the activities of the equipment and instruments installed on the campus and they provide servicing and maintenance of the same as and when required.

Many equipment, instruments and machineries are covered under AMC. Precaution measure charts are hanged at every installed place.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

- Voltage regulator has been installed to overcome the voltage variations
- Voltage stabilizers are installed in almost in all laboratories to avoid voltage fluctuations.
- Power back up facilities to all buildings through power generators.
- Constant supply of water is provided in required laboratories.
- Institute has its own transformer.
- Every building is connected through high power generator.
- Each sensitive laboratory is running through online UPS system Water pumps are connected through generator to provide uninterrupted water supply.

Any other relevant information regarding Infrastructure and Learning Resources which the college would like to include.

- Institute intranet provides much more e-resources. CCTV cameras in the class room.
- ED cell regularly conducts entrepreneur awareness program and monitors the entrepreneur's activities of the students.
- T&P cell looks after the industry-institute interaction activities.
- ISTE chapter takes care of the staff and student chapters by conducting different competitions, seminars and workshops.
- Career & Guidance cell provides different types of trainings to fill up the gap between student's knowledge & company / industry needs.
- Online feedback system improves the analysis of opinions / suggestions given by different stakeholders.

CRITERION V: STUDENT SUPPORT AND PROGRESSION

5.1 Student Mentoring and Support

5.1.1 Does the institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the institution ensure its commitment and accountability?

Yes, the institution publishes its updated Prospectus, Handbook and News Bulletin annually. The following information is provided to students through these documents:

PROSPECTUS: The institution publishes its updated Prospectus annually where the Institution provides clear information to students about admission procedures, requirements for all programmes (eligibility and documents necessary), the fee-structure and refund policies, financial aid and student-support services. Besides, it contains information like the composition of the Governing Body, history of the College, College Staff (Faculty and Non-teaching Staff), courses offered and subject combinations allowed, Library facilities and rules, Canteen facilities, excursions, medical facilities, co-curricular activities, Anti-Ragging Cell & Rules of conduct and discipline, details of fees structure, etc.

HANDBOOK: The student handbook contains the mission, vision statement and academic calendar of the institution. This also contains the students' code of conduct to give information on DOs / DONTS in the institution. Through this handbook the institution convey message to the students about the fees structure for the semester.

5.1.2 Specify the type, number and amount of institutional scholarships / freeships given to the students during the last four years and whether the financial aid was available and disbursed on time?

Institutional Free ships			
Years	Name of the Agency	No. Of Students	Amount funded (in Lakhs)
2010-2011	BIET, Barapada		
2011-2012	BIET, Barapada		
2012-2013	BIET, Barapada		
2013-2014	BIET, Barapada		

5.1.3 What percentage of students receives financial assistance from state government, central government and other national agencies?

Approximately 7-8 % of the students receive financial assistance from state government, central government and other national agencies.

5.1.4 What are the specific support services/facilities available for Students from SC/ST, OBC and economically weaker sections

The institute has **several scholarship** schemes benefiting students like free ship, half free ship for economically weaker students. This institute also arranges for getting scholarship from various appropriate bodies to students belonging to minority and economically weaker sections. The institute admits students under TFW scheme of Govt. of Orissa.

Students with physical disabilities

There is reservation for students belonging to disable category or physically challenged students as per university notifications. Their requirements and needs are considered with special care and attention. The Institute ensures that infrastructure facilities are provided sufficient to meet the requirement of the students with physical disabilities. The institution is committed to accommodate them on the ground-floor for their classes and examinations. They are provided front-seating arrangement, comfortable furniture and attendant facility. The library facility is provided to them in the ground floor. The need of the help from the supporting staff, if required, is fulfilled on the request of physically challenged students. The students are given extra attention during their examinations.

Overseas students :NO

Students to participate in various competitions/National and International

- Coaching classes for competitive exams are conducted periodically,
- Competitive books and magazines are provided in the central library of the college,
- Computers with internet facility are provided,
- Career counseling to guide the students.

Students are encouraged by proctors/faculty members to prepare and participate in various National events like Technical Paper Presentation, Technical Quizzes and project exhibition competitions conducted in various engineering Institutes in the state and other States.

• Medical assistance to students: health centre, health insurance etc.

BIET has always been concerned about health and hygiene of the students, staff and other members. A health care centre on the campus where qualified medical professionals provide assistance with warmth and care. The medical facilities are

available round the clock and hence students are rest assured of getting medical attention any time. The health care centre provided is equipped with ambulance, emergency treatment aids for any kind of unforeseen accidental events.

Organizing coaching classes for competitive exams

The institution is supporting the students beyond the syllabus by arranging special training programs, soft skill training programs for students on a regular basis, by the internal and external experts. Being an engineering college, a special arrangement for GATE coaching classes are organized and conducted by many departments of the Institution. In the GATE coaching classes, primary emphasis is given to solve the questions of last ten years. Tricks and tips is another regular practice of the GATE coaching classes.

Skill development (spoken English, computer literacy, etc.,)

BIET regularly conducts Personality Development Programmes which enhance the IQ level and communication skills of the participants for which Smart Class room is provided with audiovisual facility. The Institute also invites Guest speakers from the industry who provide regional and global employment opportunities for the students. Special spoken English classes are taken for communication skill development taking into considerations the rural backgrounds of the students.

Support for “slow learners”

The institution believes that slow learners can go steadily. So, personal care is taken by individual faculty members for the students. Students are allowed to ask their problems without any hesitation. **Remedial classes, extra-hour classes, frequent tests** are arranged on regular basis. All the members of the faculty participate in academic and career counseling.

Exposures of students to other institution of higher learning/ corporate/business house etc.

Industry visit, participation in seminar/workshops/conferences organized in other institutes or industrial organization are the common practices so that students could well aware of the outside world.

Publication of student magazines

This institution not only believes in students’ academic development but also emphasizes on the co-curricular and extracurricular developments. Each department has its own Wall Magazine, Newsletter run by the students in association with faculty members, producing many good qualities of creative writing.

5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

Gandhi Institute of Engineering and Technology has an active Entrepreneurship Development Cell (EDC).

The Objective of Entrepreneurship Development Cell

- Encourage entrepreneurship among the aspirant students.
- Guiding students for identifying business opportunities and preparing projects relating to entrepreneurship.
- Connecting the prospective entrepreneurs to various concerned authorities such as NSIC, DIC, MSME and different chamber of commerce such as BCCI, CII, EXIM etc.

The Activities of Entrepreneurship Development Cell

- Incubation center for entrepreneurship.
- Encouraging entrepreneurship.
- New business project development.
- Training on sources and application of funds.
- New market identification and market penetration strategies.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co- curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

There are several committees in the Institution to promote and motivate the students to get actively involved in the extracurricular and co-curricular activities, like sports, games, Quiz competitions, debate and discussions, cultural activities etc. Different policies and strategies on different extracurricular and co-curricular activities are usually framed by the respective and relevant committee in consultation with the HODs and Head of the Institute.

Additional academic support, flexibility in examinations

- Extra classes are conducted to fulfill the gap in which the students could not attend the classes because of participation in sports.
- Special Tests have been arranged for some students who could not attend the scheduled tests for attending or participating in external events.
- Remedial classes are conducted for the slow learners.

Special dietary requirements, sports uniform and materials

- Sports jersey are also provided from the Institute for the participating students.
- Sport materials and accessories are provided throughout the year like football, net, basket balls, cricket bats, cricket balls etc.

- Health being the primary concern for any athletes, Institute takes utmost care in providing portentous and hygienic foods and food supplements to its athletes.

Any other

- Inter college basket ball tournament and swimming championship are organized in the Institute every year, where students from the Institute as well as from other Institutes do participate.
- Many quiz, debate competitions and coding competitions are organized in the Institute, where the students actively participate.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

This institution has a key focus in motivating students for higher studies or research career. Many students from this institution have gone for higher studies in abroad or working as research scientists in premier research institutes like BARC, ISRO etc. This institute also arranges special coaching for preparation of GATE, IES or other government services for the students to motivate them. Aptitude classes arranged, so that the students can get benefit from the classes. Mock tests are also arranged with this purpose. A reasonable number of students have appeared and qualified during past years.

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

Academic:

The institute provides regular counseling to the students to address issues relating to their academic shortfall and obstacles. The institute has a proctor system where a group of students are placed under the guidance of mentors (who are the members of the faculty). The proctors look after their academic requirements and makes arrangements for remedial and tutorial classes.

Personal:

The proctors perform regular interaction with the students placed under their mentorship at a one-to-one level. The students are encouraged to share their personal problem and a friendly environment is provided to make them comfortable to share their personal problems. The proctors maintain secrecy of any personal information and takes necessary corrective steps in consultation with senior official staff, thereby addressing personal problems.

Career:

The institute encourages its students towards taking up higher studies and research. The following notable actions are taken.

- Special Training for preparation in GATE Examination
- Special Training for Govt. service Examination
- Aptitude, soft skill and technical skill classes are arranged for the students apart from their normal classes through special scheduled classes

Psycho-social:

BIET has understood that students having psychosocial disorders frequently have difficulty in coping up with social situations as this reflects in effective communication with others. The problems relating to social factors affecting students' mental health viz. peer pressure, parental support, cultural and religious background, socioeconomic status, and interpersonal relationships are addressed through their proctors. At times the senior faculty members of BIET also get involved to control problems relating to above factors, special committees are also set up in this matter to help strengthen students' personality and psychological makeup.

Psychological Counseling is done especially to:

- Handle crises in relationships
- Deal with stress and other pressures
- Resolve fears, panics and anxieties
- Cope up with continuing family problems
- Work through difficult decisions
- Break through depression and sadness

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programmes).

Yes. The institution has a very well organized training and placement cell to support the students for their career development. Many reputed software companies, other core sector companies like TCS, CTS, Infosys, Wipro, TechMahindra, Indian arm, JK group, Vedanta etc. have visited our institution, and our students are working with them currently. Also various training initiatives have been taken by the training and placement cell of our institute to develop the skills required to get a good employment in a reputed organization.

Counseling and Career Guidance Facility:

Batch wise all the students are provided with intense and multidimensional career guidance throughout the course duration. This process is conducted in different

layers taking the emotional, intellectual maturity of the students considering the ethnic, financial background in consideration. This process extends into the Mentoring System which is meticulously and scientifically designed and customized to the individual levels for all the streams.

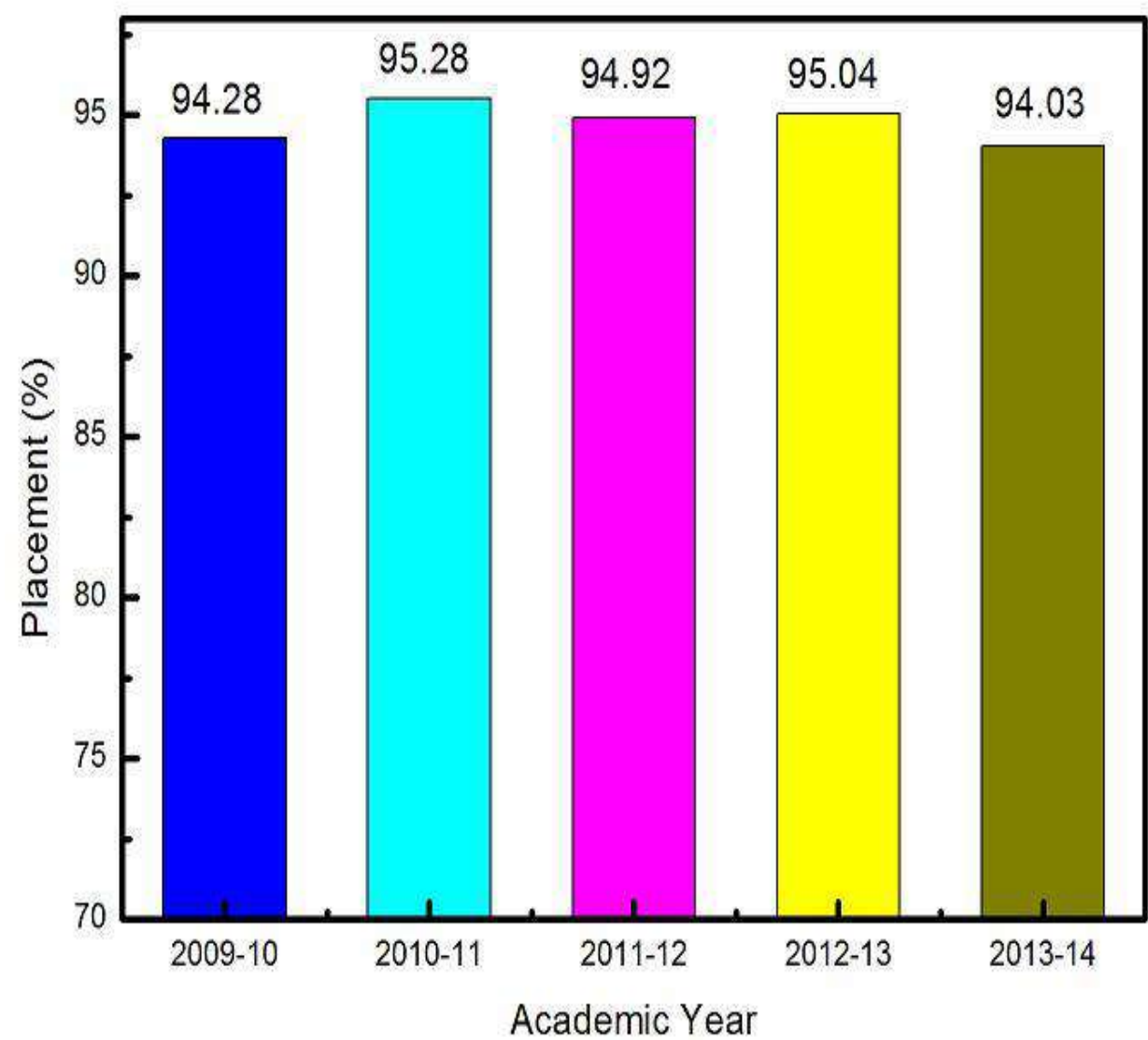
Management: Group of reputed international academicians and professional and organizations and consultants / experts in higher education conducting seminars and counseling session's group wise.

Impact: The focus is to counsel the students for all academic and campus issues, personal problem redressal and guidance. Special emphasize is given to induce students to undertake higher education in forms of Master Degree, Doctoral Degrees in India and Abroad.

Placement Unit Training and placement facility

A dedicated Training and Placement Cell working round the year to provide efficient, effective training and employment opportunities for all students. The operation is a two tier system one at the Corporate level and one at the College separately and working functionally as independent entities and collaborating with external bodies for generating better scope, opportunities and service. Regular mental ability improvement test and technical tests are conducted through a dedicated Computer Bases Information Systems where each student is evaluated every month. A group of trained professional rollout different soft skill development programme and technical development training programme in house on a frequent interval.

Placement Record for last five years



List the employers where student got placed through campus drive



5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Grievance redressal system is practiced through several additional committees consisting of responsible faculty members and outside persons who are administrators/decision makers as listed below:

1. Grievance redressal Committee

2. Disciplinary Committee

1. Grievance Redressal Committee: The formal procedures for the settlement of the grievances are as follows:

- A suggestion & complain box is placed at the reception of the Institution.
- The reports of the Grievance redressal /Suggestion/ feedback are analyzed by the **Committee**. Corrective measures are taken on all such cases by the Committee along with the Principal and Dean (Admin).
- The Managing Trustee would take a decision in any serious matter and the same will be conveyed to the employee/student as soon as possible.

The **Grievance Redressal Committee** consisting of the following members-

Sl No.	Name of the staff Member	Designation in the committee
01	Prof. (Dr.) Mohan Chandrana Panda	
02	Prof. (Dr.) Gopal Charan Behera	
03	Prof. (Dr.) Prasanna Kuamr Jena	
04	Prof. (Dr.) Jibanananda Jena	
05	Prof. Amarandra Chaini	
06	Prof. (Dr.) Ramesh Chandra Nayak	
07	Prof. Ashis Kumar Palit	
08	Prof. Sanjay Kumar Mohanty	
09	Prof Pratap Sekhar Puan	

2. Disciplinary Committee:

Role of this committee is to examine all indiscipline activities of students and staff observed. Disciplinary actions are recommended depending on the degree of indiscipline act. The report is submitted to the principal and Dean (Admin) for necessary action and in major cases principal reports to the management for taking necessary action.

The **Disciplinary Committee** consisting of the following members.

Sl No.	Name of the staff Member	Designation in the committee
01	Prof. (Dr.) Mohan Chandrana Panda	
02	Prof. (Dr.) Gopal Charan Behera	
03	Prof. (Dr.) Prasanna Kuamr Jena	
04	Prof. (Dr.) Jibanananda Jena	
05	Prof. (Dr.) Ramesh Chandra Nayak	
06	Prof. Ashis Kumar Palit	
07	Prof. Sanjay Kumar Mohanty	
08	Prof. Chandan Kuamr Samanta	
09	Prof. S. Z. Khan	
10	Prof. Gouranga Charan Roul	
11	Prof. Amarandra Chaini	

5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

The institution has taken a decision to handle very strict measures against the sexual harassment if any. Though no cases have been recorded so far, but the institution has its own woman grievance cell, under which this kind of cases are solved if occurs. This committee comprises of the members from each and every department and the students community.

The **Women grievance cell** consists of the following members.

Sl No.	Name of the staff Member	Designation in the committee
01	Prof. (Dr.) Mohan Charan Panda	Convener
02	Prof. (Dr.) Arpita Jena	Member
03	Prof. P. P. Ray	Member
04	Prof. Priyadarshini Behera	Member
05	Prof. Madhuchanda Mishra	Member
06	Prof. Manamanjari Patra	Member
07	Prof. Nibedita Panda	Member

5.1.12 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

The institution has a core anti ragging committee and an anti ragging squad, both including members from faculty as well as students and this campus is a ragging free campus. In spite of this strict monitoring are there in each corner of this institution to protect first year students from ragging. The students have to fill up an undertaking at the time of admission declaring that they shall never participate in ragging. If any student guilty in any kind of physical or mental ragging, the committee takes strict action against him or her. No instance of ragging has been reported/detected during last four years. The campus is ragging free.

Anti-Ragging Committee

The basic aim of the committee is to make a ragging free campus. The members of the committee keeps vigilance throughout the campus and hostels to prevent any ragging activities of the students. If any ragging case is observed, the committee examines and recommends appropriate punishment to the candidate who is involved with ragging.

List of Members of Anti-Ragging-cum-Disciplinary Committee

Sl No.	Name of the staff Member	Designation in the committee
01	Prof. (Dr.) Mohan Charan Panda	Convener
02	Prof. (Dr.) P. K. Jena	Member
03	Prof. (Dr.) Jibanananda Jena	Member
04	Prof. Amarandra Chaini	Member
05	Prof. Gouranga Charan Roul	Member
06	Prof. Chandan Kumar Samanta	Member
07	Prof. Pratap Sekhar Puan	Member

Following welfare schemes made available to students:

- NSS programme for 1st year students – Plantation, Campus cleaning, Blood Donation, Old cloth donation to Missionaries,
- Student welfare committee helps the students to understand the various aspects of college life, and adapt accordingly. The committee provides scope for constructive and productive interaction between the freshers and the experienced seniors, which forms an integral part of college life.
- In case of accidents or other financial difficulties, the committee takes initiative to arrange to donate blood and/or financial assistance as collected from the students and staff members of the Institute.
- Organization of Blood Donation Camp in the Institute and arranging to contribute is a major welfare scheme.
- The Institute adheres to the prescribed norms for students of socially and economically backward in admissions to all its programs.
- The Institute has a good mechanism to guide and provide financial support in the form of concession in fees, fee-waiver and scholarships as per the regulations, book bank facilities etc

5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for institutional, academic and infrastructure development?

Yes, the college has its Alumni Association. The members of the association are as follows.

Sl No.	Name of the staff Member	Designation in the committee
01	Prof. (Dr.) Mohan Charan Panda	Convener
02	Prof. (Dr.) Gopal Charan Behera	Member
03	Prof. Sanjib Kumar Roul	Member
04	Ms. Shabana Nazneen	Member
05	Mr. Ansuman Mishra	Member
06	Ms. Nibedita Panda	Member
07	Mr. Manoranjan Dhal	Member
08	Ms. Madhuchanda Mishra	Member
09	Mr. Laxman Kumar Sahoo	Member
10	Mr Dillip Kumar Padhiari	Member
11	Mr. Suvaranjan Sutar	Member
12	Mr. Nirmal Kuamr Mallick	Member
13	Mr. Digma Digadarshini Parida	Member
14	Mr. Jagannath Prasad Das	Member
15	Mr. Subrat Kumar Pradhan	Member
16	Mr. Kasinath Jena	Member
17	Mr. Sibaji Behera	Member
18	Mr. Srikant Kumar Sahoo	Member
19	Mr. Abinash Rout	Member
20	Mr. Sumit Kar	Member

Activities during the last two years

- The Alumni meet was held in 2013-14 at BIET, Barapada
- The Alumni meet was held in 2011-12 at BBSR

Contribution of alumni to the growth/ development of the institution

- Many alumni works as faculty of the college.
- The alumni give their valuable inputs regarding improvement in the infrastructure and administration.
- Alumni are even involved in the extension activities of the institution. They are very generous in contributing to the cause of helping the disadvantaged.
- The alumni of the college are roped in to lend their professional expertise.

- The alumni members share their opinion in blogs and forums. They can provide references for their juniors.

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlight the trends observed.

Student Progression	2010-11 %	2011-12 %	2012-13 %	2013-14 %
UG to PG	4	3	4	4
PG to M. Phil.	NA	NA	NA	NA
PG to Ph. D.	4	6	7	8
Employed Campus Selection	71.05	74.35	74.86	75.32 (till date)
Employed other than Campus Selection	1	2	2	2

5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (Branch wise/batch wise as stipulated by the university)? Furnish programme-wise details in comparison with that of the previous performance of the same institution and that of the Colleges of the affiliating university within the city/district.

	Branch	2010		2011		2012		2013	
		No. of students appeared	No. of students passed	No. of students appeared	No. of students passed	No. of students appeared	No. of students passed	No. of students appeared	No. of students passed
UG	CSE	60	48	65	58	69	57	70	62
	IT	36	27	42	39	68	56	14	11
	EE	57	24	66	62	66	57	66	57
	MECH	51	44	65	64	68	63	66	61
	CIVIL	61	55	66	63	66	64	65	62
	ETC	53	50	66	62	98	79	96	88
PG	CSE								
	ETC								
	MECH								
	CIVIL								
	MBA	60	31	60	58	33	30	19	Nil
	MCA	60	60	58	51	11	08	10	10

5.2.3 How does the institution facilitate student progression to higher level of education and/or towards employment?

The college constantly encourages its students and extends its all possible supports for their higher studies and bright career. The college takes the following steps to facilitate students' progress.

- The college motivates students to appear for competitive examinations like GATE. The college arranges coaching classes for such students,
- The college also organizes guest lectures/external talks by eminent scientists and academicians,
- Renowned personalities from diverse fields of education are invited to inspire and interact with students,
- Peer learning is also encouraged amongst students,
- Placement drives are organized by inviting placement consultant companies to the college,
- Various seminars on job opportunities in the areas of hardware, networking etc. are organized.

5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?

Each and every department of this institute extends special support for those students who are academically weaker. Remedial classes are arranged for them. They are privileged to practise and evaluate themselves through mock tests. The candidates who have got supple in examination may attend the classes for the particular subjects in the next year.

- Remedial Classes
- Extra classes both for theory and practical
- Personal care
- Counseling by corresponding Mentor
- Backlog system is there in the university

5.3 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

SL. NO.	DATE	SPORTS	EVENT	ORGANISED BY	AWARD
1		Basketball			
2		Volleyball			
3		Cricket			
4		Cricket			
5		Football & Table Tennis			
6		Football			
7		Archery			
8		Basketball			
9		Cricket			
10		Volleyball			
11		Football, Table tennis & Badminton			
12		Cricket			
13		Basketball			
14		Power lifting			
15		Cricket			
16		Cricket			
17		Basketball			
18		Football & Volleyball			
19		Cricket			
20		Power lifting			
21		Basketball & Swimming			
22		Football			
23		Swimming			
24		Basketball			
25		Cricket			
26		Cricket			
27		Basketball			

28		Volleyball Table-tennis Basketball			
29		Badminton Doubles			
30		Swimming			

5.3.2 Furnish the details of major student achievements in co- curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

The list of students' achievements is attached in annexure 14

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

The institution has the following effective mechanism to seek and use data and feedback from its graduates and employers to improve the growth and development of the institution.

- The College hands out feedback format to the students regarding the course content as well as teacher evaluation. The feedback obtained is analyzed by the IQAC and the Principal takes necessary action to enhance the performance of teachers and quality of the institutional provisions.
- The institution also interacts regularly with employees and uses their feedback to improve upon its weaknesses and build upon its strengths.

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/ materials brought out by the students during the previous four academic sessions.

A major publication of the college is NOISIS, the annual college magazine. The college promotes creativity among students by encouraging them to publish their write-ups in the magazine. Creative endeavors of students like articles, stories, poems, etc. find a place of prominence in this magazine. Various departments in the college have provision of wall magazine. Students are encouraged to put newspaper cuttings, small write-ups, etc. on wall magazines. The students are encouraged to present their innovative ideas in the RC meeting, which is organized in the college. Those innovative ideas are being published in the proceedings of RC meeting.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

No. We have Class Representatives (CR) in each class, which is based on selection and not by election. The selection is done by the teachers of individual department.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

The Institution believes in empowering the students through involvement in all possible curricular, co-curricular and extra-curricular activities. Some of the bodies with student representation are-

Editorial Board: The Editorial Board of NOISIS comprises of Chief Editors, Editor and Students Editors. The Board invites write-ups from students and teachers and publishes them in the form of magazine annually.

