

# **INSTITUTIONAL ACCREDITATION SELF STUDY REPORT (SSR)**

**Of**



## **Satyasai Engineering College (SSEC)**

**At : Srikana, Po : Panjibag, Chandipur Sea-Beach Road, Balasore Pin : 756002**

**Approved by AICTE, New Delhi**

**Affiliated to Biju Pattnaik University of Technology(BPUT), Odisha**

**Submitted to**



**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)**

**An Autonomous Institution of the University Grants Commission**

**P.O. Box No.1075, Nagarbhavi, BANGALORE-560072**

**DECEMBER 2016**

## PREFACE

Satyasai Engineering College was established in the year 1999 under Satyasai Education Trust in Chandipur Sea-Beach Road at Srikana near to Defence Research and Development Organization (*DRDO*), Ministry of Defence Chandipur, in the district of Balasore, Odisha by Sj. Padmalocchan Panda,.The Institute has excellent, constantly updated infrastructure and is providing quality education to various categories of students, especially to the poor and downtrodden community in Odisha.

As per the needs of the present scenario, we have opted for accreditation by National Assessment and Accreditation Council, Bangalore. Our option for Accreditation by NAAC enabled us to take stock of the situation and put ourselves to rigorous self-examination and self-analysis, and contemplate over our successes and failures, our strengths and weaknesses and search for remedial measures, plan for the future development and thereby work with new vigor and vitality for achieving higher targets. The institute felt the need to be assessed by a reputed and competent authority. This self-study report aims at presenting a comprehensive picture of the aims and objectives of the Institute, the progress made during the last 17 years in general and the activities and programs during the last 3 years in particular. The report is a result of the sustained and dedicated efforts and prolonged toil of all the teaching and nonteaching staff and members of various committees appointed for compiling the data required for the report. The entire exercise consisting of forming the working committees, collection and processing of the data and preparation of the report was done under the supervision and guidance of the Principal, the NAAC Steering committee coordinator and eminent personalities.

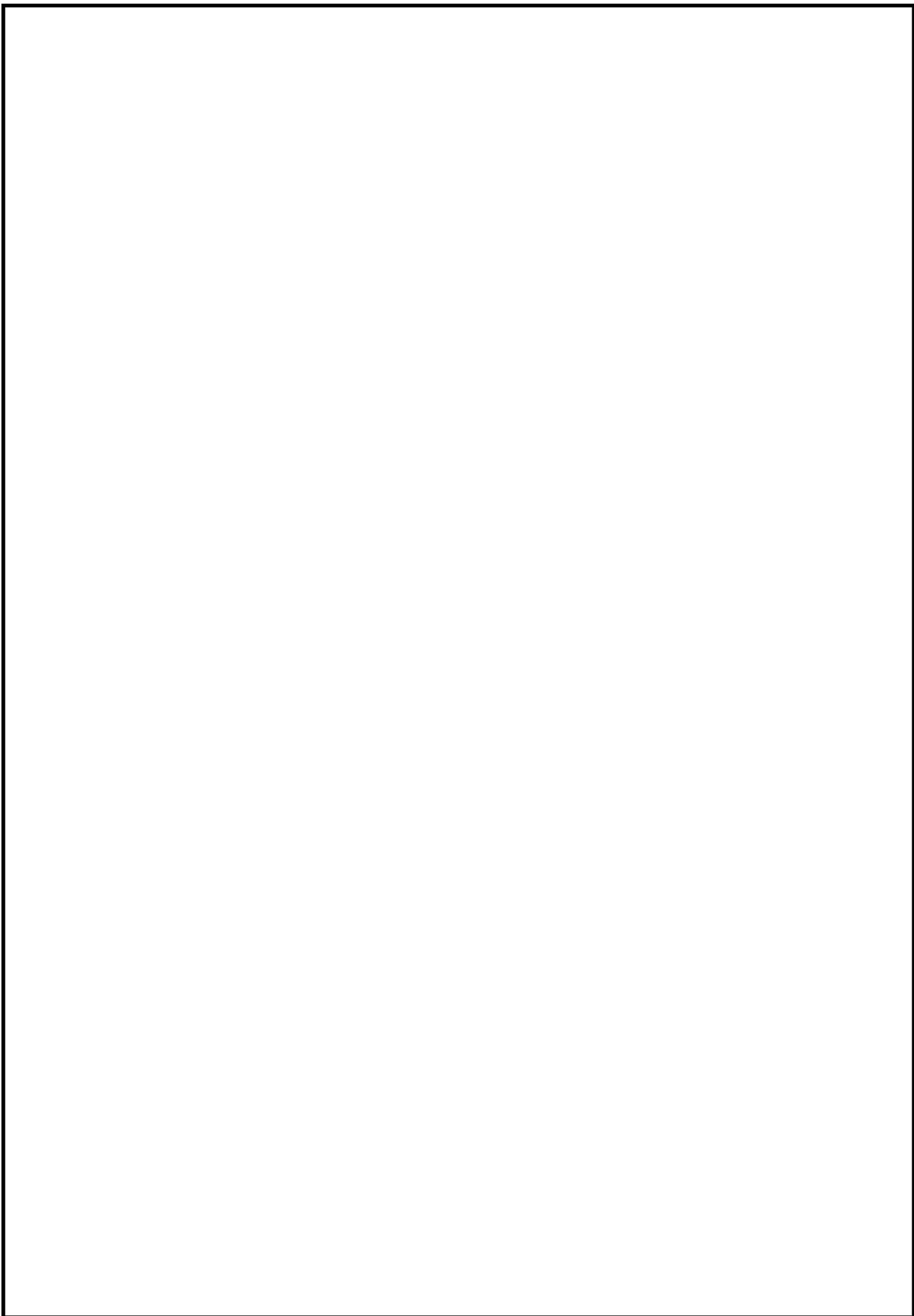
At this point, I wish to express my sincere thanks to Sj. Padmalocchan Panda, Chairman, Satyasai Education Trust and Sri Benumadhab Panda, Director, Satyasai Engineering College, who encouraged, and guided us at various stages of the work. I thank the Members of Governing Body, Administrative Council, NAAC Steering Committee coordinator, NSS program officer, Librarian, Wardens of the Hostels, Members of teaching and non-teaching staff for extending their full cooperation and assistance in preparing this report.