Sports & Cultural Committee: This Committee is constituted to promote the cultural activities among the students. Students are selected to show case their cultural competencies in annual function and other cultural programs. Students have special interest in this field undergo constant practice under the supervision of the experts of the respective fields.

Library Advisory Committee: This committee consists of faculty members, the Librarian and students from each department. This Committee is constituted under the headship of the Faculty members who are in charge of the library. The Committee is responsible for the maintenance of library books and journals, easy access of the students to the library facilities, students' facilities in the library such as reading rooms, drinking water, uninterrupted power supply, opening and closing timings of library, availability of daily newspapers and the maintenance of library records. Suggestions are invited from the students and other readers for making the library atmosphere congenial.

Departmental Students Association: The students associations of each department have students as secretary, joint secretary etc.

5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution.

The college has formed its alumni association. It also has formed a committee to collaborate with the alumni that includes former faculty members and members of non-teaching staff. This committee meets once or twice a year. It remains in touch with the alumni through the college email and blog and through Face book. It shares a deep concern regarding the well-being of the alumni. As such, to recognize past efforts of retired faculty members in the making of the college as well as to make them feel an eternal and integral part of the college, the committee invites them to various co-curricular activities held and special occasions celebrated in the college. The committee is also prompt to seek suggestions of the alumni in matters of academic and administrative importance of the college.

CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?

Vision: To foster prosperity through technological development by means of education, innovation and collaborative research and emerge as a premier technical institution

Mission: To provide quality education of international standards for producing technocrats and future leaders in a disciplined and conducive environment as an integral part of our social commitment to promote education in eastern India

The Institute is committed to its avowed mission, which is in tune with the needs of the society. Academic programmes of the Institute are aimed at fulfilling the national endeavor for human resource development and inclusive growth through academic empowerment. Promoting enrollment ratio and reducing dropout rates particularly among the socially weaker and marginalized groups are the important features of national policy on Higher Education. Concentrated and sincere efforts are made by the Institute to promote capabilities of the students to be part of the mainstream economy. This is ascertained by

- Strategies has been adopted by institutions is to satisfy the needs of the students from diverse backgrounds including socio-economic backward community complying with all the norms of the Government.
- Mechanisms to adopt Learner-centric education approach, academic planning, improved and use of modern teaching-learning aids and application of ICT resources to make the curriculum interesting and effective for the students to facilitate effective learning outcome.
- Mechanism for the upkeep the infrastructure facilities and promote the optimum use of the same to maintain the quality of academic and other programmes in the campus.
- Mechanism to introduce skill -oriented Value added Courses, opportunity of higher education to adult earning students to achieve core competencies & develop entrepreneurial approach to face the global requirements successfully.

- Mechanism to promote research culture, research publication, & professional development faculty members for quality enhancement of the teaching community.
- Mechanism for promotion of participation in community services through extension Programmes to develop innovative, creative, value-based education for inculcating social responsibilities and good citizenry amongst its student community.
- Mechanism for participation of the students in various cultural and sports activities to foster holistic personality development of students
- Facilitating mechanisms like career and counseling, Remedial-coaching Classes, grievance redressal cell and welfare measures to support students.

6.1.2 What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?

The College practices participative management and delegation of authority. By virtue of the post, the Principal is a member of the Governing Body. The Principal contributes in the policy decisions of the Management with respect to the college. Principal being head of the Institution communicates the decisions of the Management in the Academic Council, which is composed of all the Departmental Heads. The IQAC and Academic Council formulate a calendar of events incorporating the College related programs of the Management. HODs along with their departmental colleagues ensure the implementation of programs. Administrative matters are dealt through the Dean (Admin) and other section heads.

The following Quality Policies are designed and implemented at the Institute:

- To maintain Excellence in Quality Education
- To provide high standard platform to students for learning through latest resources
- To inherit career linked domain skills for higher studies and employment
- To strive for continuous improvement
- To develop good human being for nation building

The top management, Principal and Faculty take care in implementing this policy for the satisfaction of stakeholders. Excellent infrastructure facilities and healthy teaching and learning environment are provided to the students and faculty. BIET has various process measures for each and every activity of its department. It substantiates the execution of all plans.

- The training and placement cell and respective departments take care of developing professional competence and soft skills in every student by

inviting trainers from various organizations to impart the necessary skills needed by the industries.

- A separate research cell has been established to focus, encourage and provide the necessary facilities to carry out research by the students and the faculty.
- The Institute has signed MOU's with other reputed organizations for promoting advanced research and modern teaching practices to achieve its goals.

6.1.3 What is the involvement of the leadership in ensuring :

• The policy statements and action plans for fulfillment of the stated mission

The Management Committee meets regularly. Different committees constituted by the Principal such as Academic Advisory Committee, Maintenance Committee, Purchase Committee, etc. discuss all the matters within their purview and present their reports and recommendations to the Principal who forwards their suggestions to the Management Committee. The issues are discussed and final resolutions are adopted for implementation. At times, with the prior consent of the management, the Principal plays a leading role in the governance and management of the institution. He communicates the vision and mission of the institute to faculty members, students and other stakeholders. He plays the role of chief coordinator for various internal and external affairs of the college. He takes reviews from all the committees, teaching staff, and heads of various departments by holding meetings with them for efficient working of the college.

• Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan

The institute takes care of all its major areas at the time of formulating action plans. All the committees prepare separate annual plans in their respective areas and send their proposals to the Principal for his consideration. The Principal discusses these proposals with IQAC and Academic Advisory Committee to formulate a comprehensive action plan on the lines of the rules and regulations of the university.

• Interaction with stakeholders

BIET has created several platforms for interacting with its stakeholders as given below:

- The Governing Body of the college meets at a regular interval
- The Academic Council meets once in a semester
- Parents' meet for keeping them updated regarding performance of their wards and the Parents feedback are recorded for taking necessary corrective actions.

- Student counseling is conducted to identify their problems and resolve them. The institute has a mentor mentee scheme for ensuring preventive and quick action against complaints.
- Training and Placement Cell and respective Departments communicate with the employers and collect feedback from them
- Online students Feedback about their faculties is collected once in every semester.
- The Institute maintains links with Alumni for getting necessary information on current issues and challenges in the industries.
- **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders**
 - The Heads of the Departments review the departmental progress for continuous improvement in consultation with the Principal and Dean (Admin). This is based on the employers feedback about the students placed in the preceding years. Additional training is given in the areas requiring improvement as suggested by the business community.
 - To improve the performance of the students, internal assessment through Mid Tests and Assignments is conducted periodically and the results are reviewed/ displayed for the students.
 - Weakness of the students is strengthened by conduction of additional tutorial classes.
 - For acquiring research projects the institute encourages and arranges facilities.

- **Reinforcing the culture of excellence**

Apart from attendance analysis, result analysis and performance analysis of co-curricular and extra-curricular participation, department SWOC analysis has always been considered with greater importance in order to achieve a steady growth and excellence. The institution reinforces the culture of excellence through workshops, awareness programmes, special lectures on quality innovations, Curricula, Teaching-Learning & Evaluation, Research oriented seminars, applying for research grants and project managing, plans and implementation of advanced Learning Resources, ICT management and suggestions for empowerment of staff, kind of Leadership, governance pattern and in strategic perspective planning.

- **Champion organizational change**

- Implementing bodies - Committee System for academic & administration.
- Effective mechanisms to provide, modern teaching-learning aids and application of ICT resources to make the curriculum interesting and effective for the students to facilitate effective learning outcome.

- Introduction of skill -oriented Value added Courses, opportunity of higher education to adult earning students to achieve core competencies & develop entrepreneurial approach to face the global requirements successfully.
- Feedback from Stakeholders (students, parents, staff and alumni).
- Programmes on competence development.
- Promotion to Research activities
- Encouragement to organize seminars, workshops etc.
- Pedagogy innovations – Learner Centric methods.
- MoU with several other industries and organizations for Research, Consultancy and Extension activities.
- Wide publicity, awareness to students and parents, transparent open admission policy, provision of all facilities, (academic & financial), counseling and attitudinal change.

6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

Procedures of monitoring and evaluation of policies and plans are as follows:

Monitoring:

- Expected Results/outcomes obtained from development plan and results
- Key priorities such as teaching and learning process, risks identified in the planning stage
- Data collection through feedback, and stakeholder meeting.
- Estimation of resources required and committed for carrying out planned monitoring activities.
- Staff members have to fill in the Self Appraisal forms monthly. The Head of the College gives them constructive feedback regarding the same. Monthly staff meetings are held to take stock of the activities undertaken by the various Committees.

POLICY EVALUATION

The key parameters at the time of policy evaluation are:

- Outcome evaluation of teaching and learning process
- Research output and progress of projects
- Environmental and sustainable development, mobilizing finances, and crisis prevention and recovery.
- Evaluation stakeholders
- Correct identification of any problem
- Whether any important aspects overlooked.
- Whether any important data left out of the analysis which influences the analysis.
- Proper implementation of all recommendations.
- Desired effect of the policy is present or not.
- Any need for modification/ change should be done for the future.

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

The top management is always supportive towards academics and academic work in the College. The academic leadership is given to the key faculty members by the top management for setting academic priorities and exposing to wide spectrum of knowledge, creating a culture of promoting research. It provides academic freedom to faculty members to strengthen teaching and learning and thereby enriching student quality. The staff is given the authority and responsibility to complete the desired academic task in the best possible manner within the stipulated time. The Principal is very vigilant about discipline, commitment and devotion towards the work allotted to the staff. This blend of control with active participation of the staff is the distinguishing feature of our College which has allowed the head to get the spontaneous and unrequited support from the staff. This kind of leadership has generated not only a sense of belongingness but also dedication among the staff members. It strengthens harmonious workplace that attracts and retains faculty.

6.1.6 How does the college groom leadership at various levels?

The Management believes in coordinated decentralized organizational structure and is always encouraging and supporting the involvement of the staff in order to achieve the organizational objectives specified in its mission and vision statement.

Motivation: It is an integral part of the Institute policy to motivate the staff to lead the teams of members at all level of functional areas. Adequate provisions are made to encourage leadership apart from the usual benefits specified in its leave rule, career development, research and publication, consultancy etc.

Transparency: The Institute is transparent in its functioning by publicizing its policies, plans and procedures. HoDs give a detailed presentation to the students of all years of the department and staff about the Institute policies and implementation methodologies.

Decentralization and Delegation: For effective functioning of the Institute the in-charges of various programmes and laboratories are delegated the responsibility with authority.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?

The Management gives sufficient freedom to the Principal, who is the academic head of the institution to function in order to fulfill the vision and mission of the institution. The college delegates authority and provides operational autonomy to the departments to work towards decentralized governance system. Academic responsibilities are fairly divided among all the staff members. Committees are appointed for the various academic and co-curricular activities to be conducted in the course of the academic year. The list of committees is displayed at the beginning of the year on the staff notice-board. This ensures transparency in policy execution. The responsibilities are communicated to the faculty members through regular staff meetings. The Principal of the college holds regular meetings with the teaching and non teaching staff. In these meetings, various issues are taken up for discussion before arriving at a final decision. The Heads of Departments monitor the functioning of the various departments. The participative decision-making ensures total participation of all the people concerned. The office administration of the College is headed by the Dean (Admin) under whom there are Office Superintendents, Head Clerks, Senior Clerks, Junior Clerks and other Class III and Class IV Staff. The Dean (Admin) in consultation with the Principal coordinates the day to day activities. With the increasing impact of globalization, the challenges faced by the nations of the world are substantial; hence, the importance of localization through decentralization has intensified. At the same time, decentralization is seen as a means of improving the efficiency of education systems and the quality of educational services.

6.1.8 Does the college promote a culture of participative management? If 'yes', indicate the levels of participative management.

Yes

The Management is always open to discussion with the teaching and non-teaching staff which, in turn, encourages the involvement of the staff for the improvement of effectiveness and efficiency of the institutional process. There is a network system of coordinative mechanism for the successful conduct of the college activities. The Principal with the Heads of the Departments discusses the needs, problems and

suggestions to improve the educational quality and infra structure improvements to talk to the management for further action. The teaching and non teaching staff are represented in the college committees due to participatory management. The college involves and allows the faculty members to participate voluntarily in every work including the preparation of NAAC report. There are various committees constituted to manage different institutional activities. The lists of available committees are as follows:

- Academic Committee
- Research Committee
- Anti Ragging Committee
- Grievance Redressal Committee
- Examination Committee
- Disciplinary Committee
- Sports & Cultural Committee
- Library Committee
- Women's Cell
- College Magazine Committee
- Student Welfare Committee
- Time Table Committee
- Internal Quality Assurance Cell

6.2 Strategy Development and Deployment

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Yes. It is developed on the guidelines of AICTE, BPUT and ISO-9001:2008.

Quality Policy:

BIET endeavors to impart quality education by improving the teaching-learning processes to enhance students' skills and talents to build them to meet global challenges in the fields of engineering & technology. Additionally this also makes a contribution to the society, the nation and the world. Thus the main objective of the institute is to pursue excellence in teaching, research and related extra-curricular activities to prepare technical manpower for building the future of our nation.

The quality policy is developed by the Institute keeping in mind the vision of the Institution. The policy is objective driven and deployed by ensuring evaluation of continuous progression of the Institute with the help of regular classes, seminars, symposiums, NSS and other extracurricular activities. The IQAC prepares an annual report (AQAR) every year to review the quality policy with regards to progress of the students, Institute and the academic pursuits of the teaching staff in terms of placement and higher studies, research & publications, collaboration and consultancy etc. It also ensures that stakeholders connected with higher education namely parents, teachers, staff and society in general oriented towards enhancing their own quality.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

YES. The institutional development particularly infrastructure development is looked after by the management. It comprises of - extension of building, providing additional facilities, introduction of new courses, establishment of new faculty, employing visiting teachers etc. The management forms several committees for further academic growth and infrastructure development of the college. The members of these committees consider several factors while preparing future plans.

The factors that they keep in mind are:-

- The changing scenario in the field of education.
- The needs of students /society.
- The conditions of time and place.

- The economic factors
- The relevance and usefulness of plan.

The college intends to:

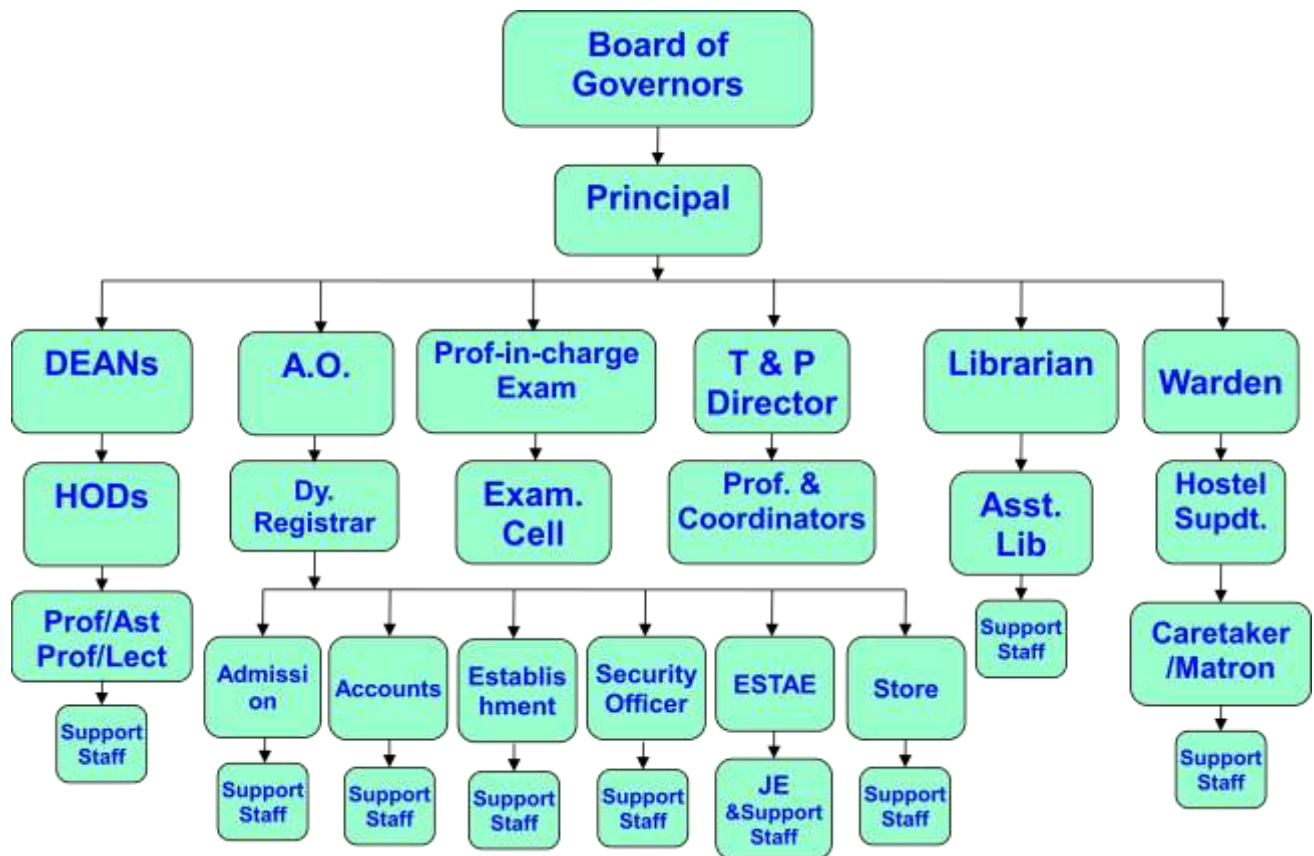
- In view of the above the Institute has a few areas identified for achieving excellence in Research & Development like Energy systems, Environmental pollution control, Spatial Data Mining (Epidemic Identification System), Mobile Communication (Android Apps.), Robotics, CAD/CAM, etc.
- The Institute intends to start new demand driven PG programmes, like structural Engineering, CAD/CAM etc.
- To enhance relevance and quality of currently offered UG programmes by gradually switching over from current teaching-centric, syllabus/subject-centric and examination –centric education to learning-centric, competence-centric, learning outcomes-based education.
- Discovery learning in teams and iterative engineering skills of design-build-test; using learning-centric teaching learning processes in courses offered by all departments.

- Gradually increasing the proportion of active learning methods like problem solving, team building, discovery learning and collaborative learning, assessing performance of students based on their learning attainments.
- Providing laboratory and workshop facilities for designing, fabricating and testing students' projects/products.
- Exploiting the possible existence of extending Institute Industry interaction to enlighten the students' learning and undertaking consultancies

6.2.3 Describe the internal organizational structure and decision making processes.

The college has developed efficient internal coordinating and monitoring mechanisms. In cognizance with the educational needs and demands of the nation in general and beneficiaries of the college in particular, the goals are set through collaborative and collective efforts of various components of the institution. Thereafter, the responsibilities are assigned to individual teachers and departments. At this juncture, the head of the departments, the conveners of different sub-committees constituted for planning and implementation for quality sustenance and improvement play significant role along with the principal to monitor the progress and carry out the work. Wherever required, the information and expertise from external agencies is sought by the head of the department/convener. In fact, the resources of the college, both human and infrastructural, are readily made available for the head of the department/convener and the teachers concerned to carry out the programme/project successfully. After the target is achieved by the dedicated effort of the faculty involved and intensive monitoring by the administration, the response of the beneficiaries of that project is taken as a measure of its success. The college has a democratic set-up, where each unit is given fullest freedom to innovate and plan its perspectives of development, yet it operates through a structured organization for disciplined and smooth functioning. The line of hierarchy is maintained and the code of conduct is implemented to bring harmony and unity in its various cells.

ORGANISATION CHART



6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

• Teaching & Learning

- Mechanisms to adopt Learner-centric education approach, academic planning, improved and use of modern teaching-learning aids and application of ICT resources to make the curriculum interesting and effective for the students to facilitate effective learning outcome.
- Learner-centric education approach through appropriate methodologies like Academic Calendar, Interactive instructional techniques, use of debates, projects, presentations, Field work, surveys, experiments and practical classes, Lectures by experts from other colleges & Inter-departmental lecture exchange
- Academic calendar ensures clarity, co-ordination, planning and distribution of classes properly.
- College has well equipped Laboratories according to the revised syllabus required for practical classes.
- Use of Audio-Visual mode of teaching aids for all departments with Blackboard, Flow Charts, Overhead Projector, LCD Projector, Laptop, ICT as teaching aids & use Computers & internet facilities, Generator for continuous power supply for effective teaching learning process & research work for faculty.
- Total computerized of cataloging of books of the central library & creating a digital database for effective use by students & staff of the college.

• Research & Development

- Mechanism to promote research culture, research publication, & professional development faculty members for quality enhancement of the teaching community.
- The Research Monitoring Committee encourages the research activities of the college and monitors the research activities, infrastructure provided and required by the faculty members to carry out research activities
- Full autonomy is given to the principal investigator by the institution to facilitate smooth progress and implementation of research schemes/projects

- The Institution makes all necessary arrangements for timely availability or release of resources for smooth progress and implementation of research schemes/projects
- Internet, LAN and journal and e-journal subscription is made available to the principal investigator by the institution to facilitate smooth progress and implementation of research schemes/projects
- Conferences and Seminars are organized by the Departments to attract researchers of eminence to visit the campus and interact with teachers and students
- The provision of leave facility for the faculties for Paper presentations in different International and National Conferences
- Encouraging Publication by faculty in different International and National refereed journals, books, articles in edited volumes, seminar proceedings etc.

• **Community engagement**

The college through NSS organizes various extension programmes to strengthen ties with the community such as:

- Tree Plantation Drives
- Blood Donation Camps (in collaboration with Rotary Club).
- Awareness programmes on vital issues.
- Celebration of important days like Teacher's Day, NSS Day, Environment Day, birth and death anniversaries of eminent personalities such as Swami Vivekananda, Mahatma Gandhi, etc.

• **Human resource management**

- Welfare measures for the staff and faculty
- Mechanisms for performance assessment (teaching, research, service) of faculty and staff
- The institution uses the evaluations to improve teaching/ research of the faculty and service of the faculty by other staff
- The strategies and implementation plans of the institution, to recruit and retain faculty and other staff who have the desired qualifications, knowledge and skills
- The institution supports and ensures the professional development of the faculty through budget allocation for staff development, sponsoring for advanced study, research, participation in seminars, conferences, workshops, etc. and supporting membership and active involvement in local, state, national and international professional associations
- Staff development programmes for skill up-gradation and training of the staff

- Facilities provided to faculty to carry out their work effectively
- **Industry interaction**
 - The institution has an institute industry interaction cell through the Training and Placement Cell headed by the Training and Placement Officer. They promote industrial training for the students and for the faculty as well. Students are sent for internship programmes for a maximum of four weeks to industries both domestic and abroad for promoting collaboration.
 - Hence, the institution creates a tie up and signs MOUs.
 - Every academic year it is made sure that the students are taken for industrial visits.
 - Both UG and PG students are motivated to undertake their end semester project in the relevant industries of their domain, thus exposing and preparing them to meet the real time requirement in the industry.

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

The head of the institution and the stakeholders—students, teachers and non-teaching, parents etc. are always in interactive mode with each other. The HoD gathers information from students, parents, faculties and the public with regard to the teaching quality, extracurricular activities and infrastructural facilities etc. In the meeting of the management the information gathered from different sources are discussed among the members. After thorough discussion and deliberation the existing systems and activities of the college are reviewed and decisions regarding the implementation of new policies are taken.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

Every year after appraisal, with respect to the review of the faculty performance, increments are awarded. In some cases additional incentives are also paid for outstanding performance. Faculty members are given weightage for publication in national and international journals during increments. To improve the teaching learning process and to provide a better transfer of knowledge SMART class rooms are provided to each department. The management encourages the staff to strengthen the teaching capacities by motivating them to undertake research, consultancy, paper publication and to participate in seminars and workshops.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The following resolutions made by the Management Council

- Encourages research activity
- Guidance given to the students for the best project in UG and PG level
- Encourages faculty for higher qualifications like Ph.D.
- Purchase of equipment
- Review of the examination results
- Infrastructural requirement
- Faculty sponsorship for Training in advanced courses that are being conducted by NITs / IITs
- Steps should be taken to conduct/ form student chapters of the professional bodies.

Some of the resolved issues are implemented this year and rests are in the process of implementation this year.

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If 'yes', what are the efforts made by the institution in obtaining autonomy?

NA

6.2.9 How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder relationship?

- The College has a "Grievance Redressal Cell" to redress the grievances of the stakeholders. The students approach the Cell for their grievances regarding academic matters, financial matters, health services, library and other central services.
- The committee sorts out their problems promptly and judiciously. The committee also redresses the grievances of the stakeholders as and when required. As a result of this mechanism, the college has pleasant ambient atmosphere and good work culture with in-built goodwill and mutual understanding among the stakeholders.

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?

No

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

Yes, the institution collects online feedback from the students on the continuous basis. Every semester students evaluate their subject teachers using the specified questionnaire. The communication between the Principal / Dean (Admin) and students is kept strong throughout the period. Meaningful and rational feedback from students is used to modestly convince the staff members to adopt better practices. It is emphasized that the feedback is not an official tool against anybody but is only for continuous improvement within.

In turn the outcome of the feedback analysis is that necessary actions and initiatives are taken for further improvement of the quality improvement of the institution

6.3 Faculty Empowerment Strategies

6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non teaching staff?

- Efforts are made so that the faculty adopt Learner-centric education approach, academic planning, improved and use of modern teaching-learning aids and application of ICT resources to make the curriculum interesting and effective for the students to facilitate effective learning outcome.
- Promotes research culture, research publication by creating infrastructure to carry out research work and run projects, funding to publish edited volumes on research article & necessary permission to participate in Faculty development Programmes for quality enhancement of the teaching community.
- Support to participate in faculty improvement programmes like Refresher Courses, Orientation programmes and short term courses.
- Organizing inter-disciplinary lectures among faculty members—The Study Circle--- for promoting co-operation, sharing of knowledge and innovations.
- Promoting the participation of students, faculty and staff in all co-curricula, extra-curricular, Community development & Social work.
- Promotion of sports activities among staff.