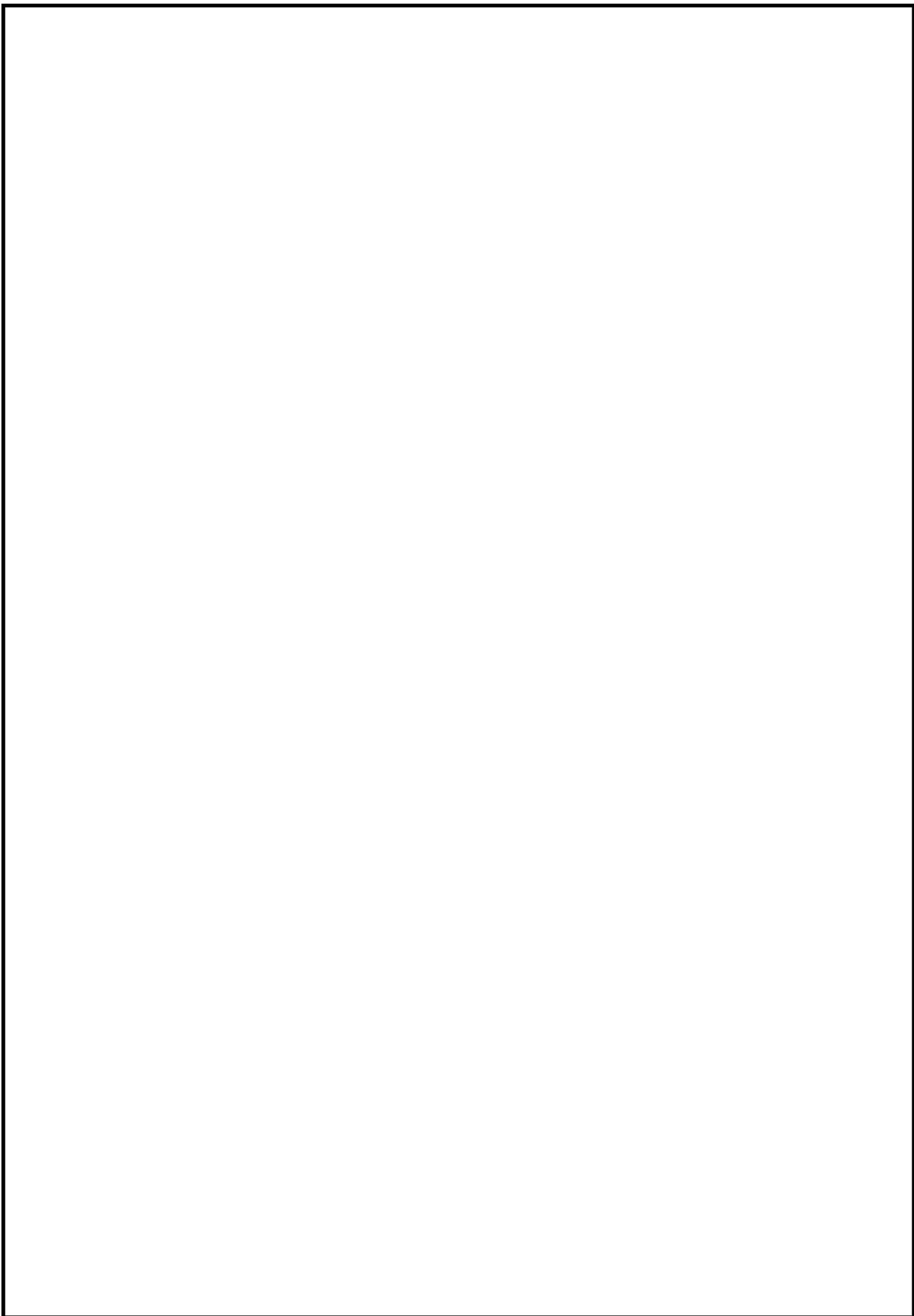
**Dr. Ananta Kumar Sahoo, M.Tech, Ph.D.,**  
**Principal,**  
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Balasore, Odisha-756002  
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# **PART A**

## **EXECUTIVE SUMMERY**

Satyasai Engineering College (SSEC), a self-financing, co-educational college of engineering college, affiliated to Biju Pattnaik University of Technology, Rourkela, Odisha and approved by AICTE, New Delhi. The institute stands in a serene and tranquil part located in Chandipur Sea-Beach Road at Srikana near to Defence Research and Development Organization (*DRDO*), Ministry of Defence Chandipur, in the district of Balasore, Odisha. Established by the Satyasai Education Trust in the year 1999, with 3 B.Tech programmes in ETC, CSE, ME the institute has been consistently eager to mould the future of the youth of Odisha. It is also working for upliftment of the educationally and financially backward people. The Chairman, Mr. Padmalochan Panda and the Director Mr. Benumadhab Panda have grand vision of the college becoming a byword for excellence in engineering education capable of creating young, vibrant and dedicated Managers and Leaders, intellectually and emotionally competent to meet the challenges of organizational nuances both at national and international level.