- Supporting membership and active involvement in local, state, national and international professional associations
- Budgetary allocation for staff development training programmes.
- Laboratories for Major Research Projects & Space/Enclosures to carry out Minor Research Projects.
- Duty leaves are granted to the teachers attending staff development programme, seminars, workshop, conferences, short-term courses etc.
- The Institute has developed adequate infrastructure and support facilities for conducting workshops and seminars.
- Inviting special lectures and developmental sessions from the expert guest faculty members from various universities for the professional development of the faculty members.

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

- Faculty members are empowered to avail the benefits with respect to social and technical up gradation to make them self sufficient.
- Faculties are entitled to be sponsored for Training Programmes, Paper Presentations in conferences, attending Seminars, workshops, quality Improvement Programme etc.
- Immediately after the recruitment of the faculty, they are given orientation programme about the policies and procedures prevailing in the institution.
- After the probation period the faculties are empowered to utilize the benefits of sponsorship for attending the various programmes organized by other institutions and research organizations. Faculty is encouraged with benefits like EPF and incentives for both better performances as well for acquiring higher educational qualification.
- Motivating faculty for R&D and Consultancy
- Yearly increments are paid regularly
- Woman faculties are provided with maternity leave
- Study leaves are granted for research and higher studies
- Awards and rewards are given by management for meritorious work for every department.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

Each teacher submits self-appraisal form for each month of the academic session. The faculties present their teaching, learning and evaluation related activities, co-curricular,

extension, student development related activities, research and academic contributions etc. Every year confidential reports are generated for every faculty as a process of performance appraisal. The appraisal report of faculty is coordinated by the concerned head of the department on the basis of his/her yearly achievements, discipline, quality etc. and is then submitted to the head of the Institute. Besides this the assessment of the teachers are done through the feedback received, which in turn indicate the teachers' short comings or quality, by the students also. All the students from each and every class and section are expected to do so for all the teachers concerned with their classes. The identities of students are not disclosed. The feedback form has a well defined set of questions that help the students to evaluate the teaching capacity based on lecture understanding and define how far the teacher has succeeded in reaching out to the students. These details are accessible to staff so as to help them judge their performance. If there are any issues of concern, the faculty member is facilitated to overcome the lacunae without lowering self esteem. Wherever required, counseling is provided to staff in order to help them improve their professional capabilities. The participation of the teachers in various Institutional affairs are closely monitored by the principal.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

The authority makes an assessment of these feedback forms and self appraisal reports and accordingly apprises the teachers about the outcome. The management gives Best Teacher award from each department based on their performances. The performances of the faculty members are reflected on their yearly increments and remunerations. The management encourages for conducting faculty development programmes, short-term courses, seminars to cope up with the recent trends. Suitable suggestions and advices are given by the principal to improve teaching-learning methods.

6.3.5 What are the welfare schemes available for teaching and non teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

Welfare schemes available for teaching and non teaching staff

- Salary paid on the last day of Every Month

- The college has adopted the Employee Provident Fund Scheme whereby the management contributes its share equal to the share of the employee every month.
- First Aid Unit and Health Check Up by the college
- Annual Sports are organized for the Staff.
- College has a LTC scheme.
- Medi-claim and General Insurance Scheme

Percentage of staff have availed the benefit of such schemes in the last four years: 100%

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

- Functional office, infrastructure and other space to carry out their work effectively etc.
- Budget allocation for staff development, sponsoring for advanced study, research, participation in seminars, conferences, workshops, etc.
- Decentralization of the Administrative System for promoting co-operation, sharing of knowledge, innovations and empowerment of the faculty
- Promotions under Career Advancement Scheme
- Sponsoring for Higher Education/Research by grant of leave.
- Cash award for Paper publications in Journals.
- EPF is paid by the Management along with faculty contribution.
- Medical facilities: Medical consultancy and medicines are provided by resident doctor.
- Professional Societies Membership registration fees are provided

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

- College level budget is approved by the principal and management at the end of each financial year for the forth coming year. Each department committee headed by the HOD, senior faculty and the lab in charges prepare the annual budget for each financial year, this exercise is carried out taking the recurring and non recurring expenditure requirement for the department for the entire year. A detailed requirement is submitted to the principal. Account officer consolidate the college level requirement and prepare the detailed budget.

- All the department requirements and college level requirements are discussed in HODs meeting and finalize the total recurring and non recurring budget requirements.
- The comprehensive budget proposal is placed to the management committee for final approval.
- While purchasing Laboratory equipments and utilities, effective monitoring is done from quotations stage to installation and commissioning stage.
- Any additional requirements that arise due to unforeseen expenditure shall be discussed in the HODs meeting and management committee is requested to ratify.
- A faculty from each department acts as a purchase I/C and maintains the records for budget allocation, expenditure, stock of the equipments etc.
- Periodic reviews are carried out to monitor the utilization of the budget. Principal conduct the review with the help of Director (T & F), HODs, auditor and account officers in quarterly basis and make sure that the funds are utilized effectively.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

Yes, the college has the mechanism for internal and external audit as per details given below:

Internal audit

- Expenses are incurred in accordance with the budget approved.
- An internal approval system for all expenses is in place. Accordingly, every expense voucher is recommended by the Head of the Department, forwarded by Principal/Dean (Admin) and approved by the management. All vouchers are audited by an Internal Auditor on a daily basis.

External Audit

- Books of Accounts are prepared as per statutory requirement and audited quarterly by External Qualified Chartered Accountants.

Last audit was done in May 2014. There has been no major audit-objection till date. The financial system is maintained as per the Accounting Standards.

6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

Our major source of institutional receipt is tuition fees from students and deficit is managed by external borrowings. Income and expenditure statement of the last four years is attached in the **annexure 15**.

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

Name of the expenditure	2010-2011 (Lakhs)	2011-2012 (Lakhs)	2012-2013 (Lakhs)	2013-2014 (Lakhs)
AICTE	4.60	40.00	6.72	1.38
Industries	3.84	7.74	5.07	4.32

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Institute has an Internal Quality Assurance Cell (IQAC) was established in the year 2009 at the instance of NAAC.

Primary Goals

- To develop a quality system for conscious, consistent and catalytic programmed action to improve the academic and administrative performance of the Institution
- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.

b. How many decisions of the IQAC have been approved by the management / authorities for implementation and how many of them were actually implemented?

The Institute has been constantly trying for quality enhancement and has also achieved many milestones by accepting the decision of IQAC like the approval of a number of National Seminar and Faculty Development Programme by the faculty, Installation of CCTV cameras, extension of sports facility and other such things. All decisions of the IQAC are placed before the Management and are successfully implemented.

c. Does the IQAC have external members on its committee? If so, mention any significant contribution made by them. No

d. How do students and alumni contribute to the effective functioning of the IQAC?

Students and alumni contribute to effective functioning of IQAC by means of their feedback on teaching-learning and various curricular aspects. IQAC takes proper care to consider the suggestions given by them at the time of preparing future plans for the purpose of providing quality education.

e. How does the IQAC communicate and engage staff from different constituents of the institution?

All plans/programmes of IQAC are chalked out in consultation with other constituent bodies/committees and faculty members of the college. Staff members and students also play specific roles at the time of execution of these plans.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalisation.

Yes

- Strategies have been adopted by institutions is to satisfy the needs of the students from diverse backgrounds.
- Mechanisms to adopt Learner-centric education approach, academic planning, improved and use of modern teaching-learning aids and application of ICT resources to make the curriculum interesting and effective for the students to facilitate effective learning outcome.
- Mechanism for the upkeep of the infrastructure facilities and promote the optimum use of the same to maintain the quality of academic and other programmes on the campus.
- Mechanism to introduce skill -oriented Value added courses, opportunity of higher education to adult earning students to achieve core competencies & develop entrepreneurial approach to face the global requirements successfully.
- Mechanism to promote research culture, research publication, & professional development faculty members for quality enhancement of the teaching community.
- Mechanism to participate in community services through extension Programmes to develop innovative, creative, value-based education for inculcating social responsibilities and good citizenry amongst its student community.

- Mechanism for participation of the students in various cultural and sports activities to foster holistic personality development of students.
- Facilitating mechanisms like career and counseling cell, Remedial-coaching Classes, grievance Redressal cell and welfare measures to support students.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.

The institution ensures that the decisions based on the findings of the IQAC are fully adhered to. The academic as well as the administrative working is further smoothened by the time to time training sessions being organized by the Institute for its teaching as well as the non teaching staff. Small workshops over the weekends, in the form of interactive sessions, have helped the staff of the institution to work in a better and more promising way.

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

- 'Yes' the institution undertakes Academic Audit. After thorough analysis by IQAC and academic subcommittee of the college, strategies are evolved to raise the graph of achievements and widen the horizons.
- The outcomes such as student intake, results, research etc are analyzed and adequate measures are taken to the institutional activities for the betterment of the institution.
- This audit definitely improves the quality of the institutional programmes. They are geared up towards their goals, for example the review of results brings out the low,
- average and high performance. Thereafter each student is taken care of according to his/her capacity. Remedial classes are conducted for the weaker students.
- New additions are made in the infrastructure to improve the teaching learning process. Every department keeps on adding equipments, books, journals, software for the benefit of the students from time to time.

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

The AICTE acts as an external quality assurance regulatory authorities by prescribing the requirements of the Career Advancement Schemes. It also regulates the teaching of the Institute by providing the minimum number of working hours. Our internal quality assurance mechanism ensures that the class time-table is made in such a way, that all teachers are able to stay in the Institute according to AICTE norms. They get their promotions only after fulfilling the criteria of career advancement laid down by the AICTE. The internal quality mechanisms are measures are also fully aligned with the requirement of NAAC.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The following measures are taken to monitor the teaching and learning process.

- In the beginning of the session, it is ensured that lesson plans are ready with faculty members.
- Class attendances are reviewed every seven days and suitable measures are taken for students having poor attendance.
- Internal and semester results are analyzed and corrective steps are taken.
- Students are motivated for increased participation in research work and ensured that required support for the same are in place.
- Increasing in class attendance.
- Increasing participation in competitions.
- Motivating towards research and publication.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

The institution communicates its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders through different measures.

- Regular notification
- In the institutional website i.e. www.biet.ac.in
- The institute publishes a newsletter “BIET Campus Flash” in every month that is circulated to the students, alumni and industries. This news letter provides the latest updates on the happenings of the institute.

- The quality assurance policies are mentioned in the students' handbook and Teachers' handbook, which are being circulated among the students and faculty members.
- The institute conducts alumni meet and parents' meet every year to communicate its quality assurance policies, mechanisms etc.

CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

The college has not conducted any official Green Audit. But since its inception importance is given for development of eco - friendly atmosphere in the campus by the management. It has lush green, manicured lawns fenced with big trees. Thus the College has adopted various measures to maintain the greeneries of the campus and it has been observed that it creates a positive impact on the beholder and helps in developing an environment-friendly attitude in one and all.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

➤ Energy conservation

- ✓ The Institute class rooms are so airy and well lighted that they hardly need any artificial lighting. Still the institution has done away with the orthodox lighting system and installed tube lights
- ✓ All floors are checked if lights, fans, and ACs are unnecessarily on.
- ✓ Computers, printers, photocopiers etc, which are not in use are shut down at the end of a working day.
- ✓ Electronic equipments and gadgets are switched- off during non-working hours

➤ Use of renewable energy

- ✓ There is a plan to install solar based electric devices in the campus

➤ Water harvesting

- ✓ Rain water harvesting is done through our NSS unit.

➤ Check dam construction: Yes. Available

➤ Efforts for Carbon neutrality

Campus has a large green coverage which acts as a natural carbon sink. The College at its own level has taken up certain preventive measures to check the emission of carbon Dioxide. It has made arrangements for the parking of the

vehicles of the students and staff near the entrance. This helps in keeping the campus as much clean as possible. In order to reduce pollution and unnecessary wastage of vehicle fuel, the College does not allow two wheelers of students in campus. The campus is also smoke free. The dead leaves and waste papers are not allowed to be put on fire. The dead leaves and waste papers are scientifically decomposed off by burying them in the soil by making pit in the adjacent areas. The college has emphasised on paperless office to save carbon emission in printers.

➤ **Plantation**

The college has a serene green campus comprising of a variety of trees and plants. The NSS unit often organizes tree-plantation & maintenance programmes outside the campus. These planted trees are also maintained carefully by the college authorities.

➤ **Hazardous waste management**

Waste chemicals from chemistry laboratory are properly disposed by keeping them separately in protected sheets/bottles. The main hazardous waste is plastic. This waste is minimized at the originating point itself by emphasizing the concept of zero plastic zone. The sanitary napkins, batteries and other hazardous wastes are disposed off. The Institute has tie up with the local Municipality Corporation for the disposal of wastage of different types.

➤ **e-waste management**

Electronic wastes such as discarded computers, refrigerators and other electronic equipments are sold as scrap to local vendors. The non-working computer spare parts and other non-working equipments are safely disposed outside.

7.2 Innovations

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the college.

- Paperless Office: Group Email services
- More emphasis is given on Research activities and publication of research papers by students in different conferences/seminar/journals.
- Continuous evaluation and regular monitoring and review of performance of teachers based on online feedback system and percentage of pass.
- To make the students practice their courses, tutorial classes are introduced in the curriculum. In these practice classes, students interact with the

concerned teacher to make their doubts cleared. For every 20 students, one teacher is allocated as a proctor.

- Remedial classes, tutorial courses to make up for weak and slow learners.
- ICT is employed in teaching-learning process.
- E-learning, NPTEL video lectures and content management system

7.3 Best Practices

7.3.1 Elaborate on any two best practices in the given format at page no. 98, which have contributed to the achievement of the Institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

Two best practices of the Institute which have contributed to the achievement of the Institutional Objectives and contributed to the Quality improvement of the core activities of the college are:

1. Promotion of Research Culture in the College
2. Continuous Monitoring of Academic Activities

Best Practice – I

1. Title of the Practice: Promotion of Research Culture in the College

2. Goal

- To encourage and inculcate a Research Culture among the faculty.
- Develop scientific temper and acquire research skill among the faculty.
- Encourage faculty to undertake research projects both major and minor and publish books and also research papers in national and international journals.
- Encourage by providing necessary supports to the faculty to present papers and attend national and international conferences and seminars.
- Encourage faculty to pursue Ph.D. programmes and organize college/regional/ state/national/international level seminars and workshops.

3. The Context

The college has an extremely talented faculty who are hugely interested to pursue their academic endeavor and research activities in the college. The College has set up Research Monitoring Committee to chalk out institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers. It has stipulated the following strategies:

- Keeps track of the various research projects funded by AICTE, DST, DBT, etc.

- Updating the teachers regarding the various fellowships and facilitate in applying for the same.
- Monitor that infrastructural facilities are provided in the College premises to carry out Major and Minor Research Projects.
- Recommends for Leave to present research papers in seminars, conferences and workshops by the faculty members.
- Based on the suggestions of the committee the college authority has provided Computer with Internet and Reprographic facilities to all faculty, Procurement research oriented journals & e-journals.
- Promotes to organize interdisciplinary programmes related to research of the faculty and exchange of ideas.

4. The Practice

The institution encourages and extends all possible help to promote research activities in the institution.

- Full autonomy is given to the Principal Investigator by the institution to facilitate smooth progress and implementation of research schemes/projects. The Institution makes all necessary arrangements for timely availability or release of resources for smooth progress and implementation of research schemes/projects.
- Adequate infrastructure and human resources are provided by the institution for smooth progress and implementation of research schemes/projects and other research initiatives.
- Provides computer and internet facilities for all departments.
- Purchases books and journals according to the needs of the faculty.
- Promotes Publications as Edited Volumes on research articles
- Conducts National/State/Regional level workshops/seminars/conference.
- Encourages and leave are sanctioned for presenting research paper in different International and National Conferences by faculty.
- Teachers are motivated in the department to pursue at least one minor/major research project in their area of specialization or one that is inter-disciplinary in nature.
- Teachers who have not started their Ph.D. work are also motivated to register for such programmes.
- Internet, LAN and journals and e-journals subscriptions are made available to all faculties to facilitate research activities in the college.
- various departments, Units and staff of the institute interact with each other in undertaking inter-disciplinary research.

- By inculcating practical aptitude among students through participation in experimental exercises.
- By arranging seminars and conferences whereby students have ample opportunities to interact with eminent researchers.

5. Evidence of Success

The impact of the above practice to inculcate a Research Culture among the faculty of a UG College and also among the students is evident in the following data given below:

- The college authority has provided space in each department to carry out research activities for the faculty.
- Provided computer and internet facilities for all departments.
- Purchased books and journals according to the needs of the faculty.
- Received funds from AICTE for running 17 Minor Research Projects in the Post accreditation period
- Receive grant form NALCO, Damanjodi, Odisha for 7 Major Projects.
- Signed MoU with different organizations.
- Received funds from AICTE in last four year to organize 4 national level and one international level seminar seminars
- In last four years 4 faculty members have taken academic leave for completing their Ph.D. work.
- At present 7 faculty members are enrolled in different universities of the state for their Ph.D work.
- More than 30 faculty members have presented papers national and international conferences and seminars
- Faculty have published and presented a large number of research papers in various National/International seminars in their individual capacity.
- A licensed version of ANSYS FLUENT has been purchased for 20 computers.
- The laboratories are enriched with research oriented equipments.

6. Problems Encountered and Resources Required

- Problem of writing and publishing of papers because of more number of teaching hours for UG programmes.
- Due to private college, non availability of enough financial resources

7. Notes (Optional)

Interest in research of the faculty has motivated the college authority to promote research culture in the institution. Within the limited resources and space available the college always stays besides the faculty to pursue active research in the institution.

8. Contact Details

Name of the Principal: Prof. Dr. Mohan Charan Panda

Name of the Institution: Bhadrak Institute of Engineering and Technology

City: Barapada, Bhadrak, Odisha

Pin Code: 756113

Accredited Status: A

Work Phone: 06784 – 261633

Fax: 06784 – 261632

Website: www.biet.ac.in

E-mail : principalbiet@rediffmail.com

Mobile: 9556041223

March- 2015

PART II

Department / Programme Summary

(Criteria IV to X)

1. Name and Address of the Department:

Civil Engineering Department,

Bhadrak Institute of Engineering and Technology, Barapada,

Bhadrak, 756113, Odisha

2. Year of Establishment: UG - 2002 and PG - 2013

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

(a) UG – Civil Engineering.

(b) PG –Structural Engineering.

4. Names of Interdisciplinary courses and the departments/units involved

SL NO.	Name of the Pogramme	Name of the Department	Semester	Name of the Subject
1	UG	Electrical Engineering	1st & 2nd	Engineering Drawing
2	UG	Electronics & Telecommunication Engineering	1st & 2nd	Engineering Drawing
3	UG	Computer Science & Engineering	1st & 2nd	Engineering Drawing
4	UG	Information & Technology	1st & 2nd	Engineering Drawing
5	UG	Mechanical Engineering	1st & 2nd	Engineering Drawing
6	UG	Electrical Engineering (6 th Sem.)	5th & 6th	Environmental Engg. & Safety (HSSM – 3303)
7	UG	Electronics & Telecommunication Engineering (6 th Sem.)	5th & 6th	Environmental Engg. & Safety (HSSM – 3303)
8	UG	Computer Science & Engineering (6 th Sem.)	5th & 6th	Environmental Engg. & Safety (HSSM – 3303)
9	UG	Information & Technology (6 th Sem.)	5th & 6th	Environmental Engg. & Safety (HSSM – 3303)
10	UG	Mechanical Engineering (6 th Sem.)	5th & 6th	Environmental Engg. & Safety (HSSM – 3303)

5. Annual/ semester/choice based credit system (programme wise)

UG: Semester, PG: semester

6. Participation of the department in the courses offered by other departments

SL.NO.	DEPARTMENT	SEMESTER	COURSES
1	Mechanical engineering	2 nd	Engineering Drawing
		6 th	Environmental Engg. & Safety (HSSM – 3303)
2	Electrical Engineering	2 nd	Engineering Drawing
		6 th	Environmental Engg. & Safety (HSSM – 3303)
3	Electronics and Telecommunication Engineering	2 nd	Engineering Drawing
		6 th	Environmental Engg. & Safety (HSSM – 3303)
4	Computer Science	2 nd	Engineering Drawing
		6 th	Environmental Engg. & Safety (HSSM – 3303)
5	Information Technology	2 nd	Engineering Drawing
		6 th	Environmental Engg. & Safety (HSSM – 3303)

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Sl. No.	Topics Covered	Name of the Resource Person	Background Industry/Academics/R&
1	Advance Mechanics of Solids	Prof. S.C. Mishra	Retd. Professor/ Principal Department of Civil Engineering, CET,
2	Transportation Engineering and Transportation Planning	Prof. S.S. Das	Professor Department of Civil Engineering VSSUT, Burla
3	Prestressed Concrete	Prof . P.K.Mallick	Executive Engineer, R & B , Division, Bhadrak
4	Auto cad	Prof. B.C. Panda	Principal IGIT, Sarang.

8. Details of courses/programmes discontinued (if any) with reasons: No

9. Number of teaching posts:

	Sanctioned	Filled
Professors	2	2
Associate Professors	6	6
Asst. Professors	12	12

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of MTech and Ph.D. Students Guided for the last 4 years
G.C.Behera Behera	Ph.D-NITW-2010 M.Tech-Calcutta-1993 B.E-OUAT-	Prof.	Structure	21	M.Tech-5
S.Z.Khan	M.Tech-MACT,Bhopal-1999 AMIE-1989	Asso. Prof	Geo-Tech	24	
L.Pani	M.Tech-MACT,Bhopal-Madras University-1989	Asso. Prof	Env. Engg	24	
S.K.Giri	B.Tech (BPUT)-2004 M.Tech-2011	Asst. Prof	Structure	8	
B.B.Mukharjee	B.Tech-BPUT-2005 M.Tech-2010	Asso. Prof 12-08-2006	Geo Tech	8	
Achyut Kumar Dehury	B.E. S.R.T.M. University-2002	Lecturer 18-08-2006		9	
Manas Ranjan Panda	B.E./F.M. University-2006	Asst. Prof 23-06-2006		9	
Tapaswini Sahu	B.E./Anna University-2009-ME	Asst. Prof 20-07-2010	Transportation	5	
Priyadarsini Dash	B.E./BPUT-2009	Asst. Prof 01-08-2009		6	

Ranjan Kumar Behera	B.E./BPUT-2009	Asst. Prof 01-08-2009		6	
Sunil kumar Dehury	B.E./ F.M. University-2006	Asst. Prof 20-07-2006		6	
Lina Sinha	B.Tech (UTKAL)-2004 M.Tech-2009	Asso. Prof 19-09-2006		9	
Ashis Samal	B.Tech UCE Burla-1994 M.Tech (REC	Asso.Prof. 25-11-2006	Env. Engg	9	2
Rupashree Panda	B.Tech./VSSU T-2011	Asst. Prof 01-09-2011	Geo Tech	3	
R. Sahu	M.Tech	Asst. Prof.	Geo Tech	2	
Er. B.B.Das	M.Tech	Asst. Prof	Geo tech	1	
Monalisa Behera	B.Tech	Asst. Prof		2	
Nibedita Panda	B.Tech	Asst. Prof		2	
Manoranjan Dhal	B.Tech	Asst. Prof		2	
Dibyajit Mishra	B.Tech	Asst. Prof		2	

The faculties assigned for M.tech (Structural Engineering) are:

SL.NO	Name of the Faculty Members	Qualification			
1	Dr. G.C. BEHERA	Ph.D			
2	Ashish Samal	M.Tech			

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by

Temporary faculty: Nil

13. Student -Teacher Ratio (programme wise):

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
UG	351	20	17.5:1
PG (STRUCTURAL)	24	2	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Technical staff	Sanctioned	Filled	administrative staff	Sanctioned	Filled
	4	4		4	4

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ Mphil / PG.

S.N	Name	Qualification
1	G.C.Behera Behera	Ph.D-
2	S.Z.Khan	M.Tech-
3	L.Pani	
4	S.K.Giri	M.Tech-2011
5	B.B.Mukharjee	M.Tech-2010
6	Achyut Kumar Dehury	B.E.
7	Manas Ranjan Panda	B.E./
8	Tapaswini Sahu	B.E
9	Priyadarsini Dash	B.E./
10	Ranjan Kumar Behera	B.E
11	Sunil kumar Dehury	B.E
12	Lina Sinha	M.Tech-2009
13	Ashis Samal	M.Tech
14	Rupashree Panda	B.Tech
15	R. Sahu	M.Tech
16	Er. B.B.Das	M.Tech
17	Monalisa Behera	B.Tech
18	Nibedita Panda	B.Tech
19	Manoranjana Dhal	B.Tech
20	Dibyajit Mishra	B.Tech

SL.NO	Name of the Faculty Members	Qualification
1	Dr. G.C. BEHERA	Ph.D
2	Ashish Samal	M.Tech

- 16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: NIL**
- 17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil**
- 18. Research Centre /facility recognized by the University: Nil**
- 19. Publications:**
The List of Journal and Book Publications is attached in Annexure 8
- 20. Areas of consultancy and income generated: Structural and Geo- technical related areas, 5 lakhs per year.**
- 21. Faculty as members in:**

a) National committees b) International Committees c) Editorial Boards....