At present the institute has six B.Tech (ETC, CSE, ME, EE, AEIE, CE) and three M.Tech (ETC, CSE, MSD) Programmes. Inspired by its noble intentions, this institution, since the day of its inception, has been sincerely aiming and working to ascend greater heights in all spheres such as academics, placement, research, cultural, sports and athletics, institution–industry interactions and so on & so forth. The college has its well defined vision to attain academic excellence and successfully cater to propel its graduates to new heights in the prohibitive competitive world market.

The Principal of the institution Prof.(Dr.) A K Sahoo is a distinguished and noted academician. A Postgraduate and a double Doctorate degree in Applied Physics and Electronics & Communication Engineering from NIT Rourkela, Dr. Sahoo has 33 years of rich experience in educational sector.

### **Teaching – Learning and Evaluation**

The Institute strives to achieve excellence in teaching and learning by recruiting well qualified and dedicated teaching faculty and also maintains an unmatched retention ratio. 100% of admission are carried out through Odisha Joint Entrance Examination (OJEE). Meticulous planning for teaching in the beginning of every semester paves the way for efficient teaching environment. The institute has NPTEL Local Chapter. Through this students are encouraged to participate in Massive Open Online Courses (MOOC) offered by IITs and IISC. The institute make use of Spoken Tutorial program under (Spoken Tutorial Project - IIT Bombay) powered by MHRD,

Govt. of India, which is aimed at providing FREE of COST software training to all students across India through distance learning mode and is an NMEICT ([www.sakshat.ac.in](http://www.sakshat.ac.in)), Govt. of India initiative. This training helps in improving software knowledge as well as in skill development, which is important for Job/ Employability. Each course is designed for self-learning.

**Faculty:** The academic programmes and all academic activities of the institute are supported by a strong contingent of 76 well qualified and experienced faculty of which 3 are Ph.D. holders, 3 are pursuing their PhD and the remaining with master's degree.

**Preparation of Time-tables and Lesson Plans** Subjects prescribed in the regulations of Biju Patnaik University of Technology (BPUT) are allocated to the faculty based on their competencies and areas of expertise and specialization. For newly introduced subjects, head of the department forwards a request through proper channel to conduct a Faculty Development Program (FDP). The FDPs are conducted for faculty. Subjects are allocated well in advance and lesson plan and tutorial questions are prepared well ahead and distributed to the students. The coverage of syllabus is monitored centrally and department-wise before the commencement of mid examinations. Discrepancies in coverage of syllabus, if any, are resolved by the Head of the Department by the discussion and planning with faculty members .

### **Method of Teaching**

The Institute continuously uses innovative methods of teaching, learning and evaluation process. In teaching, it adopts a student centric approach to achieve the desired learning outcomes. Interactive learning techniques like seminars, tutorials, video lectures and programming contests, major and mini projects enrich the teaching learning experience. Apart from the BPUT prescribed syllabus, special coaching is given on communication skills and aptitude to prepare the students for competitive and placement examinations. Teachers prepare Course Files that include lesson plans, lecture notes, teaching methodology, a record of classroom interaction and comprehensive performance of the students.

### **Tests, Performance, Monitoring and Evaluation**

The Institute has a continuous evaluation system. Internal assessments are conducted as per the guidelines of affiliating University. In addition to the university prescribed examinations, continuous assessment of the students is done by administering other tests in all the subjects. The internal marks and attendance will be communicated to their parents by the faculty

advisor/mentor. Students with poor performance are identified and a special focus in the form of remedial teaching is given to strengthen them both by the faculty counselor and subject teachers.

### **Research, Consultancy and Extension**

The institute encourages students and faculty to involve in research activities through its Research and Development Cell. To create the zeal among students and teachers, college has procured sophisticated equipment, updated library facilities. Every Six month a review meeting is held to note the status of research and funded projects.

The Institute has 3 Doctorates and 3members of the staff are pursuing their doctoral research at various universities. The Institute encourages research among its faculty and students in various ways like sponsoring them to present and publish papers in national and international journals, conferences, by providing them academic leave for research, conducting student technical symposiums, faculty development programs, workshops to name a few.

### **Infrastructure and Learning Resources**

The institution very firmly believes that good teaching learning process requires ideal conditions. So, SSEC has made it a policy that no compromise should be made in establishing infrastructural facilities and accordingly developed the infrastructure and facilities as per AICTE norms.



Good infrastructure like well ventilated classrooms, well equipped laboratories, excellent transport facility, LAN campus, library with internet facility and reading rooms, canteen, play

grounds, power backup. There are 6 disciplines of study namely, Civil Engineering, Electrical Engineering, Mechanical Engineering, Electronics and Telecommunications Engineering, Computer Science and Engineering, Applied Electronics and Instrumentation Engineering and the common libraries, seminar and conference halls, training and placement cell, examinations cell, chambers of the director, and the principal and the office. Each Academic has its own modern state-of-the-art departmental laboratories. There is a fully furnished spacious seminar hall with a seating capacity of 300, serving as platform for the state level annual cultural festival with a participation of students from a good number of engineering colleges.