*List of recognition received by the faculty members from professional bodies:
NIL*

22. Student projects:

- a) Percentage of students who have done in-house projects including inter departmental/program: 100 %
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: NIL

23. Awards / Recognitions received by faculty and students

List of awards received by the faculty members is : NIL
List of awards received by the students is attached as Annexure 10

24. List of eminent academicians and scientists / visitors to the department:
List of eminent scientists contributed to different events NIL

25. Seminars/ Conferences/Workshops organized & the source of funding

List of Workshop/Seminars/Conferences is attached as Annexure 7.

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
UG (2014-2018)	80	51	38	13	Yet to be published
UG (20013-2017)	145	102	74	28	93.13
UG (2012-2016)	153	130	78	52	94.61
UG (2011-2015)	82	68	44	24	98.53

Name of the Course/programme (refer question no.4)	programme	Applications received	Selected	Enrolled	Pass percentage
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				M	F	
PG (2014-2016)		18	15	07	08	1 st Sem Exam appeared
PG (20013-2015)		10	07	05	02	100

***M = Male *F = Female**

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
UG (2014-2018)	98.04	1.96	0
UG (20013-2017)	97.06	2.94	0
UG (2012-2016)	93.85	6.15	0
UG (2011-2015)	91.18	8.82	0

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
PG (2014-2016)	100	0	0
PG (20013-2015)	100	0	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

2013-14 (GATE): 05
2012-13 (GATE): 04
2011-12 (GATE): 04
2010-11 (GATE): 03

29. Student progression

Student progression	Against % enrolled
UG TO PG	15.5

PG TO M .Phil.	NA
PG TO PhD	NA
PhD TO Post. Doc	NA

30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	
337	7	8	Previous year question paper, Lab manual, GATE material, Old project, Sample papers

b) Internet facilities for Staff & Students

There are 22 faculty rooms which are provided with internet connection Internet (WI-FI) connection is available throughout the campus.

c) Class rooms with ICT facility

- There are three tutorial rooms (one room per each year) provided with OHP and Computer having strength of fifty members.**
- There is one seminar room provided with LCD PC projector and computer with inter-net connection having strength of one fifty members.**

d) Laboratories

Laboratory description in the curriculum	Exclusive use / shared	Space (sqmt.), number of students	Number of experiments	Quality of instruments	Laboratory manuals
DH-1 , Drawing Hall	Sharing	180,70	12	Good	Yes
DH-2 , Drawing Hall	Sharing	180,70	12	Good	Yes
DH-3, Drawing Hall	Sharing	180,70	12	Good	Yes
Geo-Tech Lab	Exclusive	164, 35	14	Good	Yes
Transportation Lab	Exclusive	164, 35	12	Good	Yes
Environmental Lab	Exclusive	164,35	8	Good	Yes
Structural Lab	Exclusive	164,35	15	Good	Yes
Survey Store	Exclusive	164, 35	15	Good	Yes
Auto CAD	Exclusive	164, 35	10	Good	Yes

31. Number of students receiving financial assistance from college, university, Government or other agencies.

2011 –2012:	130
2012 –2013:	136
2013 –2014:	148
2014- 2015:	165

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts
List of Workshop/Seminars/Conferences is attached as Annexure 7

33. Teaching methods adopted to improve student learning.

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

- Chalk& Talk,
- Group discussions,
- Brain storming,
- use of charts,
- working models,

- learning by doing,
- By providing course material in the library
- by arranging guest lectures on advanced topics,
- by conducting student seminars

In the traditional teaching system it is very difficult to fill up the gap between industries and institute. We understand learning as a solution and not only to produce graduates but also to enhance their analytical ability in all respect.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities 2014

Our students and faculty members are actively participating in various social works such as cleaning of hospital and railway zone, Plantation, conducting of general awareness programme in nearby villages organized by our college NSS units. Also our students, faculty members and nonteaching staff are largely participating in blood donation camp organized by college NSS units once in a month. In 2013 we donated 1010 units of blood and became top donor in Odisha which lead to receive appreciation certificate from Mr. Nabin Pattanaik the chief minister of Odisha.

35. SWOC analysis of the department and Future plans

STRENGTHS:

- High qualified, experienced and dedicated faculty.
- Well equipped Laboratories
- Student centric environment.
- Best Counseling
- Remedial classes for the academic poor students.
- Student association CIVIL SOCIETY which help them in all respect.
- Good relation with excellent resource personnel from various reputed institutes and industries.

WEAKNESSES:

- R& D facilities need to be enhanced
- Inadequate industry Institute Interaction

OPPORTUNITIES:

- Service to the rural students with quality education
- Good demand for Civil Engineering
- Global demand for technical manpower is ever growing.
- State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- Many of the neighboring state & NRI students are opting of Civil course in the state education.

CHALLENGES:

- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
- To groom more number of students for self-employment through entrepreneurship development.
- To motivate students to prepare themselves adequately for higher studies and research.
- Number of Doctorates and Phd scholars need to be improve
- Facing the competition from nearby engineering colleges and Autonomous Universities.

FUTURE PLANS:

- Proposed to improve the in-house Software training programmes.
- Proposed to conduct Gate coaching classes for the final year students
- Proposed to Improve the Entrepreneurs from the Civill Engg.
- Proposed to organize One International Seminar and improve the workshops & guest Lectures for the Mechanical students
- Improve the laboratories which are suitable for the R&D and Consultancy

ANNEXURE-8

P.13 List of Faculty Publications

BOOKS

SL NO	SUBJECT	AUTHOR	SUPPORTED BY	PUBLICATION
1	SURVEYING-1 & GEOTECHNICAL ENGG.	M.R. PANDA PROF. G.C.BEHERA PROF. S.Z. KHAN		SUVAM/TECH SUVAM PUBLICATION
2	STRUCTURAL ANALYSIS-1	M.R. PANDA	PROF. G.C.BEHERA PROF. S.Z. KHAN	SUVAM/TECH SUVAM PUBLICATION
3	ADVANCE MECHANICS OF MATERIAL & DESIGN OF CONCRETE STRUCTURES	M.R. PANDA	PROF. G.C.BEHERA PROF. S.Z. KHAN	SUVAM/TECH SUVAM PUBLICATION
4	TRANSPORATION ENGINEERING 2 & IRRIGATION ENGG.	M.R. PANDA	PROF. G.C.BEHERA PROF. S.Z. KHAN	SUVAM/TECH SUVAM PUBLICATION
5	SURVEYING -2	M.R. PANDA	PROF. G.C.BEHERA PROF. S.Z. KHAN	SUVAM/TECH SUVAM PUBLICATION
6	TRANSPORTATION	M.R. PANDA	PROF.	SUVAM/TECH SUVAM

	ENGINEERING-1		G.C.BEHERA PROF. S.Z. KHAN	PUBLICATION
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ANNEXURE-8

G.C.Behera

- [1] Behera G.B.,T.D.Gunneswara Rao and Rao C.B.K.,"A study on post cracking torsional behaviour of high strength reinforced concrete beams with ferrocement "u" wraps" Vol. 22, 2014, No. 3, 1 – 12, DOI: 10.2478/sjce-2014-0012,Slovak Journal of Civil Engineering.pp.
- [2] Behera G.B.,T.D.Gunneswara Rao and Rao C.B.K. "Analytical model for torsional response of RC beams strengthened with ferrocement U-Wraps " DOI: 10.2749/101686614X13854694314847 IABSE Structural Engineering International,
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Annexure -7 Seminars by Faculties

Module Description	Any other contributory Inst./Industry	Developed/ Organized by	Duration Of Development	Resource Persons	Target Audience	Usages and citation etc.
Strength calculation of civil engineering materials by non destructive test	Amil Group	Prof.G. C.Behera	15-03-11	Amil groups	Final year and Pre Final yr Civil Students	The strength of the material can be determined without crushing the material.
Determination of Index properties of construction material	ARSS group	S.Z. Khan	15-12-2010	Er. Santanu Dutta, Sr.Project Manager ARSS	Third Year Civil Students	The students will learn to enhance the index properties of civil engineering material by addition of waste materials.

Role of Engineers in product development/Innovation	MBA, BIET	Prof. P.K.Jena a	12-03-2009	Prof. P.K.Jena	All Final year degree Students	The students are able to learn about existing products and their features, product life cycle and case study analysis. They are advised to focus on R & D to bring about new products.
Waste water Management	PWD Bhadrak	L Pani		Ratnakar Sial	Final year & second year	The students can use the waste water in some routine works such as gardening after treatment and can minimize the environmental pollution.
Role of Engineers in decision	MBA, BIET	Prof. P.K.Jena a	15-05-2009	Prof. P.K.Jena	All Final year degree	The students are able to take effective

making in corporate sector					Students	managerial decisions comprising technical financial ,economic appraisals new and existing projects.
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Seminars

Sl. No.	Year/Date	Title	Name of the Society/Chapter
(2008-09)			
1	05/09/2008	Advances in Civil Engineering Material.	Civil Engg. Society
2	10-02- 2009	Testing Tools in Civil Construction Field.	Civil Engg. Society
3	15-03- 2009	Train the Trainers	Civil Engg. Society
(2009-10)			
1	05/09/2009	Recent Trends in Civil Engineering.	Civil Engg. Society
2	12/03/2010	Environmental Pollution and Remedial	Civil Engg. Society

		Measures	
3	15-04-2010	Workshop on design of Earth Quake Resistant Structures	ISTE Chapter
(2010-11)			
1	28/09/2010	Workshop on Low cost Housing	Civil Engg. Society
2	12-03-2011	Non Conventional Sources of Energy	Civil Engg. Society Mechanical Engg. Society
(2011-12)			
1	05/09/2011	Recent Advances in Civil Engineering.	Civil Engg. Society
2	19/09/2011	Automation in Construction Field	Civil Engg. Society
(2012-13)			
1	8/8/2012	Automation in Construction Field	Civil Engg. Society, ARSS,
2	16/11/2012	Workshop on Low cost Housing	Civil Engg. Society
3	11/1/2013	Workshop on Recycled aggregate	Civil Engg. Society, Simplex
4	10/3/2013	8/8/2012	Automation in Construction Field
(2013-14)			

1	08/10/2013	Recent Trends in Civil Engineering.	Civil Engg. Society
2	25/03/2014	Environmental Pollution and Remedial Measures	Civil Engg. Society, ARSS
(2014-15)			
1	8/8/2014	Recent Advances in Civil Engineering.	Civil Engg. Society,
2	25/3/2015	Automation in Construction Field	Civil Engg. Society, ISOLEX, Sweden

Annexure-10 Student Achievements:

SL NO.	NAME OF THE STUDENT	EVENT PARTICIPATED	SYMPOSIUM/INSTITUTION CONDUCTED	PRIZE WON
(2014-2015)				
1	P.C. Behera	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
2	J.P. Sethi	Seminar-Advanced Technologies in Civil Engineering	BIET	1 st
3	R.R. Sahoo	Bending Moment ,Ethos India	KIIT University	Participation certificate
4	P. Malick	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
5	S .R. Panda	A talk on Fly ash	BIET Seminar	Participation certificate
6	A.P. nayak	A talk on Fly ash	BIET Seminar	Participation certificate
7	S.P. Behera	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation

8	B.K. Puhan	Passive solar Energy	BIET	5 th
9	M.Das	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
10	S.S.Behera	Technical Seminar	BIET	2 nd
11	K.K.Swain	Project Display	BIET	5 th
12	P.P.Jena	A talk on Fly ash	BIET Seminar	Participation certificate
13	N.P.Jena	Bending Moment ,Ethos India	KIIT University	3 rd
14				
(2013-2014)				
1	Uday Tudu			
2	K.Z.Quadri	Seminar-Advanced Technologies in Civil Engineering	BIET	2 nd
3	I.P. Nayak			
4	P.C. Behera	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
5	S.Mohapatra			
6	G.S.S. Barik	Robotics Event,	ISM Dhanbad,Jharkhand	Consolation
7	Sanat Sen	GD Skirt	WOW Fest Sand Fest ,Chandipur	3 rd
8	A.Sahu	Seminar-Advanced Technologies in Civil Engineering	BIET	3 rd
9	Madhusmita Paul	Escalatra Event	ISM Dhanbad,Jharkhand	Consolation
10	Ajay Sinha	GD Skirt	WOW Fest Sand Fest ,Chandipur	Participation certificate

11	S. Sahu	Technical Seminar	BIET	Ist
12	Sweta	Bending Moment ,Ethos India	KIIT University	2 nd
(2012-2013)				
1	J.P.Jena	Bending Moment ,Ethos India	KIIT University	Participation certificate
2	Rajib Parhi	Passive solar Energy	BIET	Participation certificate
3	LukeshnParida	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
4	P. Majumdar	Seminar-Advanced Technologies in Civil Engineering	BIET	3 rd
5	Priyanka Roy	Bending Moment ,Ethos India	KIIT University	5 th
6	R. Upadhyaya	A talk on Fly ash	BIET Seminar	3 rd
7	Shelly Pal	Technical Quiz	BIET, on Teachers Day	III Prize
8	N.K. Gupta	A talk on Fly ash	BIET Seminar	Participation certificate
9	G. Parida	Passive solar Energy	BIET	2 nd
10	Anurag Gaan	Project Display	BIET	3 rd
11	Manish Kumar	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
12	N. Kumar	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
13	R. Ojha	Bending Moment ,Ethos India	KIIT University	Participation certificate
(2011-2012)				
1	Anirudha Roy	Robotics Event, Escalatra Event	ISM Dhanbad,Jharkhand	2 nd
2	Gourab Kumar Ghosh	Robotics Event, Escalatra Event	ISM Dhanbad,Jharkhand	2 nd
3	Ausutosh Kumar	Robotics	Ethos India,National Level Quiz Compettion	2 nd

4	Bibhuti Bhusan Das	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
5	Tophan Tripathy	Technical Quiz	Ethos India, National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
6	Manoranjan Dhal	Technical Quiz	Ethos India,National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
7	Ajit Singh	Technical Quiz	Ethos India, National Level Quiz Compettion,Govt Engg,New Jalpaiguri	Certificate of participation
8	Sanjukta Sa	Technical Quiz	BIET, on Teachers Day	II nd Prize
9	Epsita Sahu	Technical Quiz	BIET, on Teachers Day	II nd Prize
10	Monika Mohanty	International Conference on Advances in Civil Engineering	ACE-2011, 21-23 October 2011, pp. 899-902,VIJAYWADA	Placed in the Proceedings
11	Indu Madhav Sarkar	International Conference on Advances in Civil Engineering 9	ACE-2011, 21-23 October 2011, pp. 899-902,VIJAYWADA	Placed in the Proceedings
12	Sudeep Rohan Bagh	International Conference on Advances in Civil Engineering 99	ACE-2011, 21-23 October 2011, pp. 899-902,VIJAYWADA	Placed in the Proceedings
13	Satyajit Singh	International Conference on Advances in Civil Engineering 99	ACE-2011, 21-23 October 2011, pp. 899-902,VIJAYWADA	Placed in the Proceedings
(2010-2011)				
1	Sudeep Roghan Bagh	Technical Quiz	Ethos India,Bending Moment,IIT Kharagpur	Participation certificate
2	Parha Sarathi Parhi	Technical Quiz	Ethos India,Bending Moment,IIT Kharagpur	Participation certificate
3	Monika Mohanty	Technical Seminar	BIET	Ist
4	Rajashree	Technical	BIET	Participation

	Rout	Seminar		certificate
5	Rima Sahani	Technical Seminar	BIET	2nd
6	Rajashree Nayak	Technical Seminar	BIET	Participation certificate
7	Pritirekha Behera	Project Display	BIET	Participation certificate
8	Sharmili Routray	Project Display	BIET	Participation certificate
9	Manoj Kumar Behera	Project Display	BIET	Participation certificate
10	Minakshi Sheshadri Nayak	Literature Discussion	FM College	Participation certificate
11	Rima Sahani	Passive solar Energy	BIET	Participation certificate
12	Smruti Ranjan Bal	Literature Discussion	FM College	Participation certificate
13	Paritosh Kumar Patel	A talk on recycled aggregate	BIET Seminar	Participation certificate
14	Debasmita Nayak	A talk on Fly ash	BIET Seminar	Participation certificate
15	Satya Ranjan Singh	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
16	Barada Prasad Sethi	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
17	Sidharth Beura	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
18	Subhashri Swain	Seminar-Advanced Technologies in Civil Engineering	BIET	Participation certificate
19	Rupashree sahuo	Seminar-Advanced Technologies in Civil Engineering	BIET	Ist
(2009-2010)				
1	Ranjan Kumar Behera	Paper Published in	Aurangabad	Published in Proceeding

		International Conference- Aurangabad		
2	Sudeep Rohan Bagh	Bending Moment ,Ethos India	KIIT University	Participation certificate
3	Partha Sarathi Parhi	Bending Moment ,Ethos India	KIIT University	Participation certificate
4	Lalima Priyadarsini Behura	MATLAB Contest	KIIT University	Participation certificate
5	Praveen Bag	GD Skirt	WOW Fest Sand Fest ,Chandipur	Participation certificate
6	Om Prakash Behera	Seminar- Advanced Technologies in construction field	BIET,Barapada	Participation certificate
7	Deepak Kumar Rout	Project Display	BIET,Barapada	I
8	Satyajit Singh	Microprocessor & Microcontroller Programming	BIET,Barapada	II
9	Sourabh Kumar	Paper Presentation	BIET,Barapada	II
10	Sanjay Kumar Mandal	Project Presentation	BIET,Barapada	I
11	Suman Anand	Quiz	BIET,Barapada	Participation certificate
12	Vikrant Suman	Aaruush'09	BIET,Barapada	Participation certificate
13	Radhakanta Mallick	Depurar	BIET,Barapada	Participation certificate
14	Subhadeep Kumar Das	Events	BIET,Barapada	Participation certificate
15	Nityanand Parira	Seminar- Technologies for Rural Development	Mech Fest,BIET	Participation certificate
16	Debabrata Pati	Workshop-FPGA Based system Design	BIET	Participation certificate
17	Rupasree Sahu	Project Display	Mech Fest,BIET	2 nd Prize
18	Minakshi Sh.Nayak	Project Display	Mech Fest	Participation certificate
19	Smrutirekha Sahu	Seminar – Waste water Treatment	Civil Engg. Society	Participation certificate
20	Aditya	Seminar – Design	Civil Engg. Society	Participation

	Vikram Modi	Technologies for building in china		certificate
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Publications and awards in inter institute events by students of the programme of study

Sl. No	NAME OF THE STUDENT	EVENT PARTICIPATED	SYMPOSIUM/INSTITUTION CONDUCTED	PRIZE WON
CAY (2011-2012)				
1	Tapan Kumar Patra	Technical Quiz contest	BIET,	I
2	Sanjukta Sahu,Himansu Kumar	Technical seminar	BIET	II
3	Swarna Laxmi Rout	Project Presentation	BIET	Participation certificate
4	Sanjukta Sa	Project Presentation	BIET	Participation certificate
5	Epsita Sahoo	Project Presentation	BIET	Participation certificate
6	Monalisa Mohanty	Project Presentation	BIET	Participation certificate

7	Monika Mohanty	International Conference on Advances in Civil Engineering 899	ACE-2011, 21-23 October 2011, pp. 899- 902,VIJAYWADA	Placed in the Proceedings
8	Indu Madhav Sarkar	International Conference on Advances in Civil Engineering 899	ACE-2011, 21-23 October 2011, pp. 899- 902,VIJAYWADA	Placed in the Proceedings
9	Sudeep Rohan Bagh	International Conference on Advances in Civil Engineering 899	ACE-2011, 21-23 October 2011, pp. 899- 902,VIJAYWADA	Placed in the Proceedings
11	Satyajit Singh	International Conference on Advances in Civil Engineering 8	ACE-2011, 21-23 October 2011, pp. 899- 902,VIJAYWADA	Placed in the Proceedings
12	Jyotirmayee Nayak	Project Presentation	BIET	Participation certificate
13	Itishree Pradhan	Project Presentation	BIET	Participation certificate
14	Deepali Barik	Project	BIET	Participation

		Presentation		certificate
15	Chandragupta Malik	Project Presentation	BIET	Participation certificate
16	Jitendra Kr Sethi	Project Presentation	BIET	Participation certificate
17	Sunil Kr Singh	Project Presentation	BIET	Participation certificate
18	Pranab Kr Nayak	Project Presentation	BIET	Participation certificate
19	Krushna Kalyani Sahoo	Project Presentation	BIET	Participation certificate
20	Tophan Tripathy	Project Presentation	BIET	Participation certificate
21	Dattatreya Prasad Dash	Project Presentation	BIET	Participation certificate
22	Tapan Kumar Dey	Project Presentation	BIET	Participation certificate
23	Sibananda Rout	Project Presentation	BIET	Participation certificate
24	Milan Patra	Project Presentation	BIET	Participation certificate
25	Pritam Jena	Project Presentation	BIET	Participation certificate

26	Subhra Jyoti Jena	Project Presentation	BIET	Participation certificate
27	Om Prakash Das	Project Presentation	BIET	Participation certificate
28	Subhrajyoti Ray	Project Presentation	BIET	Participation certificate
29	Narottam Nayak	Project Presentation	BIET	Participation certificate
30	Bikash Ranjan Nayak	Project Presentation	BIET	Participation certificate
31	Priyaranjan Dash	Project Presentation	BIET	Participation certificate
32	Subhankar Dash	Project Presentation	BIET	Participation certificate
33	Prabhu Kalyan Padhi	Project Presentation	BIET	Participation certificate
34	Barada Prasanna Sahoo	Project Presentation	BIET	Participation certificate
35	Chirashree Kalyanendu Pradhan	Project Presentation	BIET	Participation certificate
36	Gunjan Kumar	Project Presentation	BIET	Participation certificate
37	Nand Lal Kumar	Project	BIET	Participation

	Pandit	Presentation		certificate
38	Ajeet Singh	Project Presentation	BIET	Participation certificate
39	Himanshu Kumar	Project Presentation	BIET	Participation certificate
40	Md Firoz Ahmad	Project Presentation	BIET	Participation certificate
41	Ritwik Das	Project Presentation	BIET	Participation certificate
42	Sutirtha Roy	Project Presentation	BIET	Participation certificate
43	Arjit Biswas	Project Presentation	BIET	Participation certificate
44	Ahmad Hussain	Project Presentation	BIET	Participation certificate
45	Abhaya Kumar	Project Presentation	BIET	Participation certificate
46	Aurobinda D. Choudhury	Project Presentation	BIET	Participation certificate
47	Prasant Kumar Sahoo	Project Presentation	BIET	Participation certificate
48	Marshalsachin Sashmal	Project Presentation	BIET	Participation certificate

49	Nebedita Panda	Project Presentation	BIET	Participation certificate
50	Paritosh Kumar Patel	Seminar Presentation on Engineers' Day	BIET	Participation certificate
51	Bittu Kumar	Seminar Presentation on Engineers' Day	BIET	Participation certificate
52	Sagar Masanta	Seminar Presentation on Engineers' Day	BIET	Participation certificate
53	Biswajit Mallick	Seminar Presentation on Engineers' Day	BIET	Participation certificate
54	Md. Labib Arfat	Seminar Presentation on Engineers' Day	BIET	Participation certificate
55	Sweta Parida	Seminar Presentation on Engineers' Day	BIET	Participation certificate
56	Manisha Das	Seminar Presentation on Engineers' Day	BIET	Participation certificate

57	Subhendu Kumar Rout	Seminar Presentation on Engineers' Day	BIET	Participation certificate
58	Ashish Kumar Mallick	Seminar Presentation on Engineers' Day	BIET	Participation certificate
59	Sourav Saha	Seminar Presentation on Engineers' Day	BIET	Participation certificate
60	Ramaraman Rout	Seminar Presentation on Engineers' Day	BIET	Participation certificate
61	Santosh Kumar Behera	Seminar Presentation on Engineers' Day	BIET	Participation certificate
62	Madhuryamayee Jena	Seminar Presentation on Engineers' Day	BIET	Participation certificate
63	Promath Dash	Seminar Presentation on Engineers' Day	BIET	Participation certificate
64	Bikram Keshari Swain	Seminar Presentation on	BIET	Participation certificate

		Engineers' Day		
65	Arati Singh	Seminar Presentation on Engineers' Day	BIET	Participation certificate
66	Samikshya Swain	Seminar Presentation on Engineers' Day	BIET	Participation certificate
Caym1 (2010-2011)				
1	Sudeep Roghan Bagh	Open Source Software	Seminar in Engineers Day Celebration in BIET	II
2	Partha Sarathi Parhi	Open Source Software	Seminar in Engineers Day Celebration in BIET	Participation certificate
3	Monika Mohanty	Open Source Software	Seminar in Engineers Day Celebration in BIET	Participation certificate
4	Som Sankar Ghosh	GD	BIET	2nd
5	Lukesh Parida	Drawing	BIET	2nd
6	Biswajaya Jethy	Quiz Compettion	BIET	III
7	Dipak Kumar Das	Quiz Competition	BIET	II
8	Rupashree Sahu	Quiz Competition	BIET	Participation certificate
9	Manas Kumar Das	Carrom	BIET	III
10	Rajendra Moharana	Quiz Compettion	BIET	II
11	Lukesh Parida	Quiz Compettion	BIET	III

12	Praveen Kumar Bag	Debate	BIET	1st
13	Praveen Kumar Bag	Meet The Press	BIET	1st
14	Praveen Kumar Bag	GD	BIET,Engineers Day	III
Caym2 (2009-2010)				
1	Ankita Khuntia	Workshop-FPGA Based System Design	BIET	Participation certificate
2	Paritosh Kumar Patel	Ralay Race	BIET	III
3	Lukesh Parida	Quiz	Biet	iii
4	Manas Kumar Das	Quiz	BIET	III
5	Biswajaya Jethy	Song Compettion	BIET	III
6	Manoj Kumar	Dance	BIET	III
7	Som Sankar Ghosh	Mr. Fresher	BIET	1st
8	Sadashib Rout	Oriya Essay writing	BIET	1st
9	Suthirtha Roy	QUIZ	BIET	2 nd Prize
10				
11	Prasanna Behera	Cricket	BIET	Runners Up
12	Tapan Kumar Dey	M J Stage Competition	BIET	2nd
13	Tapan Kumar Dey	Badminton	BIET	Champion
14	Prasanna Behera	Cricket	BIET	Runners Up

March- 2015

PART II

Department / Programme Summary

(Criteria IV to X)

1. Name and Address of the Department:

Mechanical Engineering Department,
Bhadrak Institute of Engineering and Technology, Barapada,
Bhadrak, 756113, Odisha

2. Year of Establishment: UG - 1999 and PG - 2012

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

(a) UG – Mechanical Engineering.