The Institute has an excellent library with reprographic facilities and also includes a digital library making it, in fact, one of the best libraries.





### **Student Support and Progression**

Various programs are synchronized to take care of the curricular, co-curricular and extra-curricular aspects of education. Remedial classes are held for academically poor students. Customization and counseling the students are the healthy practices that help faculty to build a rapport with the students and reach out to them accordingly. Student Grievance Redress Cell effectively functions on the campus. The institution provides necessary coaching to enable the students to take up various competitive exams. These include GATE, in-house campus recruitment training, etc. The College has well equipped language laboratories which are of help to the students in improving their communication skills. The institute also focuses on improving computer literacy among its students by arranging special lecture sessions to those students who are less exposed to computer usage and programming.





Students are highly encouraged to participate in competitions conducted within the campus and elsewhere. They are provided financial assistance to meet the travel, food and accommodation expenses when they go for paper presentations and other academic related activities. There are medical facilities in the campus for first aid.



## **Governance Leadership and Management**

Satyasai Engineering College , popularly known as SSEC was established in the year 1999, by SATYASAI EDUCATION SOCIETY in Balasore with Sj. Padmalochan Panda as chairman and Sri. Benumadhab Panda as director - hereafter referred to as **Management** who works hard to keep the momentum in all the activities of learning and implementation of result oriented programmes that bring excellence and quality in teaching-learning processes in professional colleges.

The Managing trust advices and direct the Principal to act accordingly and the Principal takes the message to the faculty. The development, supervised by the management, comprises extension of building, providing additional facilities, introduction of new courses, inclusion of new faculty, student admissions, etc.

The management conducts periodical staff meetings to review the quality policy and development of the institution. It also arranges for the confidential evaluation of the teachers and the overall institutional performance by the students, which is perused by the Principal to take necessary steps toward institutional development. Income/expenditure is closely monitored by a Chartered Accountant and over seen by the Management.

## **Departments**

The democratic set-up is extended with six departments –Department of Civil Engineering (CE), Department of Electrical Engineering (EE), Department of Mechanical Engineering (ME), Department of Electronics and Telecommunications Engineering (ETC), Department of Computer Science and Engineering (CSE), Department of Applied Electronics and Instrumentation Engineering (AEIE) Each department is headed by a senior professor or associate professor and is given full freedom to innovate and plan its perspectives of development. Organizational hierarchy is maintained to ensure administrative harmony. Empowerment through total decentralization of the departmental administrative system into several committees and units headed by senior faculty, promotes co-operation, sharing of knowledge and innovations. Separate departmental budgets ensure that there is no unprecedented resource crunch. The departments also work as nodal centers that facilitate liaison among various stakeholders. Inter-departmental collaborations for R&D activities are encouraged.

## Laboratories

The college has sophisticated laboratories as per the norms laid down by AICTE. The college has an exclusive English Communication Skills Laboratory.



## SWOC ANALYSIS OF SATYA SAI COLLEGE OF ENGINEERING

A SWOC analysis, a planning strategy, is used during the curriculum assessment and review process to make informed decisions on the strength of collective input from multiple stakeholders. The key findings of the SWOC analysis are stated below.

### **Strengths:**

- Good Building infrastructure facilities.
- State of the art laboratory facilities.
- Qualified, experienced and dedicated faculty.
- Good library facilities with Digital Library.
- Excellent transport facilities and easy to reach college.
- Hygienic canteen and medical facility.
- Ragging free and absolute discipline campus.
- Students Personality Development Programs
- NSS Activities and Students' participation

### **Weaknesses:**

- R&D facilities need to be enhanced.
- Lack of senior faculty with Ph.D Qualification
- Most of the students are from rural areas, they are lagging behind in Communication skills and it should be improved.
- Professional skill need to be further improved among students
- Inadequate Industry Institute Interaction.

### **Opportunities:**

- Engineering education at affordable cost
- Global demand for technical manpowers are ever growing.
- State Government is providing financial aid to the students' from weaker sections to pursue higher education.
- Placement training programmes, GATE Coaching and counseling organized within the

campus regularly for the career guidance of the students.

- Faculties are allowed to upgrade the skills by attending Faculty Development Programs and workshops.
- Geographic location affords opportunity to develop consultancy work.

### **Constraints**

- Growing competition from nearby engineering colleges and Autonomous Universities.
- Risk of losing prominent faculty and staff for genuinely better opportunities at other universities or engineering colleges.
- Fee restriction by the state government.
- Admissions are not in the purview of institutions.

**PART B**

**Profile of the College**

**1. Name and address of the college:**

**Name:** Satyasai Engineering College  
**Address:** At : Srikana, Po : Panjibag, Chandipur Sea-Beach Road, Dist: Balasore,  
Pin : 756002  
**Website:** [www.satyasaienggcollege.edu.in](http://www.satyasaienggcollege.edu.in)

**2. For communication:**

Designation	Name	Telephone with STD code	Mobile	FAX	E-mail
<b>Principal</b>	Dr. Ananta Kumar Sahoo	06782-242481	094371- 66655	06782- 264299	<a href="mailto:principal@satyasaienggcollege.edu.in">principal@satyasai enggcollege.edu.in</a>
<b>Steering Committee</b>	Prof.Priyadars hini Parida	06782-242481	075043118 66	06782- 264299	<a href="mailto:1143priya@gmail.com">1143priya@gmail. com</a>
<b>Coordinator (S)</b>	Prof. Natabara Mohapatra	06782-242481	094399537 98	06782- 264299	<a href="mailto:natxy23@gmail.com">natxy23@gmail.co m</a>