(b) PG –Thermal engineering.

4. Names of Interdisciplinary courses and the departments/units involved

SL NO.	Name of the Pogramme	Name of the Department	Semester	Name of the Subject
1	UG	Basic Science and Humanities	1 st & 2 nd	Mechanics
2	UG	Basic Science and Humanities	1 st & 2 nd	Thermodynamics
3	UG	Basic Science and Humanities	1 st & 2 nd	Engineering Drawing
4	UG	Civil Engineering	3 rd	Mechanics of Solid
5	UG	Electrical Engg.	4 th	Fluid Mechanics
6	UG	Electrical Engg.	5 th	Optimization Engg.

5. Annual/ semester/choice based credit system (programme wise)

UG: Semester, PG : semester

6. Participation of the department in the courses offered by other departments

SL.NO.	DEPARTMENT	SEMESTER	COURSES
1	Civil engineering	3 rd	Mechanics of Solid
		5 th	Advanced mechanics of
		6 th	Optimization engineering
2	Electrical Engineering	4 th	Fluid Mechanics
		6 th	Optimization engineering
3	Electronics	6 th	Optimization engineering
4	Computer Science Engineering	6 th	Optimization engineering
5	Information & Technology	6 th	Optimization engineering

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Sl. No.	Topics Covered	Name of the Resource Person	Background Industry/Academics/R&
1	Advanced Engineering thermodynamics	Prof. M.RamGopal	Professor Department of Mechanical Engineering IIT, Kharagpur
2	Optimizing techniques	Prof. S.S. Mahapatro	Professor Department of Mechanical Engineering NIT, Rourkela
3	Manufacturing : product design excellence	Prof S.K.Pattanayak	Professor Department of Mechanical Engineering NIT, Silchar
4	Auto cad	Twin tech	Twin tech, Bhubaneswar

8. Details of courses/programmes discontinued (if any) with reasons : No

9. Number of teaching posts:

	Sanctioned	Filled
Professors	4	4
Associate Professors	6	3
Asst. Professors	18	16

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of MTech and Ph.D. Students Guided for the last 4 year
M. C. Panda	PH.D.	PROFESSOR/ PRINCIPAL	THERMAL ENGG	23	03
J. Jena	PH.D.	PROFESSOR	THERMAL ENGG	12	04
D. K. Sahu	PH.D.	PROFESSOR	PRODUCTION	23	
A.Chaini	PH.D.	PROFESSOR	FLUID	2	
A. K. Khatua	M.TECH.	ASSO. PROFESSOR	DESIGN	12	
M.K.Roul	PH.D.	ASSO. PROFESSOR		22	
S. K. Mishra	PH.D.	ASSO. PROFESSOR	DESIGN	12	
D.Jena	M.TECH.	ASST. PROFESSOR	PRODUCTION	10	
R. Nayak	M.TECH.	ASST. PROFESSOR	THERMAL ENGG	4	
J. Mohakud	M.TECH.	ASST. PROFESSOR	THERMAL ENGG	9	
M. R. Dash	M.TECH.	ASST. PROFESSOR	DESIGN	5	
S.Behera	B.TECH.	ASST. PROFESSOR		2	
A.K. Behera	M.TECH.	ASST. PROFESSOR	PRODUCTION	1	
A. Mohanty	B.TECH.	ASST. PROFESSOR		1	
S. Sahoo	B.TECH.	ASST. PROFESSOR		1	
P. K. Pradhan	B.TECH.	ASST. PROFESSOR		1	
S.K.Brahma	B.TECH.	ASST. PROFESSOR		8	
S.K.Samal	B.E.	ASST. PROFESSOR		8	
A.Mishra	B.E.	ASST. PROFESSOR		8	
L.K.Sahoo	M.TECH.	ASST. PROFESSOR	THERMAL ENGG	7	
A.K.Das	B.TECH.	ASST. PROFESSOR		6	
T.Biswal	B.TECH.	ASST. PROFESSOR		6	
M.Maharana	B.TECH.	ASST. PROFESSOR		3	
N.K.Sing	B.TECH.	ASST. PROFESSOR		3	
M.K.Baral	B.TECH.	ASST. PROFESSOR		2	
S.K.Sahoo	B.TECH.	ASST. PROFESSOR		2	

The faculties assigned for M.tech (Thermal Engineering) are:

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of MTech and Ph.D. Students Guided for the last 4 years
M. C. Panda	PH.D.	PRINCIPAL	THERMAL ENGG	23	
J. Jena	PH.D.	PROFESSOR	THERMAL ENGG	13	
A.Chaini	PH.D.	DY. DEAN ACAD.	FLUID	2	

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by

Temporary faculty : Nil

13. Student -Teacher Ratio (programme wise):

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
UG	425	24	18: 1
PG (THERMAL)	27	3	9:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Technical staff	Sanctioned	Filled	administrative staff	Sanctioned	Filled
	5	4		5	5

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ Mphil / PG.

SL.NO	Name of the Faculty Members	Qualification
1	Dr. Mohan Charan Panda	Ph.D
2	Dr. Jibanananda Jena	Ph.D
3	Dr. Dillip Kumar Sahu	Ph.D
4	Dr. Amarendra Chaini	Ph.D
5	Dr. Manmath Kumar Roul	Ph.D
6	Dr. Sarat Kumar Mishra	Ph.D
7	Er. Ramesh Nayak	M.TECH
8	Er.Ajit Kumar Khatua	M.TECH
9	Er. Jayanarayan Mohakud	M.TECH
10	Er. Mans Ranjan Dash	M.TECH
11	Er. Dayanidhi Jena	M.TECH
12	Er. Ajit Kumar Behera	M.TECH
13	Er. Laxman Kumar Sahoo	M.TECH.
14	Er. Sibaji Behera	B.TECH.
15	Er. Asutosh Mohanty	B.TECH.
16	Er. Subhrajit Sahoo	B.TECH.
17	Er. Pradipta Kishore Pradhan	B.TECH.
18	Er. S.K.Brahma	B.TECH.

19	Er. SusantaKumar Samal	B.E.
20	Er. Archana Mishra	B.E.
21	Er. Ashis Kumar Das	B.TECH.
22	Er. Tandalina Biswal	B.TECH.
23	M.Maharana	B.TECH.
24	N.K.Sing	B.TECH.
25	Er. Manoj Kumar Baral	B.TECH.
26	Er. Srikanta Kumar Sahoo	B.TECH.

- 16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: NIL**
- 17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil**
- 18. Research Centre /facility recognized by the University: Nil**
- 19. Publications:**
The List of Journal and Book Publications is attached in Annexure 8
- 20. Areas of consultancy and income generated: Nil**
- 21. Faculty as members in:**
- a) National committees b) International Committees c) Editorial Boards
d) Reviewer of Journal Paper....
List of recognition received by the faculty members from professional bodies is attached in Annexure 9
- 22. Student projects:**
- a) Percentage of students who have done in-house projects including inter departmental/program: 100
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: NIL
- 23. Awards / Recognitions received by faculty and students**
- List of awards received by the faculty members is attached as Annexure 9*
List of awards received by the students is attached as Annexure 9
- 24. List of eminent academicians and scientists / visitors to the department:**
List of eminent scientists contributed to different events is attached as Annexure 10

25. Seminars/ Conferences/Workshops organized & the source of funding

List of Workshop/Seminars/Conferences is attached as Annexure 7

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
UG (2014-2018)	67	67	63	4	89.77
UG (20013-2017)	148	148	147	1	94.45
UG (2012-2016)	136	136	131	5	82.48
UG (2011-2015)	74	74	71	3	82.44

Name of the Course/programme (refer question no.4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
PG (2014-2016)	19	19	15	4	YET TO PUBLISH
PG (20013-2015)	08	08	08	0	94.45
PG (2012-2014)	09	09	08	1	98

***M = Male *F = Female**

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
UG (2014-2018)	95.53	4.47	0
UG (20013-2017)	91.22	8.78	0
UG (2012-2016)	86.77	13.23	0
UG (2011-2015)	89.24	10.76	0

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
PG (2014-2016)	52	48	0
PG (20013-2015)	98	2	0
PG (2012-2014)	98.4	1.6	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

2013-14(GATE): 05

2012-13(GATE): 04

2011-12 (GATE): 03

2010-11 (GATE): 04

29. Student progression

Student progression	Against % enrolled
UG TO PG	19
PG TO M .Phil.	NA
PG TO PhD	NA
PhD TO Post. Doc	NA

30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	
337	7	8	Previous year question paper, Lab manual, GATE material, Old project, Sample papers

b) Internet facilities for Staff & Students

There are 22 faculty rooms which are provided with internet connection through LAN cable along with WI-FI connection is available throughout the campus.

c) Class rooms with ICT facility

- There are three tutorial rooms (one room per each year) provided with OHP and Computer having strength of fifty members.**
- There is one seminar room provided with LCD PC projector and computer with inter-net connection having strength of one fifty members.**

d) Laboratories

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Workshop Lab	Exclusive	1690 Sq. ft.	6	Good	Yes
Fluid Mechanics and Hydraulic Machines	Exclusive	1014Sq. ft	6	Good	Yes
Mechanical Engg. Lab	Exclusive	1014Sq. ft.	9	Good	Yes
Heat Transfer Lab	shared	1014Sq. ft.	5	Good	Yes
Machine Dynamics Lab	Exclusive	1014 Sq. ft.	6	Good	Yes
Drawing Lab/machine Design project-1,2	Exclusive	1014 Sq. ft. And 1352 Sq. ft.	10	Good	Yes
Material Testing Lab	Exclusive	1014 Sq. ft.	5	Good	Yes
NC and SM Lab	Exclusive	1014 Sq. ft.	10	Good	Yes
Refrigeration and Air Conditioning Lab	Exclusive	1352 Sq. ft.	5	Good	Yes
Production LAB	Exclusive	1014 Sq. ft.	6	Good	Yes
IC and Heat Power Lab	Exclusive	676 Sq. ft. And 1014 Sq. ft.	12	Good	Yes
Mechanical Measurement Lab	Exclusive	1014 Sq. ft.	5	Good	Yes

31. Number of students receiving financial assistance from college, university, Government or other agencies.

2011 – 12: 21

2012 – 13: 46

2013 – 14: 54

2014- 15: 23

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts
List of Workshop/Seminars/Conferences is attached as Annexure 7

33. Teaching methods adopted to improve student learning.

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

- Chalk& Talk,
- Group discussions,
- Brain storming,
- use of charts,
- working models,
- learning by doing,
- By providing course material in the library
- by arranging guest lectures on advanced topics,
- by conducting student seminars
-

In the traditional teaching system it is very difficult to fill up the gap between industries and institute. We understand learning as a solution and not only to produce graduates but also to enhance their analytical ability in all respect.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities 2014

Our students and faculty members are actively participating in various social works such as cleaning of hospital and railway zone, Plantation, conducting of general awareness programme in nearby villages organized by our college NSS units. Also our students, faculty members and nonteaching staff are largely participating in blood donation camp organized by college NSS units twice in a year. In 2015 we donated 300 units of blood and became top donor in Bhadrak District which leads to receive appreciation certificate from District Administration.

35. SWOC analysis of the department and Future plans

STRENGTHS:

- High qualified, experienced and dedicated faculty.
- Well equipped Laboratories
- Student centric environment.
- Best Counseling
- Remedial classes for the academic poor students.
- Good relation with excellent resource personnel from various reputed institutes and industries.

WEAKNESSES:

- R& D facilities need to be enhanced
- Inadequate industry Institute Interaction

OPPORTUNITIES:

- Service to the rural students with quality education
- Good demand for Mechanical Engineering
- Global demand for technical manpower is ever growing.
- State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- Many of the neighboring state & NRI students are opting of Mechanical course in the state education.

CHALLENGES:

- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
- To groom more number of students for self-employment through entrepreneurship development.
- To motivate students to prepare themselves adequately for higher studies and research.
- Number of M.Tech. scholars need to be improved.

- Facing the competition from nearby engineering colleges and Autonomous Universities.

FUTURE PLANS:

- Proposed to improve the in-house Software training programmes.
- Proposed to conduct Gate coaching classes for the final year students
- Proposed to Improve the Entrepreneurs from the Mechanical Engg.
- Proposed to organize One International Seminar and improve the workshops & guest Lectures for the Mechanical students
- Improve the laboratories which are suitable for the R&D and Consultancy

Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts and List of Workshop/Seminars/Conferences is attached here as

ANNEXURE-7

Sl. No.	Experts	Workshop/ Seminars/ Conferences	Title	Conducting Organization
(2011-12)				
1	Prof.R.D.Misra NIT, Silchar	workshop	Advances in Mechanical Engineering.	Mechanical Engg. Society, BIET
2	Prof.R.R.Dash GIET,Gunupur	National Seminar	Testing Tools in workshop	Mechanical Engg. Society, BIET
3	Prof.S.K.Patanayak NIT, Silchar	Special Lectures	Robotics and its application	Mechanical Engg. Society, BIET
(2012-13)				
1	Prof.M.RamGopal IIT,KGP	National Seminar	Recent Trends in Mechanical Engineering.	Mechanical Engg. Society, BIET
2	Prof Harish Das ITER,BBSR	National Seminar	Reverse engineering	Mechanical Engg. Society, BIET
(2013-14)				
1	Prof.R.D.Misra NIT, Silchar	Workshop	Solar Energy and its application	Mechanical Engg. Society, BIET
1	National Conference	Advanced Research in Mechanical Engineering		Mechanical Engg. Society, BIET

Annexure-8

1. **Mohan Chandra panda** and Vinod Yadab, Finite element prediction rate due to travelling wire electro chemical spark machining *International Journal of Advance Manufacturing Technology*, 45 (2009) pp. 506-520.
2. Ankush R. Kapare, Vinod Yadava, and **Mohan Chandra Panda**, Finite Element Analysis of micro weld bead due to electro mechanical discharge microwelding, *International Journal of Nanomanufacturing*, 3(2009), pp. 240-263
3. **Mohan Chandra PANDA** and Vinod Yadava Thermal modeling of material removal rate and surface roughness in die sinking-electrochemical spark machining process, *Journal of Machining and forming Technology*
4. Vinod Yadava and AUDESH narayan and **Mohan Chandra Panda** and Ranjan Prakash, Thermal Finite Element Analysis of High efficiency Deep surface Grinding Process *International Journal of Avrasiv Technology*
5. **Mohan Chandra Panda** and Vinod Yadava Intelligent modeling and multi objective optimization of Die sinking-electro chemical spark machining process, *Material and Manufacturing processes*, 27(2012) pp.10-25.
6. **Mohan Chandra Panda** and Vinod Yadav Intelligent Modelling and parameter optimization for material removal rate on travelling wire electro-chemical spark machining process under review in *International Journal of Artificial intelligence and soft Computing*.
7. **Mohan Chandra Panda**, Vinod Yadava and Raj Mohan Singh, Intelgent Modelling and Parameter Optimization for Material Removal rate and Surface Roughness in Die Sinking-electro-chemical spark machining process, under review in *International Journal of Machining and Machinability of Materials*.
8. **Mohan Chandra Panda**, Vinod Yadava and Ankush R.Kapare, Finite Element Analysis of Micro-Weld Bead due to Electro-Chemical Discharge Micro Welding, Proc. Of International Conference on Computer Aided Engg. At IIT Madras (Dec-2007)
9. **Mohan Charan Panda**, Vinod Yadava, Thermal finite element based artificial neural network modeling of electro-chemical spark machining process, proceeding of the International Conference on Advance in Mechanical and

Building Science in 3rd Millennium (ICAMB-2009) ORGANISED BY Vellore University Vellore ‘ India from 14-16 December 2009 .

- 10 **Mohan Charan Panda**, Vinod Yadava, and Basant ku. Bhuiyna , intelligent modeling of travelling wire electro-chemical spark Maching Process , Proceeding of the 3rd International and 24th AIMTDER conference organised by Andhra University College of Engg. (A),Vishakapatnam India from 13-15 Dec-2010.
11. **Mohan Charan Panda**, Suvaranjan Sutar, Jayanarayan Mahakud and Ajit Kumar Khatua, Study of Electro-Discharge Face grinding ,Proc. Of National Conference on Recent Trends in Engineering and Technology-2012, organised by BIET, Bhadrak.
12. **Mohan Charan Panda**, Jayanarayan Mahakud, Ajit Kumar Khatua and Rabi Sankar Ojha, Hybrid Machining Process,Proc. Of National Conference on Recent Trends in Engineering and Technology-2012, organised by BIET, Bhadrak.
13. **Mohan Charan Panda**, Jayanarayan Mahakud, Manas Ranjan Das and P Anindita Panda, , Modeling of Surface Roughness in Plane Magnetic Abrasive Finishing (MAF), proc. Of National Conference on Recent Trend in Engg. & Tech.-2012, Organised by B.I.E.T Bhadrak.
- 14 Rahul Dev Mishra , **Jibanananda Jena** and M.S. Murty , Energy and Exergy analysis of a CI engine fuelled with palm Bio-Diesel based on experimental data International Journal of Exergy ,Vol.13,No.1 (2013), page124-138.
15. **Jibanananda Jena***, Rahul Dev Misra “Effect of fuel oxygen on the energetic and exergetic efficiency of a compression ignition engine fuelled separately with palm and karanja biodiesels” Energy Vol. 68 (2014) pp 411-419
16. **Jibanananda Jena** and Rahul Dev Misra “Exergetic cost analysis of a CI engine fuelled with petrodiesel and palm and karanja biodiesels: a comparative assessment” International Journal of Exergy ,Vol.15,No.2 (2014), page124-138.
17. **Jibanananda Jena** and Rahul Dev Misra “Estimation of Production Cost of Pure Plant Oils and Biodiesels from Karanja, Palm and Soapnut Plantations Through Financial Analysis” Small-scale Forestry DOI 10.1007/s11842-014-9267-5
- 18 Rahul Dev Mishra , **Jibanananda Jena**, Thermo economic Optimization of an Aqua-Ammonia Vapour Absorption Refrigeration system using Structural Method ,proc. Of International Conference on Emerging Trend in Engg. & Tech. Singapore, 24th Feb 2012.

19. Rahul Dev Mishra , Jayanarayan Mahakud and **Jibanananda Jena** “Exergy analysis for Biomass Co-Firing Coal Fuel based Thermal Power Plant” proc. of International Conference on Emerging Trend in Engg. & Tech. Singapore, 24th Feb 2012.ISBN NO-978-93-81693-21-6
20. S.K.Patanayak, **Jibanananda Jena** and A.C. Paul “Performance Enhancement of Turbocharger Bearings: A Theoretical approach” proc. of International Conference on Advanced Research in Mechanical, Electrical and Computer Engineering, Bangkok 24th -26th March 2013 ISBN NO-978-93-82208-8.
21. **Jibanananda Jena**, M.K.Roul and M.RamGopal “Optimization of Condensing Temperature of A Cascade Refrigeration System Based on CO₂ And NH₃” proc. of International Conference On Theoretical Applied Computational And Experimental Mechanics, IIT KGP 27th -29th December 2010 ISBN NO-93-80-813-031.
22. M.K.Roul, **Jibanananda Jena**, and S.K Dash “Mathematical Modeling of Two Phase Flow through Thin Orifices in Horizontal Pipes” IIT KGP 27th -29th December 2010 ISBN NO-93-80-813-031
23. **Jibanananda Jena** and Misra Rahul Dev “Evaluation of Irreversibility Components of a CI Engine Fuelled Separately with Palm and Karanja Biodiesels” International Conference on Recent Innovations in Engineering & Technology, ISBN : 978-93-83060-46-7,19-20 April 2014, GITA, BBSR
32. Manmatha K Roul, **Jibanananda Jena**, Jayanarayan Mahakud, S. R.Sutar, Dilip Ku Sahu, Atal Bihari Tripathy and Jayanta Ku Singh, Optimization of Condensing Temperature of a Cascade Refrigeration System Based on Carbon Dioxide and Ammonia, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
29. Manmatha K Roul, **Jibanananda Jena**, Jayanarayan Mahakud, S. R.Sutar, Dilip Ku Sahu, Atal Bihari Tripathy and Jayanta Ku Singh, Optimization of Condensing Temperature of a Cascade Refrigeration System Based on Carbon Dioxide and Ammonia, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
- 38 Manmatha K Roul, **Jibanananda Jena**, Jayanarayan Mahakud, S. R.Sutar, Dilip Ku Sahu, Atal Bihari Tripathy and Jayanta Ku Singh, Optimization of Condensing Temperature of a Cascade Refrigeration System Based on Carbon Dioxide and Ammonia, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.

24. Mohan Charan Panda, **Subharanjan Sutar**, Jayanarayan Mahakud, Ajit Ku Khatua, Study of Electro-Discharge Face Grinding, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
25. Manmatha K Roul, L.K Sahoo, **Susanta Ku Samal**, A.K.Khatua & Mukesh KR.Chand, Two phase Drop due to flow of oil-water Emulsions through sudden contraction ,proc.,Of National Conference on Recent Trend in Engg. & T ech.-2012, Organised by BIET , Bhadrak.
26. Mohan Charan Panda, Subharanjan Sutar, **Jayanarayan Mahakud**, Ajit Ku Khatua, Study of Electro-Discharge Face Grinding, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
27. Ramesh Ch. Nayak, M. K. Roul, Dilip Ku. Sahu, **L. K. sahu**, Manish Kr. Singh, Rohit Bhakat and Shibajee Behera, Natural Convection Heat Transfer Through Heated Vertical Tubes with Discrete Rings, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
28. Manmatha K Roul, L. K. Sahoo, Susanta Ku Samal, **A.K.Khatua** & Mukesh KR.Chand, Two phase Drop due to flow of oil-water Emulsions through sudden contraction, proc. Of National Conference on Recent Trend in Engineering & Technology-2012, Organised by BIET , Bhadrak.
30. Mohan Charan Panda, **Jayanarayan Mahakud**, Ajit Ku Khatua and Rabi Shankar Ojha, Hybrid Machining Processes, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
31. **Manmatha K Roul**, L.K Sahoo S.K Samal A.K.Khatua & Mukesh KR.Chand, Two phase Drop due to flow of oil-water Emulsions through sudden contraction ,proc.,Of National Conference on Recent Trend in Engg. & T ech.-23012, Organised by BIET , Bhadrak.
- 33 Manmatha K Roul, **L. K. Sahoo**, Susanta Ku Samal, A.K.Khatua & Mukesh KR.Chand, Two phase Drop due to flow of oil-water Emulsions through sudden contraction, Proc. Of National Conference on Recent Trend in Engineering & Technology-2012, Organised by BIET , Bhadrak.

- 34 Mohan Charan Panda, Jayanarayan Mahakud, **Ajit Ku Khatua** and Rabi Shankar Ojha, Hybrid Machining Processes, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 35 Manmatha K Roul, **Jayanarayan Mahakud**, Ramesh Ch. Nayak, Rahul Dev Misra and Animesh Bandhu Majhi, Exergy Analysis for Biomass co-firing Coal Fuel Based Thermal Power Plant, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 36 **D. K. Sahu**, L. K. Sahoo, Manoj Kumar Baral and Jayant Ku. Singh, CVD Diamond: For Electronic and Electrochemical Applications, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 37 Manmatha K Roul, **Jayanarayan Mahakud**, Ramesh Ch. Nayak, Rahul Dev Misra and Animesh Bandhu Majhi, Exergy Analysis for Biomass co-firing Coal Fuel Based Thermal Power Plant, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 39 D. K. Sahu, **L. K. Sahoo**, Manoj Kumar Baral and Jayant Ku. Singh, CVD Diamond: For Electronic and Electrochemical Applications, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 40 Mohan Charan Panda, **Manas Ranjan Dash**, Jayanarayan Mahakud, Ajit Kumar Khatua and P. Anandita Panda, Modelling of Surface Roughness in Plane Magnetic Abrasive finishing (MAF), Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 41 Ramesh Ch. Nayak, M. K. Roul, **Dilip Ku. Sahu**, L. K. sahu, Manish Kr. Singh, Rohit Bhakat and Shibajee Behera, Natural Convection Heat Transfer Through Heated Vertical Tubes with Discrete Rings, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
- 42 Manmatha K Roul, Jibanananda Jena, Jayanarayan Mahakud, S. R.Sutar, **Dilip Ku Sahu**, Atal Bihari Tripathy and Jayanta Ku Singh, Optimization of Condensing Temperature of a Cascade Refrigeration System Based on Carbon Dioxide and Ammonia, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
- 43 Ramesh Ch. Nayak, **M. K. Roul**, Dilip Ku. Sahu, L. K. sahu, Manish Kr. Singh, Rohit Bhakat and Shibajee Behera, Natural Convection Heat Transfer Through

Heated Vertical Tubes with Discrete Rings, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.