**3. Status of the of Institution :**

Affiliated College

Constituent College

Any other (specify)

**4. Type of Institution:**

a. By Gender

i. For Men

ii. For Women

iii. Co-education

b. By shift

i. Regular

ii. Day

iii. Evening

**5. Is it a recognized minority institution?**

Yes

No

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

NIL
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**6. Source of funding:**

Government

Grant-in-aid

Self-financing

Any other

**7. a. Date of establishment of the college: 28.08.1999 (dd/mm/yyyy)**

**b. University to which the college is affiliated /or which governs the college (If it is a constituent college)**

Biju Patnaik University of Technology (BPUT), Rourkela, Odisha
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**c. Details of UGC recognition:**

Under Section	Date, Month & Year (dd-mm-yyyy)	Remarks (If any)
i. 2 (f)	-	Applied
ii. 12 (B)	-	-

(Enclose the Certificate of recognition u/s 2 (f) and 12 (B) of the UGC Act)

**d. Details of recognition/approval by statutory/regulatory bodies other than UGC**

(AICTE, NCTE, MCI, DCI, PCI, RCI etc.)

Under Section/clause	Recognition/Approval details Institution/Department/ Programme	Day, Month and Year (dd-mm-yyyy)	Validity	Remarks
Eastern/1-2811732574/	B.Tech: CE, CSE, ECE, EE ,ME & AEIE	05-04-2016	1 Year	

2016/EOA	M.Tech: ECE ,CSE & MSD			
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(Copy of AICTE Extension of Approval letter for the A.Y. 2016-17 is enclosed as Annexure – I)

**8. Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?**

Yes  No

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

Yes  No

**9. Is the college recognized**

**a. By UGC as a College 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: ..... (dd/mm/yyyy)

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

Location *	Rural
Campus area in sq. mts.	10.41 acres
Built up area in sq. mts.	30,096 sq.mts

(\* Urban, Semi-urban, Rural, Tribal, Hilly Area, Any others specify)

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

- Auditorium/seminar complex with infrastructural facilities -YES-
- Sports facilities

- play ground -Yes-
- swimming pool - No -
- gymnasium -Yes-
- Hostel
  - a) Boys' hostel -Yes-
    - i) Number of hostels - 2
    - ii) Number of inmates - 197
    - iii) Facilities (mention available facilities) –NET, Gym, Indoor sports
  - b) Girls' hostel -Yes-
    - i) Number of hostels - 1
    - ii) Number of inmates - 54
    - iii) Facilities (mention available facilities) - NET, Indoor Sports
  - c) Working women's hostel -No-
    - i) Number of inmates Facilities (mention available facilities)
- Residential facilities for teaching and non-teaching staff (give numbers available -- cadre wise) –NO-
- Cafeteria -- -YES-
- Health centre – -YES-  
First aid, Inpatient, Outpatient, Emergency care facility, Ambulance.....  
Health centre staff –
- Qualified doctor Full time  Part-time
- Qualified Nurse Full time  Part-time
- Facilities like banking, post office, book shops -Yes-
- Transport facilities to cater to the needs of students and staff -YES-
- Animal house -No-
- Biological waste disposal -YES-
- Generator or other facility for management/regulation of electricity and voltage -YES-
- Solid waste management facility -NO-
- Waste water management -YES-
- Water harvesting -YES-

**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 of instruction	Sanctioned/ approved Student strength	No. of students admitted
1.	Under-Graduate (B Tech)	CIVIL	4	10+2 / Diploma	English	60	40
		CSE				60	63
		EE				120	64
		ECE				60	56
		MECH				120	95
		AEIE				60	Nil
2.	Post-Graduate (M Tech)	ECE	2	B. Tech	English	18	4
		CSE				18	8
		Mechanical System Design)				18	8

**13. Does the college offer self-financed Programmes ?**

Yes No

If yes, how many?

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

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Number	3
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**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, regional languages etc.)**

Particulars	UG	PG	Research
Engineering	6	3	-NIL-

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

- a. annual system
- b. semester system
- c. trimester system

9

**17. Number of Programmes with**

- a. Choice Based Credit System
- b. Inter/Multidisciplinary Approach
- c. Any other ( Credit based Semester Systems)

9

**18. Does the college offer UG and/or PG programmes in Teacher 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) NO

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 college 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**

Positions	Teaching faculty						Non-teaching staff		Technical staff	
	Professor		Associate Professor		Assistant Professor					
	*M	*F	*M	*F	*M	*F	*M	*F	*M	*F
Sanctioned by the Management/society or other authorized bodies <i>Recruited</i>	3	0	4	2	44	22	22	14	10	6

\*M-Male \*F-Female

**21. Qualifications of the teaching staff:**

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	0	0	0	0	0	0	0
Ph.D.	3	0	0	0	0	0	3
M.Phil.	0	0	0	0	0	0	0
PG	0	0	4	2	35	19	60

**22. Number of Visiting Faculty /Guest Faculty engaged with the College** –NIL-

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

Categories	2015-16		2014-15		2013-14		2012-13	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	129	92	105	67	81	37	41	21
ST	43	64	35	18	31	16	14	7
OBC	201	98	312	114	73	53	89	49
General	724	12	707	27	854	111	752	93
Others	-	-	-	-	-	-		

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

Type of students	UG	PG	Total
Students from the same state where the college is located	318	20	338
Students from other states of India	---	---	
NRI students	---	---	
Foreign students	---	---	
Total			

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

UG  PG

**26. Unit Cost of Education**

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

(a) including the salary component

(b) excluding the salary component

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

Yes  No

If yes,

a) Is it a registered centre for offering distance education programmes of?