- 44 Manmatha K Roul, Jayanarayan Mahakud, **Ramesh Ch. Nayak**, Rahul Dev Misra and Animesh Bandhu Majhi, Exergy Analysis for Biomass co-firing Coal Fuel Based Thermal Power Plant, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 45 Mohan Charan Panda, Manas Ranjan Dash, **Jayanarayan Mahakud**, Ajit Kumar Khatua and P. Anandita Panda, Modelling of Surface Roughness in Plane Magnetic Abrasive finishing (MAF), Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 46 Mohan Charan Panda, Manas Ranjan Dash, Jayanarayan Mahakud, **Ajit Kumar Khatua** and P. Anandita Panda, Modelling of Surface Roughness in Plane Magnetic Abrasive finishing (MAF), Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 47 Ramesh Ch. Nayak, **M. K. Roul**, Dilip Ku. Sahu, L. K. sahu, Manish Kr. Singh, Rohit Bhakat and Shibajee Behera, Natural Convection Heat Transfer Through Heated Vertical Tubes with Discrete Rings, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
- 48 Manmatha K Roul, **Jibanananda Jena**, Jayanarayan Mahakud, S. R.Sutar, Dilip Ku Sahu, Atal Bihari Tripathy and Jayanta Ku Singh, Optimization of Condensing Temperature of a Cascade Refrigeration System Based on Carbon Dioxide and Ammonia, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.
- 49 Manmatha K Roul, **Jayanarayan Mahakud**, Ramesh Ch. Nayak, Rahul Dev Misra and Animesh Bandhu Majhi, Exergy Analysis for Biomass co-firing Coal Fuel Based Thermal Power Plant, Proc. Of National Conference on Recent Trend in Engineering & Technology -2012, Organised by BIET, Bhadrak.
- 50 **Ramesh Ch. Nayak**, M. K. Roul, Dilip Ku. Sahu, L. K. sahu, Manish Kr. Singh, Rohit Bhakat and Shibajee Behera, Natural Convection Heat Transfer Through Heated Vertical Tubes with Discrete Rings, Proc. Of National Conference on Recent Trends in Engineering & Technology-2012, Organised by BIET, Bhadrak.

ANNEXURE-9

*a) National committees b) International Committees c) Editorial Boards
d) Reviewer of Journal Paper and List of recognition received by the faculty members
from professional bodies is attached here.*

Professional bodies	Name of the Faculty
ISTE life Member	Dr.M.C.Panda
ISTE life Member	Dr. D.K.Sahu
Member of I.E	Dr. D.K.Sahu

Journal Name	Publisher	Title	Reviewer
Energy Conversion Management	Elsevier	Energetic and Exergetic Analysis of a Variable Compression Ratio Energy conversion and management.	Prof.(Dr.) J. Jena
Energy	Elsevier	Energy and Exergy analysis of hydraulic free piston Engines.	Prof.(Dr.) J. Jena
Advances in Automobile Engineering	Engineering Journal OMICS Group	Performance and Emission of gas on a three cylinder four stroke engine.	Prof.(Dr.) J. Jena

List of awards received by the faculty members is attached here

SL. NO	Name of the Faculty	Year	Detail
1	Dr. Jibanananda Jena	2013	Young Investigator Award at ICARMECE, Bangkok

Achievements by the students

SL. NO.	Name of the student	Event participated	Symposium/Instituion conducted	Prize won
(2013-2014)				
1	Manish ku.Singh	Technical Quiz contest	Oxford Inst.of Engg. & Technology	2nd
2	P. Anindita Panda	Technical seminar	Silicon college of Engg.	3rd

SN	Name of the student	Event Participated	Institution Conducted	Prize own
2012-2013				
1	Rakesh Kumar Kundu	Techno Event	New Jalpaiguri Government Engineering College	2nd
2	Ravi Shankar Ojha	Technical Quiz	BIET	1st
3	Mukesh Kumar Chand	Paper Presentation	KLU University,Vijayawada	Participated
4	Bismay Kumar Mohanty	Paper Presentation	KLU University,Vijayawada	Participated
5	Nihar Ranjan Barik	Paper Presentation	KLU University,Vijayawada	Participated
6	Animesh Majhi	Paper Presentation	KLU University,Vijayawada	Participated
7	Amit Kumar	Techno Event	New Jalpaiguri Government Engineering College	2nd
8	Ranjan Adhikari	Technical Seminar Presentation	BIET	Participation certificate
9	Debadutta Mishra	Technical Seminar Presentation	BIET	Participation certificate
10	Manish Kumar Singh	Technical Seminar Presentation	BIET	Participation certificate
11	Sradhanjali Mohanty	Technical Seminar Presentation	BIET	Participation certificate

12	Swagatika Pattnaik	Technical Seminar Presentation	BIET	Participation certificate
13	Debasruta Mohanty	Technical Seminar Presentation	BIET	Participation certificate
14	Ganesh Chandra Behera	Technical Seminar Presentation	BIET	Participation certificate
15	Nanooj Ku Behera	Technical Seminar Presentation	BIET	Participation certificate
16	Jayanta Kumar Sethy	Technical Seminar Presentation	BIET	Participation certificate
17	Ashok Kumar Jena	Technical Seminar Presentation	BIET	Participation certificate
18	Srikanta Kumar Sahoo	Technical Seminar Presentation	BIET	Participation certificate
19	Sunil Mohanta	Technical Seminar Presentation	BIET	Participation certificate
20	Partha Sarathi Barik	Technical Seminar Presentation	BIET	Participation certificate
21	Sudhansu Sekhar Palei	Technical Seminar Presentation	BIET	Participation certificate
22	Smarak Kumar Dhir	Technical Seminar Presentation	BIET	Participation certificate
23	Sashi Kumar Sahoo	Technical Seminar Presentation	BIET	Participation certificate
24	Rajesh Kumar Dash	Technical Seminar Presentation	BIET	Participation certificate
25	Srinibash Chakra	Technical Seminar Presentation	BIET	Participation certificate
26	Ashok Kumar Ojha	Project Presentation	BIET	Participation certificate
27	Manohar Patra	Project Presentation	BIET	Participation certificate

28	Rakesh Kumar Samal	Project Presentation	BIET	Participation certificate
29	Partha Sarathi Das	Project Presentation	BIET	Participation certificate
30	Tanmaya Kumar Parida	Project Presentation	BIET	Participation certificate
31	Milan Kumar Rout	Project Presentation	BIET	Participation certificate
32	Iti Ranjan Nayak	Project Presentation	BIET	Participation certificate
33	Sarvesh Kumar Pandey	Project Presentation	BIET	Participation certificate
34	Prasant Kumar Jha	Project Presentation	BIET	Participation certificate
35	Deep Dutta	Project Presentation	BIET	Participation certificate
36	Deba Gourab Ghosh	Project Presentation	BIET	Participation certificate
37	Abhisek Burma	Project Presentation	BIET	Participation certificate
38	Pitam Dey	Project Presentation	BIET	Participation certificate
39	Kismat Kumar Rath	Project Presentation	BIET	Participation certificate
40	Satyabrata Mohapatra	Project Presentation	BIET	Participation certificate
41	Rashmi Ranjan Nayak	Project Presentation	BIET	Participation certificate
42	Santanu Kumar Mahalik	Project Presentation	BIET	Participation certificate
43	Sadasib Muduli	Project Presentation	BIET	Participation certificate
44	Prakash Kumar Mohapatra	Project Presentation	BIET	Participation certificate
45	Aurobinda Mohapatra	Project Presentation	BIET	Participation certificate
46	Arksen Gupta	Project Presentation	BIET	Participation certificate
47	Aswini Kumar Behera	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
48	Sudam Chandra Patra	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
49	Abhisek Sahoo	Technical Seminar	BIET(Engineers Day Celebration)	Participation certificate

		Presentation		
50	Ananda Kumar Dhamudia	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
51	Prasanta Kumar Bhanja	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
52	Digma Digdarsshini Parida	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
53	Soubhagya Nayak	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
54	Nashra Manjur	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
55	Tapas Ranjan Sethi	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
56	Tapan Kumar Jena	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
57	Manoj Kumar Majhi	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
58	Dipti Ranjan Khatua	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
59	Partha Sarathi Parida	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
60	Nihar Ranjan Rout	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
61	Ansuman Sahoo	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
62	Lokesh Panigrahi	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
63	Abuzer Raheman	Bending Moment Quiz	Ethos Group, IIT Kharagpur	All India 5th position
64	Satyajit Mohanty	Bending Moment Quiz	Ethos Group, IIT Kharagpur	All India 5th position

65	Satyabrata Muduli	Project Display	Engineers Day in BIET	Participation certificate
66	Suwendu Mohanty	Project Display	Engineers Day in BIET	Participation certificate
67	Bikash Chandra Sahoo	Project Display	Engineers Day in BIET	Participation certificate
68	Chiranjib Pandav	Project Display	Engineers Day in BIET	Participation certificate
69	Sushant Kumar Behera	Project Display	Engineers Day in BIET	Participation certificate
70	Rashmikiranjan Jena	Project Display	Engineers Day in BIET	Participation certificate
71	Subhransu Sekhar	Project Display	Engineers Day in BIET	3rd
72	Himansu Sekhar Sahoo	Project Display	Engineers Day in BIET	Participation certificate
73	Prabhudatta Nayak	Project Display	Engineers Day in BIET	Participation certificate
74	Debasis Parida	Project Display	Engineers Day in BIET	Participation certificate
75	Chandrakant Biswal	Project Display	Engineers Day in BIET	Participation certificate
76	Himansu Bhusan Prusty	Project Display	Engineers Day in BIET	1st
77	Kamalakant Singh	Project Display	Engineers Day in BIET	Participation certificate
78	Deepak Ku. Rout	Project Display	Engineers Day in BIET	Participation certificate
79	Shibajee Behera	Project Display	Engineers Day in BIET	Participation certificate
80	Sarnendu Paul	Project Display	Engineers Day in BIET	2nd
81	Goutam Anand	Project Display	Engineers Day in BIET	Participation certificate
82	Satrughna Singh	Project Display	Engineers Day in BIET	Participation certificate
83	Sourav Rn Roy	Project Display	Engineers Day in BIET	Participation certificate
84	Udit Sourav	Project Display	Engineers Day in BIET	Participation certificate
85	Satabdhi Acharya	Project Display	Engineers Day in BIET	Participation certificate
86	Amit Abinash Jena	Project Display	Engineers Day in BIET	Participation certificate
87	Chinmaya Choudhary	Project Display	Engineers Day in BIET	Participation certificate

88	Sradhansu Nayak	Project Display	Engineers Day in BIET	Participation certificate
89	Subhrajit Sahoo	Project Display	Engineers Day in BIET	Participation certificate
90	Nishikanta Sahoo	Project Display	Engineers Day in BIET	Participation certificate
91	Ashis Routroy	Project Display	Engineers Day in BIET	Participation certificate
92	Satyabrata Barik	Project Display	Engineers Day in BIET	Participation certificate
93	Kousik Chatarjee	Project Display	Engineers Day in BIET	Participation certificate
94	Somya Ranjan Bag	Project Display	Engineers Day in BIET	Participation certificate
95	Sunil Kumar Mohapatra	Project Display	Engineers Day in BIET	Participation certificate
96	Sakti Prasanna Sahoo	Project Display	Engineers Day in BIET	Participation certificate
97	Manas Ranjan Mohanty	Project Display	Engineers Day in BIET	Participation certificate
98	Anil Kyumar Mohapatra	Project Display	Engineers Day in BIET	Participation certificate
99	Khudiram Mahanta	Project Display	Engineers Day in BIET	Participation certificate
100	Uttam Kumar Samal	Project Display	Engineers Day in BIET	Participation certificate
101	Sakti Prasad Moharana	Project Display	Engineers Day in BIET	Participation certificate
102	Bikash Das	Project Display	Engineers Day in BIET	Participation certificate
103	Bharatlaxmi Priyadarsini	Project Display	Engineers Day in BIET	Participation certificate
104	Sidhartha Sankar	Project Display	Engineers Day in BIET	Participation certificate
105	Munna Prasad	Project Display	Engineers Day in BIET	Participation certificate
106	Pradeep Kumar Mahanta	Project Display	Engineers Day in BIET	Participation certificate
107	Sitakanta Parida	Project Display	Mech-Fest in BIET	Participation certificate
108	Sk. Gourav Sidique	Project Display	Mech-Fest in BIET	Participation certificate
109	Satyabrata Majhi	Project Display	Mech-Fest in BIET	Participation certificate
110	Priyabrata Barik	Project Display	Mech-Fest in BIET	Participation certificate

111	Ajit Kumar Barik	Project Display	Mech-Fest in BIET	Participation certificate
112	S.P.Jewel Samal	Project Display	Mech-Fest in BIET	Participation certificate
113	G. Dinesh Kumar	Project Display	Mech-Fest in BIET	Participation certificate
114	Manoj Kumar Baral	Project Display	Mech-Fest in BIET	Participation certificate
115	Soumya Ranjan Das	Project Display	Mech-Fest in BIET	Participation certificate
116	Birendra Mishra	Project Display	Mech-Fest in BIET	Participation certificate
117	Umesh Sahoo	Project Display	Mech-Fest in BIET	Participation certificate
118	Biswanath Pradhan	Project Display	Mech-Fest in BIET	Participation certificate
119	Srikant Kumar Sahu	Paper Presentation	Government Engineering College, Aurangabad	Participation certificate

March- 2015

PART II

Department / Programme Summary

(Criteria IV to X)

1. Name of the Department: Electrical Engineering
Bhadrak Institute of Engineering and Technology,
Barapada, Bhadrak, 756113, Odisha
2. Year of Establishment: 1997
3. Name of the Programmes/courses offered (UG, PG, M.Phil., Ph.D., Integrated Master:
Integrated Ph.D., Etc.): UG – 1999
 - a) UG – Electrical Engineering
4. Name of Interdisciplinary courses and the departments/units involved:

SL NO.	Name of the Programme	Name of the Department	Semester	Name of the Subject
1	UG	Basic Science and Humanities	1 st & 2 nd	Basic Electrical
2	UG	ETC Engg.	3 rd	Network Theory
3	UG	ETC Engg.	3 rd	Electrical & Electronics Measurement
4	UG	Computer Science	3 rd	Network Theory
5	UG	Information & Technology	3 rd	Network Theory
6	UG	ETC Engg.	4 th	Energy Conversion Devices
7	UG	Mechanical Engg.	4 th	Energy Conversion Techniques
8	UG	ETC Engg.	6 th	Control System

5. Annual/Semester/choice based credit system(programme wise): UG: Semester
6. Participation of the department in the courses offered by the departments:

SL.NO.	DEPARTMENT	SEMESTER	COURSES
1	Electronics and Telecommunication	3 rd	Network Theory
		3 rd	Electrical & Electronics Measurement solids
		4 th	Energy Conversion Devices
		6 th	Control System
2	Mechanical Engineering	4 th	Energy Conversion Techniques
3	Computer Science Engineering	3 rd	Network Theory
5	Information & Technology	3 rd	Network Theory

7. Courses in collaboration with other universities, industries, foreign institutions etc.: Nil

8. Details of courses/programmes discontinued(if any) with reasons: No

9. Number of Teaching posts

	Sanctioned	Filled
Professors	03	02
Associate Professors	03	02
Asst. Professors	10	08

10. Faculty profile with name, qualification, designation, specialization, (D.sc./ D.Litt./ Ph.D./ M.Phil. etc.,)

SL. No	Designation	Name	Qualification	Specialization	No. of Years of Experience	No. of M.Tech and Ph.D. Students Guided for the Last 4 years
1	Prof.	Atulya Prasad Naik	PhD(Continuing)	Power System Engg	17	
2	Prof.	Chandan Kumar Samant	PhD	Power System	17	
3	Associate Prof.	Bharat Chandra Bal	M.Tech	Power System	16	
4	Associate Prof.	Tanuj Kumar Mishra	M.Tech	Power Electronics & Drive	16	
5	Asst. Prof.	Kasinatha jena	M.Tech	Power System & Control	09	
6	Asst. Prof.	Aurobindo Bag	M.Tech	Power System Engg.	09	
7	Asst. Prof.	Susmita Tung	M.Tech	Power System	07	
8	Asst. Prof.	Meetarani Tripathy	M.Tech	Power System Engg	10	
9	Asst. Prof.	Priyadarsini Behera	M.Tech	Electrical Engg.	10	
10	Asst. Prof.	Usharani Behera	M.Tech	Power System Engg	07	
11	Asst. Prof.	Subhashree Dash	M.Tech	Power Electronics & Drive	06	
12	Asst. Prof.	Debasis sahuo	M.Tech	Power System	06	

				Engg		
13	Asst. Prof.	Debashree Sutar	B.Tech		05	
14	Asst. Prof.	Dipti Ranjan Jena	B.Tech		05	
15	Asst. Prof.	Mana Manjari Patra	B.Tech		07	
16	Asst. Prof.	Abinash Rout	B.Tech		04	

11. List of sensor visiting faculty: Nil

12. Percentage of lecturer delivered and practice classes handed(programme wise) by temporary faculty:

Sl.No.	Name Of The Faculty	Name of College
1	Dr. Raj Kisore Swain	SIT,BBSR
2	Dr. P K Sahoo	Trident,BBSR

13. Student-Teacher Ratio (programme wise):

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
UG	234	16	14: 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Technical staff	Sanctioned	Filled	Administrative staff	Sanctioned	Filled
	3	2		2	2

15. Qualifications of teaching faculty with DSc/D.Litt./Ph.D./MPhil /PG.

SL.No	Designation	Name	Qualification	Specialization
1	Prof.	Chandan Samant	PhD	Energy System
2	Prof.	Atulya Prasad Naik	PhD(Thesis submitted)	Power System Engg

16. Number of faculty with ongoing projects from: Nil

a) National

b) International funding agencies and grants received

Sl. No.	Name of the Investigator	Title of the project	Funded by	Project Cost
1	Prof (Dr.) -----	-----	-----	-----
2				
3				

17. Department projects funded by DST-First;UGC,DBT,ICSSR, etc. and total grants received: Nil

18. Research Centre/facility recognized by the University: Nil

19. Publications:

The List of Journal and Book Publications is attached in Annexure 8

20. Areas of Consultancy and income generated: Nil

21. Faculty as members in: Nil

- a) National committees
- b) International committees
- c) Editorial Boards....

22. Student Projects

- a) Percentages of students who have done in house projects including inter departmental/programme: 66
- b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/industry/other agencies: Nil

23. Award / Recognitions received by faculty and students: Nil

24. List of eminent academicians and scientists/visitors to the department

25. Seminars/Conferences/Workshops organized & the source of funding : Nil

- a) National
- b) International

26. Student profile programme/course wise:

Name of the Course/Programme (refer question no. 4)	Applications Received	Selected	Enrolled		Pass Percentage
			*M	*F	
UG (2014-2018)	19	19	18	01	89.77

UG (2013-2017)	68	68	61	07	94.45
UG (2012-2016)	74	74	71	03	82.48
UG (2011-2015)	73	73	75	08	82.44

*M=Male *F=Female

27. Diversity of Students

Name of the course	% of students from the same State	% of students from the other States	% of students from the abroad
UG (2014-2018)	89.47	10.52	0
UG (2013-2017)	98.52	1.47	0
UG (2012-2016)	91.89	8.10	0
UG (2011-2015)	94.52	5.47	0

28. How many students have cleared national and state competitive examination such as NET, SLET, GATE, Civil service, Defences services, etc.?

29. Student progression

Student progression	Against % enrolled
UG to PG	NA
PG to M.Phil.	NA
PG to Ph.D.	NA
Ph.D. to Post-Doctoral	NA
Employed ✓ Campus selection ✓ Other than campus recruitment	
Entrepreneurship/self-employment	

30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	

178	00	00	Previous year question paper, Lab manual, GATE material, Old project, Sample papers etc
-----	----	----	---

b) Internet facilities for staff & students:

There are 10 faculty rooms which are provided with internet connection Internet (WI-FI) connection is available throughout the campus.

c) Class rooms with ICT facility:

- ✓ There are three tutorial rooms (one room per each year) provided with OHP and Computer having strength of twenty members.
- ✓ There is one seminar room provided with LCD PC projector and computer with inter-net connection having a strength of one fifty members.

d) Laboratories

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Basic Electrical Engg. Lab	Exclusive	620 Sq. ft.	08	Good	Yes
Network Theory Lab	shared	620Sq. ft.	10	Good	Yes
Electrical Measurement Lab	shared	620Sq. ft.	10	Good	Yes
Electrical Machine Lab-1	Exclusive	600Sq. ft.	08	Good	Yes
Electrical Machine Lab-2	Exclusive	600Sq. ft.	10	Good	Yes
Control & Instrument Lab	Exclusive	600 Sq. ft.	13	Good	Yes
Power Electronics Lab	Exclusive	650 Sq. ft.	12	Good	Yes
Electrical Drive Lab	Share	600 Sq. ft.	08	Good	Yes
Power System Lab	Share	500 Sq. ft.	10	Good	Yes
Machine Design & Simulation Lab	Share	500 Sq. ft.	09	Good	Yes

31. Number of students receiving financial assistance for college,university,government or other agencies:

- (2011 – 2015):-10
- (2012 – 2016):-11
- (2013 –2017):-10
- (2014 – 2015):-03

32. Detail of student enrichment programmes(special lectures/workshops/seminar) with external experts

33. Teaching method adopted to improve student learning:

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

- ✓ Chalk& Talk,
- ✓ Group discussions,
- ✓ Brain storming,
- ✓ use of charts,
- ✓ working models,
- ✓ learning by doing,
- ✓ By providing course material in the library
- ✓ by arranging guest lectures on advanced topics,
- ✓ by conducting student seminars

In the traditional teaching system it is very difficult to fill up the gap between industries and institute. We understand learning as a solution and not only to produce graduates but also to enhance their analytical ability in all respect.

34. Participation in Institutional Social Responsibility(ISR) and Extension activities

Our students and faculty members are actively participating in various social works such as cleaning of hospital and railway zone, Plantation, conducting of general awareness programme in nearby villages organized by our college NSS units. Also our students, faculty members and nonteaching staff are largely participating in blood donation camp organized by college NSS units once in a month. In 2013 we donated 1010 units of blood and became top donor in Odisha which lead to receive appreciation certificate from Mr. Nabin Pattanaik the chief minister of odisha.

35. SWOC analysis of the department and Future plans

STRENGTHS:

- ✓ High qualified, experienced and dedicated faculty.
- ✓ Well-equipped Laboratories
- ✓ Student centric environment.
- ✓ Best Counselling.
- ✓ Remedial classes for the academic poor students.

- ✓ Student association MESA which help them in all respect.
- ✓ Good relation with excellent resource personnel from various reputed institutes and industries.

WEAKNESSES:

- ✓ R& D facilities need to be enhanced
- ✓ Inadequate industry Institute Interaction

OPPORTUNITIES:

- ✓ Service to the rural students with quality education
- ✓ Good demand for Electrical Engineering
- ✓ Global demand for technical manpower is ever growing.
- ✓ State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- ✓ Many of the neighbouring state & NRI students are opting of Electrical course in the state education.

CHALLENGES:

- ✓ Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
- ✓ To groom more number of students for self-employment through entrepreneurship development.
- ✓ To motivate students to prepare themselves adequately for higher studies and research.
- ✓ Number of Doctorates and PHD scholars need to be improve
- ✓ Facing the competition from nearby engineering colleges and Autonomous Universities.

FUTURE PLANS:

- ✓ Proposed to improve the in-house Software training programmes.
- ✓ Proposed to conduct Gate coaching classes for the final year students
- ✓ Proposed to Improve the Entrepreneurs from the Electrical Engg.
- ✓ Proposed to organize One International Seminar and improve the workshops & guest Lectures for the Electrical students
- ✓ Improve the laboratories which are suitable for the R&D and Consultancy

March- 2015

PART II

Department / Programme Summary

(Criteria IV to X)

1. Name and Address of the Department:

**Electronics & Telecommunication Engineering,
Bhadrak Institute of Engineering and Technology, Barapada,
Bhadrak, 756113, Odisha**

2. Year of Establishment: UG - 1997 and PG - 2012

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

(a) UG – Electronics & Telecommunication Engineering

(b) PG – Electronics & Communication Engineering

4. Names of Interdisciplinary courses and the departments/units involved

Computer Science

SEMESTER	SUBJECT	THEORY/ LAB
1 st	C	Theory/ Lab
2 nd	Data structure	Theory/ Lab
4 th	C++ & Object Oriented Programming	Theory/ Lab
5 th	Data Base Management Systems (DBMS)	Theory

Electrical Engineering

SEMESTER	SUBJECT	THEORY/ LAB
1 st /2 nd	Basic Electricals	Theory/ Lab
3 rd	Network Theory	Theory/ Lab
4 th	Energy Conversion Devices	Theory/ Lab

Mechanical Engineering

SEMESTER	SUBJECT	THEORY/ LAB
1 st	Mechanics	Theory
2 nd	Thermodynamics	Theory

Physics

SEMESTER	SUBJECT	THEORY/ LAB
1 st	Physics	Theory/Lab
3 rd	Physics of Semiconductor Devices	Theory

Chemistry

SEMESTER	SUBJECT	THEORY/ LAB
1 st	Chemistry	Theory/Lab
3 rd	Material Science & Engineering	Theory

Humanities

SEMESTER	SUBJECT	THEORY/ LAB
1 st	Mathematics – I	Theory
2 nd	Mathematics – II	Theory
3 rd	Mathematics – III	Theory
3 rd	Engineering Economics & Costing	Theory
4 th	Organizational Behavior	Theory
5 th	Environmental Engineering & Safety	Theory
6 th	Principles of Management	Theory
7 th	Entrepreneurship Development	Theory

5. Annual/ semester/choice based credit system (programme wise)

UG: Semester Based Credit System,

PG : semester Based Credit System

6. Participation of the department in the courses offered by other departments

Computer Science Engineering Department-

SEMESTER	SUBJECT	THEORY/ LAB
1ST	Basic Electronics	Theory/ Lab
3RD	Analog Electronics Circuit	Theory/ Lab
4TH	Digital Electronics Circuit	Theory/ Lab
5TH	Analog Communication Technique	Theory
6TH	Microprocessor	Theory/ Lab
6TH	Digital Communication Technique	Theory
7TH	IDSP	Theory
8TH	AVLSI	Theory

Electrical Engineering Department-

SEMESTER	SUBJECT	THEORY/ LAB
1ST	Basic Electronics	Theory/ Lab
3RD	Analog Electronics Circuit	Theory/ Lab
4TH	Digital Electronics Circuit	Theory/ Lab
6TH	Microprocessor	Theory/ Lab
8TH	Satellite Communication	Theory

Mechanical Engineering

SEMESTER	SUBJECT	THEORY/ LAB
1st	Basic Electronics	Theory/ Lab

Civil Engineering

SEMESTER	SUBJECT	THEORY/ LAB
1st	Basic Electronics	Theory/ Lab

7. Courses in collaboration with other universities, industries, foreign institutions, etc :

Nil

8. Details of courses/programmes discontinued (if any) with reasons: No

9. Number of teaching posts:

	Sanctioned	Filled
Professors	01	01
Associate Professors	02	02
Asst. Professors	22	22

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. RAGHUNATH PANIGRAHI	PhD	Professor & HOD	Communication	25+	Nil
Prof. SANJAY KUMAR MOHANTY	M.Tech	Associate Professor	Communication	14+	Nil
Prof. MIRZA Md. SAZID RUB	M.Tech	Associate Professor	Communication	14+	Nil
Er. GANANATH SATAPATHY	B.Tech	Asst. Professor		10+	Nil
Er. JAJNYADATA SAMANTARAY	M.Tech	Asst. Professor	Communication	10+	Nil
Er. SUSANTA KUMAR GAAN	M.Tech	Asst. Professor	Communication	10+	Nil
Er. SUSHANTA KUMAR PANI	M.Tech	Asst. Professor	Communication	10+	Nil
Er. DIPTIMAYEE DASH	M.Tech	Asst. Professor	Communication	10+	Nil
Er. MADHUCHHANDA MISHRA	M.Tech	Asst. Professor	Communication	08+	Nil

Er. YOGASHAKTI YOGMAYA	M.Tech	Asst. Professor	Communication	08+	Nil
Er. KANAKALATA PARHI	M.Tech	Asst. Professor	Communication	08+	Nil
Er. PINKY PRIYADARSHINI SAHOO	M.Tech	Asst. Professor	Communication	07+	Nil
Er. HIMANSHU SAHOO	B.Tech	Asst. Professor		07+	Nil
Er. KHYAMADITA NAYAK	M.Tech	Asst. Professor	Communication	07+	Nil
Er. SASMITA PATI	B.Tech	Asst. Professor		06+	Nil
Er. SUVRANSU SEKHAR SASMAL	M.Tech	Asst. Professor	Communication	06+	Nil
Er. PUNYASMRUTI NAYAK	B.E	Asst. Professor		05+	Nil
Er. MANOJ KUMAR SATAPATHY	B.E	Asst. Professor		05+	Nil
Er. JAGAPATI RAIGURU	B.Tech	Asst. Professor		04+	Nil
Er. GOKULENDRA PANDA	B.Tech	Asst. Professor		04+	Nil
Er. A.SMRUTI DASH	B.Tech	Asst. Professor		04+	+Nil
Er. RITIMUGDHA DAS	B.Tech	Asst. Professor		04+	Nil
Er. ANIL KUMAR BEHERA	B.Tech	Asst. Professor		04+	Nil
Er. SUBHASMITA SWAIN	B.Tech	Asst. Professor		03+	Nil
Er. NEELIMA SINHA	B.Tech	Asst. Professor		03+	Nil

The faculties assigned for M.tech are:

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the
Prof. SANJAY KUMAR MOHANTY	M.Tech	Associate Professor	Communication	14+	Nil
Prof. MIRZA Md. SAZID RUB	M.Tech	Associate Professor	Communication	14+	Nil

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by Temporary faculty : Nil

13. Student -Teacher Ratio (programme wise):

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
UG	86	23	4:1
PG	24	2	12:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Technical staff	Sanctioned	Filled	administrative staff	Sanctioned	Filled
	02	02		01	01

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ Mphil / PG.

SL.NO	Name of the Faculty Members	Qualification
1	Dr. RAGHUNATH PANIGRAHI	PhD
2	Prof. SANJAY KUMAR MOHANTY	M.Tech
3	Prof. MIRZA Md. SAZID RUB	M.Tech
4	Er. JAJNYADATA SAMANTARAY	M.Tech
5	Er. SUSANTA KUMAR GAAN	M.Tech

6	Er. SUSHANTA KUMAR PANI	M.Tech
7	Er. DIPTIMAYEE DASH	M.Tech
8	Er. MADHUCHHANDA MISHRA	M.Tech
9	Er. YOGASHAKTI YOGMAYA	M.Tech
10	Er. KANAKALATA PARHI	M.Tech
11	Er. PINKYPRIYADARSHINI SAHOO	M.Tech
12	Er. KHYAMADITA NAYAK	M.Tech
13	Er. SUVRANSU SEKHAR SASMAL	M.Tech

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received– Nil.

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil

18. Research Centre /facility recognized by the University: Nil

19. Publications:

Prof. R.N. Panigrahi

- 1) R.N.Panigrahi, D.Sengupta , P.k Ghosh “Transfer matrix approach to impurity levels in one dimensional lattice”J.phys. C-12 (1979), G.B.
- 2) R.N.Panigrahi, D.Sengupta “Study of chemically grown SiO₂ thin film on silicon substrates” J.phys. D-14 (1981), G.B.

S.K.Mohanty

S.K.Mohanty , S.Das“A Comparative Study of Pulse Shaping Functions for ICI Power Reduction in OFDM System,” *IEEE Conference on Control, Communications and Automation-INDICON 2008*, IIT-Kanpur, 11-13 December 2008, Vol. 2, pp. 312-316.

M.S.Rub

M.S.Rub,“Improved authentication protocol for GSM”, National conference on emerging trends in electronics & communication engg., P.C.College of Engg.-Goa ,14-15 September 2006, pp. 05-10.

Jajnyadatta Samantaray

Jajnyadatta Samantaray , Dr. N.P.Rath" Feature based frontal face detection using color image", National conference on electronics and communication, KBGT College of Engg.-Nashik, 25-27 march 2010, pp.27-29.

20. Areas of consultancy and income generated: Nil

21. Faculty as members in:

a) National committees b) International Committees c) Editorial Boards....

Nil

22. Student projects:

a) Percentage of students who have done in-house projects including inter departmental/program: 100

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: NIL

23. Awards / Recognitions received by faculty and students -Nil

Sl. No.	NAME OF THE STUDENT	EVENT PARTICIPATED	SYMPOSIUM/INSTITUTION CONDUCTED	PRIZE WON
(2013-2014)				
1	Milan Goswami	Technical Quiz contest	Oxford Inst.of Engg. & Technology ,Bhubaneswar	3 rd
2	Asish Ranjan	Technical seminar	Silicon college of Engg.,Bhubaneswar	2 nd
3	Shainki Sanam	JAM	BIET	3 rd
4	Sasmita Sahoo	GD	BIET	2 nd

5	Upendra Shaw	QUIZ	New Jalpaiguri Government Engineering College	1st
6	Biswajit Dash	QUIZ	New Jalpaiguri Government Engineering College	2nd
7	Amresh Malik	Cricket	BIET	Runners Up
(2012-2013)				
01	Md. Faisal	JAM	BIET	2 nd
02	Payal Barik	GD	New Jalpaiguri Government Engineering College	3 rd
03	Twinkle Dhal	QUIZ	New Jalpaiguri Government Engineering College	2 nd
04	Sneha Kumari	Carrom	BIET	3 rd Prize
05	Sasmita Sethi	Chess	BIET	3 rd Prize
06	Shatabdi Roy	Doubles Carrom	BIET	2 nd Prize
(2011-2012)				
01	Jyoti Kanta Mohanty	Technical Seminar Presentation	BIET(Engineers Day Celebration)	Participation certificate
02	Santosh ku pradhan	JAM	Mech-Fest in BIET	3 rd
03	Jayaprakash panda	GD	Mech-Fest in BIET	2 nd
04	Sanjeeb ku mohanty	QUIZ	Mech-Fest in BIET	1st

24. List of eminent academicians and scientists / visitors to the department: Nil

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National – 01 (Internal Source of funding)

b) International – Nil.

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
UG (2014-2018)	02	02	00	02	98.5
UG (20013-2017)	12	12	10	02	96.87
UG (2012-2016)	29	29	20	09	96.3
UG (2011-2015)	43	43	26	17	95.2

Name of the Course/programme (refer question no.4)	programme	Applications received	Selected	Enrolled		Pass percentage
				M	F	
PG (2014-2016)	Electronics & Communication Engineering	03	03	00	03	YET TO PUBLISH
PG (20013-2015)	Electronics & Communication Engineering	05	05	01	04	YET TO PUBLISH

*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
UG (2014-2018)	100	0	Nil
UG (20013-2017)	91.6	8.4	Nil
UG (2012-2016)	89.65	10.34	Nil
UG (2011-2015)	95.34	4.66	Nil

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
PG (2014-2016)	100	0	Nil
PG (20013-2015)	100	0	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

2013-14(GATE): 10
2012-13(GATE): 24
2011-12 (GATE): 10
2010-11 (GATE): 18

29. Student progression

Student progression	Against % enrolled
UG TO PG	03
PG TO M .Phil.	NA
PG TO PhD	NA
PhD TO Post. Doc	NA

30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	
142	04	02	Previous year question paper, Lab manual, GATE material, Old project, Sample papers etc

b) Internet facilities for Staff & Students

There are 06 faculty rooms which are provided with internet connection Internet (WI-FI) connection is available throughout the campus.

c) Class rooms with ICT facility

- There are three tutorial rooms (one room per each year) provided with OHP and Computer having strength of fifty members.
- There is one seminar room provided with LCD PC projector and computer with inter-net connection having a strength of one fifty members.

d) Laboratories

Laboratory description in the curriculum	Exclusive use / shared	Space, number of students	Number of experiments	Quality of instruments	Laboratory manuals
Basic & Analog Electronics Laboratory	shared	152 Sq.mt	10	Good	Yes
Digital & Microprocessor Laboratory	shared	152 Sq.mt	10	Good	Yes
Analog Communication / Digital Communication / CE Laboratory	shared	152 Sq.mt	08	Good	Yes
Digital Signal Processing Laboratory	Exclusive	152 Sq.mt	10	Good	Yes
VLSI & Microwave Engineering Laboratory	shared	152 Sq.mt	08	Good	Yes

31. Number of students receiving financial assistance from college, university, Government or other agencies.

2011 – 12: 19

2012 – 13: 22

2013 – 14: 22

2014-2015:22

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts-

Sl. No.	Experts	Workshop/ Seminars/ Conferences	Title	Conducting Organization
(2011-12)				
1	Mr. S.Bala Tech Head, NI Solutions pune	National Seminar	Trends in VLSI.	Electronics Engg. Society, BIET

2	Mr Soubhagya Kumar IMS Solutions, Bhubaneswar	Workshop	IT Infrastructure In India	Electronics Engg. Society, BIET
(2012-13)				
1	Mr.Sib Kumar, System Administration Manager ,Infosys, Bhubaneswar	National Seminar	Cyber Crime & Hacking.	Electronics Engg. Society, BIET
2	Prof. G.Nayak ,IIIT Bhubaneswar	National Seminar	Business Resources & Planning	Electronics Engg. Society, BIET
(2013-14)				
1	S.Patra Scientist, DRDO Baleswar	Workshop	Optical Fiber Design	Electronics Engg. Society, BIET
2	Prof. Deepak Das Sr Scientist DRDO Baleswar	Workshop	RealTime communication on SOC	Electronics Engg. Society, BIET

33. Teaching methods adopted to improve student learning.

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

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- Group discussions,
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35. SWOC analysis of the department and Future plans

STRENGTHS:

- High qualified, experienced and dedicated faculty.
- Well equipped Laboratories
- Student centric environment.
- Best Counseling
- Remedial classes for the academic poor students.
- Student association MESA which help them in all respect.
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CHALLENGES:

- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
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- Proposed to conduct Gate coaching classes for the final year students
- Proposed to Improve the Entrepreneurs from the Electronics & Telecommunication Engg.
- Proposed to organize One International Seminar and improve the VLSI&DSP Lab. for the Electronics students.
- Improve the laboratories which are suitable for the R&D and Consultancy.

March- 2015

PART II

Department / Programme Summary

(Criteria IV to X)

1. Name and Address of the Department:

Computer Science & Engineering Department,
Bhadrak Institute of Engineering and Technology, Barapada,
Bhadrak, 756113, Odisha

2. Year of Establishment: UG - 1997 and PG - 2013

3. Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):

(a) UG – Computer Science & Engineering.

(b) PG –Computer Science & engineering.

4. Names of Interdisciplinary courses and the departments/units involved

SL NO.	Name of the Programme	Name of the Department	Semester	Name of the Subject
1	UG	Civil Engineering	1 st	C Programming
2	UG	Electrical Engineering	1 st	C Programming
3	UG	Electronics & Telecommunication Engineering	1 st	C Programming
4	UG	Mechanical Engineering	1 st	C Programming
5	UG	Civil Engineering	2 nd	Data Structure Using C
6	UG	Electrical Engineering	2 nd	Data Structure Using C
7	UG	Electronics & Telecommunication Engineering	2 nd	Data Structure Using C

8	UG	Mechanical Engineering	2 nd	Data Structure Using C
9	UG	Civil Engineering	3 rd	Object Oriented Programming
10	UG	Electrical Engineering	3 rd	Object Oriented Programming
11	UG	Mechanical Engineering	3 rd	Data Base Management System
12	UG	Civil Engineering	4 th	Data Base Management System
13	UG	Data Base Management System	4 th	Object Oriented Programming
14	UG	Civil Engineering	5 th	Java
15	UG	Electrical Engineering	5 th	Data Base Management System
16	UG	Electronics & Telecommunication Engineering	5 th	Data Base Management System
17	UG	Mechanical Engineering	6 th	Internet Web Technology

5. Annual/ semester/choice based credit system (programme wise)

UG: Semester wise program

1 st Semester							
SN	Semester	Subject code	Subject Title	Lecture	Tutorial	Practical	Credit
1	1 st	BS1101	Math-1	3	1	0	4
2	1 st	BS1102	PHY-1	3	0	0	3
3	1 st	BS2101	Basic ETC	3	0	0	3
4	1 st	BS2103	Thermodynamics	3	0	0	3
5	1 st	HM3101	English Comm.Skills	2	0	0	2
6	1 st	BE 2105	Programming in C	3	0	0	3
7	1 st	BE7101	Engineering Drawing	0	0	3	2
8	1 st	BE7103	Physics Laboratory	0	0	3	2
9	1 st	BE7105	Basic ETC Laboratory	0	0	3	2
10	1 st	BE7107	C Programming	0	0	3	2
11	1 st	HM7101	Communicative Eng Lab	0	0	3	2
2 nd Semester							
1	2 nd	BS1104	Math-II	3	1	0	4
2	2 nd	BS1103	Chem-1	3	0	0	3
3	2 nd	BE2102	Basic Electrical Engg	3	0	0	3
4	2 nd	BE2104	Mechanics	3	0	0	3

5	2 nd	HM3102	Business communication	2	0	0	2
6	2 nd	BE2106	Data Structure Using C	3	0	0	3
7	2 nd	BE 7102	Workshop Practice	0	0	3	2
8	2 nd	BE 7104	Chemistry Lab	0	0	3	2
9	2 nd	BE 7106	Basic Electrical Engg Lab	0	0	3	2
10	2 nd	HM 7102	Business communicative Lab	0	0	3	2
11	2 nd	BE 7108	Data Str. Using C Lab	0	0	3	2
3rd Semester							
1	3 rd	BSCM-1205	Math-III	3	1	0	4
2	3 rd	CPES 5201	Network Theory	3	1	0	4
3	3 rd	BSCP 2202	Physics of semiconductor device	3			
4	3 rd	BCSE 3201	Object Oriented programming	3	1	0	4
5	3 rd	HSSM 4202	organizational behaviour	3	0	0	3
6	3 rd	CPES 5202	Analog Electronics Circuit	3	1	0	4
7	3 rd	PCEC7201	Analog Electronics Lab	0	0	3	2
8	3 rd	BECS7207	Object Oriented Programming Lab.	0	0	3	2
9	3 rd	HSSM7203	COMMUNICATION AND INTERPERSONAL SKILLS FOR CORPORATE READINESS LAB	0	0	3	2
4th Semester							
1	4 th	BSCM1211	Discrete Mathematics	3	0	0	3
2	4 th	PCCS4203	System Programming	3			
3	4 th	PCCS4204	Design and Analysis of Algorithm	3	1	0	4
4	4 th	PCCS4205	Database Engineering	3	1	0	4
5	4 th	PCEC4202	Digital Electronics Circuit	3	1	0	4
6	4 th	HSSM3204	Engineering Economics and Costing	3	0	0	3
7	4 th	PCEC7202	Digital Electronics Circuit Lab	0	0	3	2
8	4 th	PCCS7204	Design and Analysis of Algorithm Lab	0	0	3	2
9	4 th	PCCS7205	Database Engg. Lab	0	0	3	2

5 th Semester							
1	5 th	HSSM3301	Principles of Management	3	0	0	3
2	5 th	PCCS4301	Computer Organization	3	0	0	3
3	5 th	PCCS4302	Data Communication & computer network	3	0	0	3
4	5 th	PCIT4303	Java Programming	3	0	0	3
5	5 th	PECS5304	Theory of Computation	3	0	0	3
6	5 th	PCEC4302	Analog Communication Techniques	3	0	0	3
7	5 th	PCCS7301	Computer Organization Lab	0	0	3	2
8	5 th	PCCS7302	Computer Network Lab	0	0	3	2
9	5 th	PCCS7303	JAVA Programming Lab	0	0	3	2
6 th Semester							
1	6 th	HSSM3302	Optimization in Engineering	3	0	0	3
2	6 th	PCEL4303	Microprocessor & Microcontrollers	3	0	0	
3	6 th	PCCS4304	Operating System	3	0	0	3
4	6 th	PCCS4305	Compiler Design	3	0	0	3
5	6 th	PCIT4301	Internet & Web Technology	3	0	0	3
6	6 th	PCEC4305	Digital Communication Techniques	3	0	0	3
7	6 th	PCEL7303	Microprocessor & Microcontroller Lab	0	0	3	2
8	6 th	PCCS7304	Operating System Lab	0	0	3	2
9	6 th	PCCS7307	Seminar	0	0	3	2
7 th Semester							
1	7 th	HSSM3401	Entrepreneurship Development	3	0	0	
2	7 th	PCCS4401	Computer Graphics	3	0	0	
3	7 th	PCCS4402	Principles and Practices in Software Engineering	3	0	0	
4	7 th	PECS5401	Artificial Intelligence	3	0	0	
5	7 th	PCIT4402	Software Project Management	3	0	0	3
6	7 th	FECS6401	Introduction to Digital Signal Processing	3	0	0	3
7	7 th	PCCS7402	Minor Project				3
8	7 th	PCCS7401	Software Engineering Lab	0	0	3	2
9	7 th	HSSM3401	Entrepreneurship	3	0	0	

			Development				
8th Semester							
1	8 th	HSSM3402	Environmental Engineering	3	0	0	3
2	8 th	PECS5408	Embedded System Development	3	0	0	3
3	8 th	PECS5411	Parallel & Distributed Systems	3	0	0	3
4	8 th	PEEC5406	Satellite Comm. Systems	3	0	0	3
5	8 th	PEEI5404	Analog VLSI Design	3	0	0	3
6	8 th	PCCS7403	Major Project				6
7	8 th	PCCS7404	Comprehensive Viva voce				2

PG : Semester wise program

1st Semester							
SN	Semester	Subject code	Subject Title	Lecture	Tutorial	Practical	Credit
1	1 st	CSPC101	Analysis and Design of Algorithm	3	1	0	4
2	1 st	CSPC102	Advanced Computer Architecture	3	1	0	4
3	1 st	CSPC103	Object Oriented System	3	1	0	4
4	1 st	CSPE101	Real-Time Systems	3	0	0	3
5	1 st	CSPE104	Computer Graphics	3	0	0	3
6	1 st	CSPR101	Software Technologies Lab. - I	0	0	0	4
7	1 st	CSPT101	Pre-thesis work & Seminar	0	0	3	2
2nd Semester							
1	2 nd	CSPC201	Software Engineering	3	1	0	4
2	2 nd	CSPC202	Distributed Operating System	3	1	0	4
3	2 nd	CSPE202	Compiler Construction	3	0	0	3
4	2 nd	ITPC201	J2EE	3	0	0	3
5	2 nd	CSPE207	Cryptography	3	0	0	3
6	2 nd	CSPR201	Software Technologies Lab. - II	0	0	4	4
7	2 nd	CSPT201	Pre-thesis work & Seminar	0	0	3	2
8	2 nd	CSCV201	Comprehensive	0	0	3	2

			Viva-voce -I				
3rd Semester							
1	3 rd	4	Software Project Management	3	0	0	3
2	3 rd		THESIS Part –I				14
4th Semester							
1	4 th	CSPT401	Thesis Part - II				20
2	4 th	CSCV401	Seminar				2
3	4 th	CSCV402	Comprehensive Viva-Voce-II				2

6. Participation of the department in the courses offered by other departments

SL.NO.	DEPARTMENT	SEMESTER	COURSES
1	Basic Science and Humanities	3 rd	Math-III
		3 rd	Organizational Behavior
		3 rd	Communication And Interpersonal Skills For Corporate Readiness Lab
		3 rd	Physics of semiconductor device
		4 th	Discrete Mathematics
		4 th	Engineering Economics and
		5 th	Principles of Management
		6 th	Optimization engineering
2	Electrical Engineering	3 rd	Network Theory
3	Electronics & Telecommunication Engineering	3 rd	Analog Electronics Circuit
		4 th	Digital Electronics Circuit
		5 th	Analog Communication
		6 th	Microprocessor &
		6 th	Digital Communication
		7 th	Introduction to Digital Signal
		8 th	Analog VLSI Design
4	Mechanical Engineering	7 th	Entrepreneurship Development
5	Civil Engineering	8 th	Environmental Engineering

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

Sl. No.	Topics Covered	Name of the Resource Person	Background Industry/Academics/R&D
1	Advanced Software Engineering	Prof D P Mohapatra	Professor Department of Computer Science & Engineering NIT, Rourkela.
2	Seminar on VLSI and Embedded system	Prof. M.K.Naskar	Professor Department of Electronics & Telecommunication, Jadavpur University.
3	Workshop on .Net	Prof P K Patra	Professor Department of Computer Science & Engineering, CET- BBSR.
4	Seminar on some of selected topic in Software engg	Prof N K Kamila	Professor Department of Computer Science & Engineering, CVRAMAN-BBSR.

8. Details of courses/programmes discontinued (if any) with reasons: No**9. Number of teaching posts:**

	Sanctioned	Filled
Professors	4	2
Associate Professors	7	4
Asst. Professors	18	16

**10. Faculty Profile with name, qualification, designation, specialization
(D.Sc./D.Litt./Ph.D./M.Phil. etc.)**

Name	Qualification	Designation	Specialization	No. of Years Of Experience	No. of Ph.D. Students Guided for the Last 4 years
Manmath Kumar Bhuinyan	M.Tech.	HOD	Software Engg	10yrs and 4yrs industry	Nil
Arpita Jena	M.tech	Director	Comp. Sc	6yr	Nil
Ramesh Jana	B.E.,M.Tech.	Lecturer(sr scale)	Comp. Sc.	10yr	Nil
Sasmita Samal	B.tech	Asst.Professor	Comp.sc	7yr	Nil
Urmi Priyadarshini Das	B.E.	Lecturer	Comp. Sc.	10yr	Nil
Abhijit Panigrahi	B.Tech	Lecturer	Comp. Sc,	10yr	Nil
Sanjib Raul	B.E.,M.Tech.	Lecturer(sr scale)	ICT	9yr	Nil
Rasmitarani Satapathy	B.E.	Lecturer	Comp. Sc	10yr	Nil
Biswa Ranjan Mohapatra	B.Tech.,M.Tech.	Lecturer	Comp.Sc.	8yr	Nil
Ansuman Mishra	M.Tech.	Lecturer(sr scale)	Comp.Sc.	8yr	Nil
Samitabala Routray	B.E	Lecturer	Comp.Sc.	9yr	Nil
Chandrakant Mohapatra	B.Tech.,M.Tech.	Lecturer	ICT	6yr	Nil
Somya Ranjan Sahoo	B.E.	Asst.Professor	Comp.Sc.	7yr	Nil
Satya Swarup Das	B.E.	Lecturer	Comp.Sc.	9yr	Nil
Pradeep Kumar Mishra	B.E.	Lecturer	Comp.Sc.	9yr	Nil
Sumit Kar	M.Tech.	Lecturer	Information Security	6yr	Nil
Manasi Rani Rout	B.E.	Lecturer	Comp.Sc.	8yr	Nil
H Parthasarathi Patra	B.E. ,M.Tech.	Lecturer(sr scale)	Software Engg.	8yr	Nil
Manda Basudha	B.E.	Lecturer(sr scale)	Comp.Sc.	12yr	Nil

Manuals for Self-study Report
Affiliated/Constituent Colleges-----

Sandipta Tripathy	B.E.	Lecturer(sr scale)	Comp.Sc.	11yr	Nil
Narmada Nayak	B.E., M.tech.	Lecturer(sr scale)	Comp.Sc.	9yr	Nil
Bikas Das	B.E.	Lecturer	Comp.Sc.	03yr	Nil
Srilokanatha Behera	B.E.	Lecturer	Comp.Sc.	03yr	Nil
Pratyush Kumar Das	B.E.	Lecturer	Comp.Sc.	03yr	Nil
Sasanka Sekha Malik	B.E.	Lecturer	Comp.Sc.	03yr	Nil
Prativa Nayak	B.E.	Asst.Professor	Comp.Sc.	01yr	Nil
Biswajit Dash	BSC	Asst.Professor	Comp.Sc.	01yr	Nil
Jhunarani Ojha	B.E.	Asst.Professor	Structural	01yr	Nil
Jitendra Parida	B.Tech.	Asst.Professor	Comp.Sc.	01yr	Nil
Sarat Kumar Rout	M.Tech.	Lecturer	Comp.Sc.	6yr	Nil
Hasmayee Garanayak	B.E	Lecturer	Comp. Sc.	8yr	Nil

11.List of senior visiting faculty:- Nil

**12.Percentage of lectures delivered and practical classes handled(programme wise)
by temporary faculty:- Nil**

13.Student-Teacher Ratio(programme wise)

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
UG (B.Tech in CSE)	360		
PG (M.Tech in CSE)	48		

14.Number of academic support staff(technical) and administration staff; sanctioned and filled

Technical staff	Sanctioned	Filled	administrative staff	Sanctioned	Filled
	5	4		3	2

15.Qualifications of teaching faculty with DSc/D.Litt/Ph.D/MPhil/PG.