Another University

Yes

No

Name of the University which has granted such registration.

b) Number of programmes offered

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

Yes

No

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

Course	Student Teacher Ratio (2016-2017)
CSE	1:15
ECE/AEIE	1:15
EE	1:20
CIVIL	1:20
MECH	1:20

**29. Is the college 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.**

280

**32. Number of teaching days during the last academic year**

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

232

**33. Date of establishment of Internal Quality Assurance Cell (IQAC)**

IQAC .....05/06/2013..... (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)**

NIL

# **PART- C**

## **CRITERIA WISE INPUTS**

## **CRITERION I: CURRICULAR ASPECTS**

### **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.**

#### **Vision**

Promoting societal empowerment by augmenting Human Resource Capital through Quality Technical Education with strong ethical values.

#### **Mission**

- Academic excellence in Science, Engineering and Technology through dedication to duty, innovation in learning and faith in human values.
- Enable the students to develop into outstanding professionals with high ethical standards capable of creating, developing and managing global engineering enterprises.
- Promote all round personality development of the students through interaction with alumni, academia and industry.

#### **GOALS**

##### **. GOALS FOR NEXT FIVE YEARS**

- To be a leading technical institute in the State in terms of academic performance and placement.
- To be a *centre for excellence* through external benchmarking (Accreditation) of all Departments.
- To be a center of research in renewable energy systems.
- Move from 90% to 95% result in university examinations.
- 80% of students will have at least one job before passing out.
- To improve employability and entrepreneurial talents of students
- To have a powerful total Wi-Fi campus.
- 60% of the appearing students must qualify competitive exams like GATE, IES and XAT etc.
- 20% students must go for higher education in India and abroad [through motivation, assistance and facilities]
- Develop a centre for Advanced Communication Skills in English and Personality Development

- Collaboration with leading ten industries.
- Collaboration and alliances with premier institutes like IISc and IITs while providing better exposure to faculty members and students for enhancement in their academic, research and co-curricular activities.
- To be No.1 in sports and culture activities in the State to facilitate holistic development of students by enhancing their skills in extra-curricular activities.
- To enlighten our students to understand the impact of professional engineering solutions in societal, cultural and environmental issues.
- To generate awareness among students and faculty members about various safety standards, legal and sustainability issues, while diligently adhering to ethical principles.
- To get academic autonomy from affiliating University (Biju Pattanaik University of Technology, Rourkela).
- Chapters of various professional bodies.
- Eco and Environmental friendly campus.

**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).**

SSEC, Balasore is an affiliated institute of Biju Pataik University of Technology (BPUT). It follows the curriculum prescribed by the University. The institute develops and deploys action plans for the effective implementation of the curriculum as per the academic calendar published by BPUT in the following ways:

- The course content is split into two terms in the semester system. i.e. Autumn Semester (July-November) and Spring Semester (December-April) as mandated by our University keeping in mind the format of the syllabus.
- At the beginning of the semester, each faculty prepares the Course file of the subjects allotted to him/her.
- In order to implement the delivery of the curriculum effectively, a time table is prepared centrally incorporating the time table of all the departments at least seven days before the commencement of classes. These are communicated to the students through notices and college website.

- Basing on the performance of the students in the class test, advance learners and slow learners are identified and for slow learners. Slow learners are encouraged through remedial classes and Personal counseling and mentoring system, conducted post college working hours.
- All Faculty members are encouraged to impart their knowledge using innovative teaching methods such as presentations, assignments, group discussions, quiz, use of audio visual aids and online courses.
- Besides periodic internal assessment tests, additional compensatory tests are also conducted for academically weak students to improve their performance.
- Faculty members are encouraged to attend various training programmes such as faculty development programmes to enrich and hone their skills of teaching. This keeps them apprised and updated with the latest academia and industry needs.
- Besides the mandatory two class tests, teachers conduct quizzes to enhance students' understanding.
- The institute trains the students in developing their writing skills by making them submit write two – three assignments in each subject.
- Frequent review meetings are conducted at the department level and also at the college level to assess whether the activities are being conducted as per the academic calendar or not.
- The institute arranges Industrial visits to bridge the gap between theoretical knowledge and real life scenario.

**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 Institute lays emphasis on conducting and participating Workshops, Faculty Development Programmes and Seminars to enhance and upgrade faculty knowledge and technical skills while encouraging faculty members to be a part of such programmes at other technical institutions.
- To improve the teaching/learning process through advanced teaching aids.

- The Institute library procures text books suggested by the faculty members and also subscribes to various journals and technical magazines to augment the knowledge base and effectiveness of teaching.
- Wi-Fi Internet facility of 10 Mbps is available on campus which provides free access to E-journals, E-books and learning materials like NPTEL videos for faculty and students.
- Recorded NPTEL videos are available to facilitate the staff members to prepare and update their course contents.

**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.**

- SSEC provides well ventilated and furnished class rooms with adequate numbers of LCD projectors for effective curriculum delivery.
- Text books, reference books, E-books, Journals and lecture notes are available in the library to facilitate effective curriculum delivery and to encourage students' centric self-learning. The library is kept open from 8 AM to 6 PM (Monday through Saturday)
- Remedial classes are arranged for slow-learners.
- The institute arranges University Paper (of previous years) solving sessions to better equip the students for End-Term Exams.
- There are compensatory laboratories classes provided, after the completion of syllabus for the benefit of students who miss their lab sessions and slow learners who are unable to complete their experiments in their regular lab periods.
- Laboratory facilities are provided as per AICTE norms and Biju Patnaik University of Technology, Rourkela guidelines. In addition to the experiments mentioned in the University syllabus, additional experiments (content beyond the syllabus) are conducted for the benefit of the students to bridge the gap between industry and academics.
- 10 Mbps Net connectivity is made available to students and faculty members.
- The students are sent to various organizations for their Project Work.
- The students are encouraged to participate in various management events/competitions conducted in-house and outside.

- The monthly progress of the students in theory classes and practical work along with their performance in Class tests is monitored and corrective actions are taken at the earliest.
- Continuous evaluation of labs and assignments is done.
- Interim feedback is taken from students and the faculty is intimated. Faculty counseling is also provided for their improvement.

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

**Industry:** Professionals from reputed organizations are invited to the campus to interact with students and faculty members. Their suggestions are noted for effective operationalization of the curriculum. The students of various departments of the college are taken for industrial visits from time to time to keep them abreast of the latest developments in the market. Effective steps are being taken to bridge the gap between what the industries expect and the training being imparted to the UG student. Steps are also taken to carry out collaborative research and consultancy work with leading industry.

**Research Bodies:** To keep the research temper alive in the campus, eminent professors & researchers, research scholars from various bodies are invited to the college to motivate the students and teachers to promote research activities. The faculty members of the college are also motivated to build up research culture. Faculty members on their own also keep on interacting with various research bodies and participate in various research activities. Even UG and PG students are given chance towards a research mindset.

**University:** Knowledge being capital investment for economic development, faculty members of the college regularly keep in touch with their counter parts at the affiliating university and get latest information regarding their own respective subjects in an effort to update their knowledge for Quality Improvement. The Principal is the member of Academic Council of the university which formulates the curriculum.

**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.**

As an affiliating college of BPUT, our college is bound by the University curriculum. The Principal is the member of Academic Council of the university which formulates the curriculum. The faculty members brainstorm and discuss the relevance of the syllabus designed by the affiliated University and the college recommends suggestions to the Director, Curriculum Development of the University through Principal taking the feedback from faculty and other stake holders.

**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.**

No. The curriculum development is done by the university. As affiliated colleges we cannot develop the curriculum, but participate in curriculum development with proper feedback and put suggestions for the development of the curriculum from time to time. However, courses beyond syllabus are being designed by the institution to bridge the gap.

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

- Internal Exams, Assignments, Quiz and Project submission are mandatory.
- Faculty members of the institute follow the lesson plan for timely completion of the syllabus.
- Internal tests are conducted regularly for assessment of the students.
- The students have shown outstanding results in the End Semester University Exams which reflect the achievement of stated objectives of the curriculum.

If at any point, the college realizes that the objectives are not being achieved, remedial actions and strategies are devised to bridge the lacunae (if any) in the delivery of the curriculum to ensure that it enables the college to achieve the stated objectives of the curriculum.

## **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.**

Being affiliated to Biju Pattanaik University of Technology, Rourkela, Odisha, this institution has adopted the curriculum designed and prescribed by the University. The curriculum provides flexibility in selecting the core elective options in the Third and Final Year of the study.

#### **Certification Courses offered by Institution:**

- The institute is established with NPTEL local Chapter. The students are encouraged to participate in CS-MOOC NPTEL NOC courses offered by IITs and IISc.
- The Institute conducts trainings through Spoken Tutorial offered by IIT Mumbai through BPUT.

#### **Soft Skill Development Programme:**

- To improve the students communication skills, and to meet the industrial needs, the institute offers Soft Skill Development Programme by Resource persons from leading training centers
- The institute conducts Training Programmes for the students along with the regular academic time table.
- To improve the aptitude skills, III year and final year students are attending aptitude Training.
- Entrepreneurship skill development programmes are conducted periodically to motivate the students to become entrepreneur.
- To improve the student communication skills, library hours and internet hours are included in the Time Table.

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

No, the institute does not offer any such programme.

### **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, and progression to higher studies and improve potential for employability. Issues may cover the following and beyond:**

**Core Options:**

The University designs the curriculum in every three years as per the changing needs. 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-I to Semester-IV for Post Graduate students also.

**• 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, Odisha. 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 applications 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**

**Skill development through Training & Placement Cell**

- The college is imparting English communication and soft skills to the students right from the first year.
- The college provides training on aptitude, verbal and soft skills by external resource persons and also allots a regular slot in the time-table for aptitude training.
- The college is organizing various workshops and seminars for the up-gradation of technical skills of the students.
- For gaining more technical knowledge, the Institution conducts guest lectures by external resource persons.

**Improved potential for employability**

- Organizing systematic and continuous pre-placement training programmes and mock tests from pre-final year onwards by expert trainers from external training agencies.
- Conducting of tests by external agencies like AMCAT, CO-CUBES, etc.
- Innovative/creative ideas of the students are transformed into technology by participating in workshops, paper presentations, conferences, etc.

**Academic mobility**

About 50% of the faculty members of all the departments are members in various professional bodies.