Name teaching faculty	Qualification with DSc/D.Litt/Ph.D/MPhil/PG.
Manmath Kumar Bhuyan	M.Tech.
Ramesh Jana	M.Tech.
Sanjib Raul	M.Tech.
Biswa Ranjan Mohapatra	M.Tech.
Ansuman Mishra	M.Tech.
Sarat Kumar Rout	M.Tech.
Sumit Kar	M.Tech.
Chandrakant Mohapatra	M.Tech
H Parthasarathi Patra	M.Tech
Narmada Nayak	M.Tech

16.Number of faculty with ongoing projects from a)National b)International funding agencies and grants received

Number of faculty	ongoing projects from	
	National funding agencies and grants received	International funding agencies and grants received
Nil	Nil	Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received:- Nil

18. Research Centre /facility recognized by the University:- Nil

19.Publications:

The List of Journal and Book Publications is attached in Annexure 1

Annexure 1

M. K. Bhuyan, D. P. Mohapatra, and S. Sethi, "A survey of computational intelligence approaches for software reliability prediction," *ACM SIGSOFT Software Engineering Notes*, vol. 39, no. 2, pp. 1–10, March 2014

Manmath Kumar Bhuyan, Durga Prasad Mohapatra, Srinivas Sethi, **Sumit Kar**, "An Empirical Analysis of Software Reliability Prediction through Reliability Growth Model Using Computational Intelligence", proc. of the International Conference on Computational Intelligence in Data Mining (CIDM) – Volume 2, Springer, pp. 513-524, December-2014.

Jana.R., Mitra.K.S.,Maity.S.,Raha.A.,Naskar.M., "An Optimized Sensor node Deployment Scheme For WSN Based Flood Forecasting System" IEEE COSCOM PGSPC 2010, Vol-1.

Raha.A., Maity.S.,Mitra.Kr.S.,**Jana.R.**,Naskar.M., "A Low Complexity Multivariate Regression Based Flood Forecasting Model Using an Optimized WSN Deployment Scheme" International Conference On Control, Robotics and Cybernetics(ICCR 2011)

Sarddar.D., Maity.S.,Raha.A.,**Jana.R.**,Biswas.U.,Naskar.M., "A RSS Based Adaptive Hand-off Management Scheme in Heterogeneous Networks." IJCSI International Journal of Computer Science ,vol-7,Issue 6,November 2010.

Sarddar.D.,Banarjee.J.,Ghosh.J.,**Jana.R.**,Nundy.K.K.,Biswas.U.,Naskar.M., "Reducing Handover Delay by Pre-Selective Scanning Using GPS" International Journal of Distributed and parallel system(IJDPS) Vol-1, November 2010.

Sarddar.D.,Chatterjee.s.,**Jana.R.**,Babu,S.S.,Khan.N.H.,Biswas.U.,Naskar.M., "Minimization Of Hand-Off Latency By Distance Measurement Method" IJCSI International Journal Of Computer Science Issues,Vol-8,Issue-3,March-2011.

Sarddar.D.,Raha.A.,Chatterjee.s.,**Jana.R.**,Babu,S.S.,Prabir.Ku.P.,Biswas.U.,Naskar.M., "Minimization Of Call blocking probability by using an adaptive heterogeneous channel allocation scheme for next generation wireless hand-off systems" IJCSI International Journal Of Computer Science Issues,Vol-8,Issue-3,No-1,May-2011.

Sarddar.D.,Chatterjee.s.,**Jana.R.**,Babu,S.S.,Khan.N.H.,Biswas.U.,Naskar.M., "Fast Hand-Off Implementation By Using Curve Fitting Equation With Help Of GPS" IJCSI International Journal Of Computer Science Issues,Vol-8,Issue-3,March-2011.

Sarddar.D.,Chatterjee.s.,**Jana.R.**,Babu,S.S.,Khan.N.H.,Biswas.U.,Naskar.M., "Minimization Of Hand-Off Latency By Vector Analysis Method" IJCSI International Journal Of Computer Science Issues,Vol-8,Issue-3,March-2011.

Sarddar.D.,Raha.A.,Chatterjee.s.,**Jana.R.**,Babu,S.S.,Prabir.Ku.P.,Biswas.U.,Naskar.M., "Minimization Of Hand-Off Failure by Introducing a New Cell Coverage Area In The Hand- Off Region " IJCSI International Journal Of Computer Science Issues,Vol-8,Issue-3,No-1,May-2011.

A Modified K-Means Algorithm for Genomic Expression Data Bi-clustering : Sibun Parida, **Biswa Ranjan Mohapatra**, and Sanjib kumar Nayak, 3rd National Conference On Emerging Trends In Computer Science and Information Technology (ETCSIT-2010), A.F.S.E.T , New Delhi, April 24 , 2010, pp 90-95.

Security aspects of Web based learning: An insight into the future of Academia in India : **Biswa Ranjan Mohapatra, Ansuman Mishra, Sarat Rout**, and Sanjib k. Nayak, *APSCHE sponsored National Conference on computing and communication technologies (nc3t10)*, Department of Computer Science ,Sri Padmavati MahilaVisvavidyalayam (Women's University), Tirupati, Andhra Pradesh, October 6th and 7th , 2010.

An Ant Colony Optimization Approach to Strategic Node Authentication and Determination of Shortest Path in Wireless Ad-Hoc Networks : Sanjib k. Nayak, **Biswa Ranjan Mohapatra, Ansuman Mishra, Satyapada Das**, *APSCHE sponsored International Conference on Advances in Mathematical & Computational Methods(AMCM-2011)*, Department of Computer Science ,Sri Padmavati MahilaVisvavidyalayam (Women's University), Tirupati, Andhra Pradesh, January 6th and 7th , 2011.

A Comprehensive Review on Image Restoration Techniques : **Biswa Ranjan Mohapatra, Ansuman Mishra, Sarat Rout** *International Journal of Research in Advent Technology, Vol.2, No.3,March2014,E-ISSN:2321-9637.*

Identification of language from different set of languages using support vector machine : **Chandrakanta Mohapatra, Ansuman Mishra, Biswa Ranjan Mohapatra**, *International Journal of Advanced Research in Technology, Engineering and Science, Vol.1,Issue1,July-Aug 2014, E-ISSN:2349-7173.*

Sumit Kar, B.D. Sahoo ,” An Anomaly Detection System for DDOS Attack in Grid Computing “, *International Journal of computer Applications in Engineering Technology and Sciences (IJ-CA-ETS)* april 09 issue, pp. 553-557.

Sumit Kar, B.D. Sahoo, “Securing Grid against Distributed Denial of Service attack using an Entropy based Anomaly Detection System”, *proc. of the of the National Conference on Research Trends in Computer Applications*, march 2009, pp. 47-51.

Sumit Kar, Bibhudatta Sahoo,” Security Issues and Preventive Model for Grid computing”, *Proc. of the National Conference on Modern Trends of Operating Systems, (MTOS- 09)*, pp.35-38, March, 2009.

20. Areas of consultancy and income generated: Nil

21. Faculty as members in:

a) National committees b) International Committees c) Editorial Boards....

SL NO	FACULTY NAME	NATIONAL COMMITTEES	INTERNATIONAL COMMITTEES	EDITORIAL BOARDS
1	Sumit Kar		International Association of Engineers (IAENG). Member No: 102989	
2	M K Bhuyan	CSI Life Member LM124556(Life Member)		IJACR(Journal) Member
3	B R Mohapatra	CSI-2014 (Conference) Technical Committee Member		IJACR(Journal) Member IJCSE (journal) Member
4	Ramesh Jana	ISTE Member		The ACCENT Member
5	Sanjib Raul		FICTA-2012 (Conference) Technical Committee Member	IJOSBI (Journal) Member

22. Student projects:

a) Percentage of students who have done in-house projects including inter departmental/program: 100

b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: NIL

23. Awards / Recognitions received by faculty and students

SN	Name of the student	Event	Institution Conducted	Prize own
Participated				
2011-2012				
1	Debanjan Bhattachary	Techno Event	New Jalpaiguri Government Engineering College	II
2	Suvra Sahoo	Technical Quiz	BIET	I
3	Bikram Kumar	Paper Presentation	KLU University,Vijayawada	Participated
4	Abhisek Kumar	Paper Presentation	KLU University,Vijayawada	Participated
5	Shwetabh Singh	Paper Presentation	KLU University,Vijayawada	Participated
6	Biswajit Parija	Paper Presentation	KLU University,Vijayawada	Participated
7	Bikash Ranjan Nayak	Techno Event	New Jalpaiguri Government Engineering College	II
8	Satendar Kr Sahu	Technical Seminar Presentation	BIET	Participation certificate
9	Rahul Prasad	Technical Seminar Presentation	BIET	Participation certificate
2012-2013				
1	Anamika Singh	Project Display	Engineers Day in BIET	Participation certificate
2	Manas Mahalik	Project Display	Engineers Day in BIET	Participation certificate
3	Chandan Panigrahi	Project Display	Engineers Day in BIET	Participation certificate
4	Pushpalata Biswal	Project Display	Engineers Day in BIET	Participation certificate
5	Pooja Kumari	Project Display	Engineers Day in BIET	Participation certificate
6	Suvranjali Mallik	Technical quiz	Techno Fest	II
2013-2014				
1	Rahul	Seminar presentation	Annual Civil Engg. Society Function	Participation certificate
2	Venus Kumari	Bending Moment Quiz	Ethos Group,KIIT University,BBSR	Participation
3	B G Rajlaxmi	Bending Moment Quiz	Ethos Group,KIIT University,BBSR	Participation
4	SK.Faulad quadri	Bending Moment Quiz	Ethos Group,KIIT University,BBSR	Participation
5	Afsana Sahid	Seminar	Annual Computer Sc	Participation

		presentation	Engg. Society Function	certificate
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24. List of eminent academicians and scientists / visitors to the department:

Sl. No.	Topics Covered	Name of the Resource Person	Background Industry/Academics/R&D
1	Advanced Software Engineering	Prof D P Mohapatra	Professor Department of Computer Science & Engineering NIT, Rourkela.
2	Seminar on VLSI and Embedded system	Prof. M.K.Naskar	Professor Department of Electronics & Telecommunication, Jadavpur University.
3	Workshop on .Net	Prof P K Patra	Professor Department of Computer Science & Engineering, CET- BBSR.
4	Seminar on some of selected topic in Software engg	Prof N K Kamila	Professor Department of Computer Science & Engineering, CVRAMAN-BBSR.

25. Seminars/ Conferences/Workshops organized & the source of funding

Module Description	Any other contributory Inst./Industry	Developed/ Organized by	Duration Of Development	Resource Persons	Target Audience	Usages and citation etc.
MAT LAB	MAT LAB	Prof M K Bhuyan	5 days	Person from MAT LAB	Student & faculty	
Seminar on “Application of software engineering to computer network “	NIT Rourkela	Prof M K Bhuyan	3	Prof Dr D P Mohapatra	4 th year CSE student & Faculty	

Mobile communication & Data structures	NITTR, Kolkata	Er R Jana Er S Rout	3	Prof S Ray	Final year & second year CSE	
Seminar on VLSI and Embedded system	Jadavpur Univ	Er R Jana & N Nayak	3	Prof. M.K.Naskar	Final year CSE &ETC	

26. Student profile programme/course wise:

Name of the Course/programme (refer question no. 4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
UG (2014-2018)	10	10	6	4	Yet to Publish
UG (20013-2017)	10	10	4	6	90
UG (2012-2016)	16	16	8	8	81.25
UG (2011-2015)	17	17	11	6	82.35

Name of the Course/programme (refer question no.4)	programme	Applications received	Selected	Enrolled		Pass percentage
				M	F	
PG (2014-2016)	M.Tech	12	12	06	06	Yet to Publish
PG (20013-2015)	M.Tech	08	08	07	01	75.00

*M = Male *F = Female

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
UG (2014-2018)	100	Nil	Nil
UG (20013-2017)	100	Nil	Nil
UG (2012-2016)	62.5	37.5	Nil
UG (2011-2015)	94.12	5.88	Nil

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
PG (2014-2016)	100	Nil	Nil
PG (20013-2015)	100	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

2013-14(GATE): 02

2012-13(GATE): 01

2011-12 (GATE): 02

29. Student progression

Student progression	Against % enrolled
UG TO PG	10.43
PG TO M .Phil.	NA
PG TO PhD	NA
PhD TO Post. Doc	NA

30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	
300	7	8	Previous year question paper, Lab manual, GATE material, Old project, Sample papers etc

b) Internet facilities for Staff & Students

There are 22 faculty rooms which are provided with internet connection, 2 Internet labs for students and WI-FI connection is available throughout the campus.

c) Class rooms with ICT facility

- There are three tutorial rooms (one room per each year) provided with OHP and Computer having strength of fifty members.
- There is one seminar room provided with LCD PC projector and computer with inter-net connection having strength of one fifty members.

d) Laboratories

LAB	Area(sq.m), capacity	Machines & Software Availability Available	Maintenance
Internet Lab-1	175,45	HP COMPAQ ,P-IV,LENOVO IE 7.0 , Quick Heal , Adobe acrobat , MS office 2007	The systems are periodically checked And repaired by our technicians when required.
Internet Lab-2, Java , .Net	175,45	Lenovo, Intel P- IV , Java , .Net	The systems are periodically checked And repaired by our technicians when required.
Application Lab-1 , Data base lab	175,45	DEL OPTIPLEX 330, Data base lab & Oracle	The systems are periodically checked And repaired by our technicians when required.
Application Lab-2,software engg lab ,C,C++	175,45	DELL OPTIPLEX-330,software engg lab ,C,C++ ,Rational Rose, Visual paradigm	The systems are periodically checked And repaired by our technicians when required.
Hardware Lab	175,45	Pantium-2 to Pentium -4	The systems are periodically checked And repaired by our technicians when required.

31. Number of students receiving financial assistance from college, university, Government or other agencies.

2011 – 12: 127

2012 – 13: 98

2013 – 14: 136

2014-2015:178

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts

Module Description	Any other contributory Inst./Industry	Developed/ organized by	Duration	Resource Persons	Target Audience	Usages and citation etc.
Workshop on Software Engg.	NIT , Rourkela	Pof M K Bhuyan	3days	Prof D P Mohapatra	Staff, students	Able to understand the applications Software Engg.
Seminar on object oriented Testing	STPI ,BBSR	Prof M.K Bhuyan	2 days	Prof S Ray	Staff, students	Able to understand the applications
Seminar Wireless sensor net work	Panet , BBSR	Er R Jana	2 days	Prof D Saradar	Staff, students	Able to understand the current research work
Seminar on some of selected topic in Software engg	SIET ,BBSR	Er R Jana	2 days	Prof N K Kamila	Staff, students	Able to Know about application of Software engg.
Workshop on .Net	STPI ,BBSR	Er N Nayak	2 days	Prof P K Patra	Staff, students	Able to Know about .net and its application

33. Teaching methods adopted to improve student learning.

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

Chalk& Talk,
Group discussions,
Brain storming,
use of charts,
working models,
learning by doing,
By providing course material in the library
by arranging guest lectures on advanced topics,
by conducting student seminars

In the traditional teaching system it is very difficult to fill up the gap between industries and institute. We understand learning as a solution and not only to produce graduates but also to enhance their analytical ability in all respect.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities 2014

Our students and faculty members are actively participating in various social works such as cleaning of hospital and railway zone, Plantation, conducting of general awareness programme in nearby villages organized by our college NSS units. Also our students, faculty members and nonteaching staff are largely participating in blood donation camp organized by college NSS units once in a month. In 2013 we donated 1010 units of blood and became top donor in Odisha which lead to receive appreciation certificate from Mr. Nabin Pattanaik the chief minister of odisha.

35. SWOC analysis of the department and Future plans

STRENGTHS:

- High qualified, experienced and dedicated faculty.

- Well equipped Laboratories
- Student centric environment.
- Best Counseling
- Remedial classes for the academic poor students.
- Student association MESA which help them in all respect.
- Good relation with excellent resource personnel from various reputed institutes and industries.

WEAKNESSES:

- R& D facilities need to be enhanced
- Inadequate industry Institute Interaction

OPPORTUNITIES:

- Service to the rural students with quality education
- Good demand for Computer science & Engineering
- Global demand for technical manpower is ever growing.
- State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- Many of the neighboring state & NRI students are opting of Computer science & Engg. course in the state education.

CHALLENGES:

- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
- To groom more number of students for self-employment through entrepreneurship development.
- To motivate students to prepare themselves adequately for higher studies and research.
- Number of Doctorates and PHD scholars need to be improve
- Facing the competition from nearby engineering colleges and Autonomous Universities.

FUTURE PLANS:

- Proposed to improve the in-house Software training programmes.
- Proposed to conduct Gate coaching classes for the final year students.

- Proposed to Improve the Entrepreneurs from the Computer science & Engg.
- Proposed to organize One International Seminar and improve the workshops & guest Lectures for the students.
- Improve the laboratories which are suitable for the R&D and Consultancy



Estd. 1997

BIET

March- 2015

PART II

**Department / Programme Summary
(Criteria IV to X)**

1. Name and Address of the Department:

**Department of Business Administration,
Bhadrak Institute of Engineering and Technology, Barapada,
Bhadrak, 756113, Odisha**

2. Year of Establishment: PG - 2002

3. Names of Programmes / Courses offered (MBA Courses):

(a) Master of Business Administration.

4. Names of Interdisciplinary courses and the departments/units involved

SL NO.	Name of the Programme	Name of the Department	Semester	Name of the Subject
1	B.Tech	Electrical, Mechanical, ETC, Civil, CSE/IT	3 rd , 4 th , 5 th , 7 th , 8 th	OB, EEC, ED, MM
2	Diploma	Electrical, Mechanical, ETC, Civil, CSE/IT	3 rd , 5 th	MPP, CM

5. Annual/ semester/choice based credit system (programme wise)

PG : semester

6. Participation of the department in the courses offered by other departments



Estd. 1997

BIET

SL.NO.	DEPARTMENT	SEMESTER	COURSES
1	Electrical, Mechanical, ETC, Civil, CSE/IT	3 rd	OB
		4 th	EEC
		5 th	POM
		7 th	ED
		8 th	MM
2	Electrical, Mechanical, ETC, Civil, CSE/IT(DIPLOMA)	4 th	MPP
		5 th	CM

7. Courses in collaboration with other universities, industries, foreign institutions, etc.
NO

8. Details of courses/programmes discontinued (if any) with reasons : No

9. Number of teaching posts:

	Sanctioned	Filled
Professors	2	2
Associate Professors	1	1
Asst. Professors	6	7



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10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialisation	No.of Years of Experience	No. of Ph.D Students Guided for the last 4 years
Dr. P.K.Jena	Ph.D	Professor & Principal MBA	Finance & Accounting	26	Nil
Dr. M.K.Nabi	Ph.D	Associate Professor	Marketing	15	10
Dr.P.P.Ray	Ph.D	Professor	HRM	18	Nil
Mrs.A.Mohanty	MBA	Asst.Professor	HRM	11	Nil
Miss.S.Upadhyaya	MBA	Asst.Professor	Economics	9	Nil
Dr.A.Mohanty	Ph.D	Asst.Professor	Finance & Accounting	8	Nil
Dr.N.Mallick	Ph.D	Asst.Professor	Finance & Accounting	8	Nil
Mr.P.Samal	MBA	Asst.Professor	Economics & General Mgt.	7	Nil
Mr.D.S.Mohapatra	MBA	Asst.Professor	Operation Mgt.	4	Nil
Hafiz Afrin		Lecturer	System	4	Nil
Mr.Pravanjan Samal	MBA	Lecturer	Finance & Accounting	4	Nil

11. List of senior visiting faculty: Nil

12. Percentage of lectures delivered and practical classes handled (programme wise) by Temporary faculty : Nil

13. Student -Teacher Ratio (programme wise):

Name of the programme	No. of Students	No. of faculties	Student – Teacher Ratio
PG	75	10	8: 1



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- 14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:**

Technical staff	Sanctioned	Filled	administrative staff	Sanctioned	Filled
	1	1		10	9

- 15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ Mphil / PG.**

SL.NO	Name of the Faculty Members	Qualification
1	Dr. Prasanna Ku.Jena	Ph.D
2	Dr. M.K.Nabi	Ph.D
3	Dr. Prajna P.Ray	Ph.D
4	Dr. Ashis Mohanty	Ph.D
5	Dr.Nabaghana Mallick	Ph.D

- 16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received: NO**
- 17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received: Nil**
- 18. Research Centre /facility recognized by the University: Nil**
- 19. Publications: NIL**
- 20. Areas of consultancy and income generated: Nil**
- 21. Faculty as members in:**
- a) National committees b) International Committees c) Editorial Boards
d) Reviewer of Journal Paper....
- 22. Student projects:**
- a) Percentage of students who have done in-house projects including inter departmental/program: 100
- b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies: NIL
- 23. Awards / Recognitions received by faculty and students**
- 24. List of eminent academicians and scientists / visitors to the department:**



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25. Seminars/ Conferences/Workshops organized & the source of funding

26. Student profile programme/course wise:

Name of the Course/programme (refer question no.4)	Applications received	Selected	Enrolled		Pass percentage
			M	F	
PG (2014-2016)	60	60	50	10	YET TO PUBLISH
PG (20013-2015)	60	16	10	6	YET TO PUBLISH
PG (2012-2014)	60	19	10	09	100

***M = Male *F = Female**

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
PG (2014-2016)	98	02	0
PG (20013-2015)	100	0	0
PG (2012-2014)	100	0	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.? Nil

29. Student progression

Student progression	Against % enrolled
UG TO PG	100



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30. Details of Infrastructural facilities

a) Library

Department Library Stock			
Books	Journals		Any other
	National	International	
7435	18	Nil	Previous year question paper, Lab manual, GATE material, Old project, Sample papers etc

b) Internet facilities for Staff & Students

There are 03 faculty rooms which are provided with internet connection through LAN cable along with WI-FI connection is available throughout the campus.

c) Class rooms with ICT facility

- There are two tutorial rooms (one room per each year) provided with OHP and Computer having strength of fifty members.
- There is one seminar room provided with LCD PC projector and computer with inter-net connection having strength of one fifty members.

d) Laboratories

31. Number of students receiving financial assistance from college, university, Government or other agencies.

2011 – 12: 2

2012 – 13: 3

2013 – 14: 1

2014- 15: 5

32. Details on student enrichment programmes (special lectures / workshops / Seminar) with external experts

List of Workshop/Seminars/Conferences is attached as Annexure 7



33. Teaching methods adopted to improve student learning.

As teaching methodology is very important tool for effective learning system we adopt various methods for creating interesting environment for spectacular delivery. We were using various teaching methods such as

- Chalk& Talk,
- Group discussions,
- Brain storming,
- use of charts,
- working models,
- learning by doing,
- By providing course material in the library
- by arranging guest lectures on advanced topics,
- by conducting student seminars
-

In the traditional teaching system it is very difficult to fill up the gap between industries and institute. We understand learning as a solution and not only to produce graduates but also to enhance their analytical ability in all respect.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities 2014

Our students and faculty members are actively participating in various social works such as cleaning of hospital and railway zone, Plantation, conducting of general awareness programme in nearby villages organized by our college NSS units. Also our students, faculty members and nonteaching staff are largely participating in blood donation camp organized by college NSS units twice in a year. In 2015 we donated 300 units of blood and became top donor in Bhadrak District which leads to receive appreciation certificate from District Administration.



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35. SWOC analysis of the department and Future plans

STRENGTHS:

- High qualified, experienced and dedicated faculty.
- Well equipped Laboratories
- Student centric environment.
- Best Counseling
- Remedial classes for the academic poor students.
- Good relation with excellent resource personnel from various reputed institutes and industries.

WEAKNESSES:

- R& D facilities need to be enhanced
- Inadequate industry Institute Interaction

OPPORTUNITIES:

- Service to the rural students with quality education
- Good demand for Mechanical Engineering
- Global demand for technical manpower is ever growing.
- State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- Many of the neighboring state & NRI students are opting of Mechanical course in the state education.

CHALLENGES:

- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or Engineering Colleges.
- To groom more number of students for self-employment through entrepreneurship development.
- To motivate students to prepare themselves adequately for higher studies and research.
- Number of M.Tech. scholars need to be improved.
- Facing the competition from nearby engineering colleges and Autonomous Universities.

FUTURE PLANS:

- Proposed to improve the in-house Software training programmes.
- Proposed to conduct Gate coaching classes for the final year students
- Proposed to Improve the Entrepreneurs from the Mechanical Engg.



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- Proposed to organize One International Seminar and improve the workshops & guest Lectures for the Mechanical students
 - Improve the laboratories which are suitable for the R&D and Consultancy