**Progression to higher studies through Career Guidance Cell**

The career guidance cell acts as source of information for guiding and counseling the students for their prospective career. The Career Guidance Cell provides worthy services in guiding the students for Interviews and training programmes which enable them to develop skills required to

cater to the needs of the competitive world. The Cell organizes different programmes such as Seminars on Personality Development, Interpersonal Relationship and Communication Skills, etc., for improving the latent skills of the student. GATE oriented classes are conducted by subject experts from each department. The students are motivated for writing GRE, CAT etc.

**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.**

- All the programmes offered by the institute are self-financed. The programmes are approved by AICTE, New Delhi and affiliated to BPUT, Rourkela

Sl. No	Name of the Course	Programme Level	Duration	Entry Qualification	Sanctioned /Approved Student Strength	Number of students admitted
1.	B.Tech CE	UG	4 years	+2 Sc/ Diploma	60	40
2.	B.Tech CSE	UG	4 years	+2 Sc/ Diploma	60	63
3.	B.Tech EE	UG	4 years	+2 Sc/ Diploma	120	64
4.	B.Tech ETC	UG	4 years	+2 Sc/ Diploma	60	56
5.	B.Tech ME	UG	4 years	+2 Sc/ Diploma	120	95
6.	B.Tech AEIE	UG	4 years	+2 Sc/ Diploma	60	00
7.	M.Tech ECE	PG	2 years	B Tech	18	4
8.	M.Tech CSE	PG	2 years	B Tech	18	8
9.	M.Tech MSD	PG	2 years	B Tech	18	8

- Admissions are as per the regulations of state government of Odisha and AICTE.
- The course fee are fixed by fee fixation committee of govt of Odisha which is revised in every three years.
- The curriculum as per affiliating university BPUT.
- The qualification of teaching faculty and their salary are as per AICTE/UGC norms.

**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.**

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

- Soft Skill Development (SSD) programmes
- Paper Presentation
- Design Contest
- Participation in external seminar/conference
- Technical Skill Development (TSD) programmes.
- Participation in external Tech fest/Tech quiz
- Organization of Seminar/Workshop
- Participation in short term courses
- Participation in Advanced courses of state and national level
- Pre-placement Training classes (PPT)
- Industry visit
- Vocational Training - during summer and winter recess
- Seminar/conference/workshop
- Poster presentation
- Debate/Quiz/Assignment
- Entrepreneurship Awareness Programme
- Robotics Competition

**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?**

To integrate the academic programmes and Institution's goals, the following initiatives are taken to supplement the University's curriculum:

- All faculty members identify the gaps in the curriculum and include topics to bridge the gaps.
- Guest lectures, Seminars, Workshops, and Training programmes are arranged to create awareness about the current demands of industry.
- Assignments are given on all the subjects, in addition to arranging group discussions, written/oral tests, quizzes, role plays, etc.
- The College lays emphasis on Spoken English classes to inculcate strong communication skills among students.
- The students are encouraged to attend in-plant training during their vacations.
- Additional laboratory experiments besides curriculum requirements are provided at various laboratories.
- Regular industrial visits are conducted for students of all disciplines.
- Co-curricular and extra-curricular activities are arranged keeping in view the goal and objectives of the Institution.
- Various value added courses are provided to enhance the employability skill of students.
- The Library is well updated with books, journals, back volumes, E-books and E-journals.
- A library hour within the class time-table is provided to encourage library use by students.

#### **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?**

- The college adheres to the syllabus designed by the University, also while delivering this syllabus content to the students, the faculty members enrich it with their own expertise and experience so that the students gain employable qualities that enable them to get jobs in a highly competitive environment.

- The Training and Placement Cell of the college regularly conducts pre placement training classes comprising aptitude, reasoning, verbal ability, communication skills, soft skills etc.
- The Training and Placement Cell interacts with HR managers of reputed companies and collects information about the demands and expectations of the corporate sector regarding the skill-set of students. These demands of the companies are then communicated to various departments which in-turn plan and execute different value added courses.
- The students are encouraged to take up minor projects and major projects related to the real-time issues. The projects are started well before the stipulated calendar of the University. Students are encouraged to go to industries or research organizations to collect data, conduct analyses and suggest probable solutions.
- Computer labs are well-equipped with the latest computers. Internet facility is made available in all the computer labs and in the library. The campus is well connected through Wi-Fi. Computers and LCD Projectors are used for effective communication and teaching.

**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 cross cutting issues like Gender, Climate Change, Environment Education, Human Rights, ICT etc, find an ample space when it comes to applying them positively into the curriculum.

- Institution has formed a Women’s Grievance Cell to handle the sensitive issues regarding the Women’s right and security.
- Committee Against Sexual Harassment, of the institution provide for the effective enforcement of the basic human right of gender equality and guarantee against sexual harassment and abuse, more particularly against sexual harassment at work places.
- The subject “Environmental Engineering”, “Environmental Engineering and Safety” is included as part of the curriculum. Recently the subjects like Environmental Studies & Health Care Engineering/ Professional Ethics are made compulsory by University syllabus for all branches of 1st year students form 2016-17 academic year.
- The NSS unit of the college organizes “Swachh Bharat” programs in college campus and also awareness programme for students in tree plantation and clean environment maintenance.

**1.3.4 What are the various value-added courses/enrichment programmes offered to ensure holistic development of students? (moral and ethical values employable and life skills better career options community orientation)**

**Moral and Ethical values**

- Professional Ethics subject is included as a part in curriculum
- Seminars on professional ethics and moral value are regularly arranged
- Yoga and Vedic classes are regularly arranged

**Employable and life skills:**

- Programmes on employability skills are conducted to improve the technical & soft skills of the students. Programs on time management and personality development are conducted to ensure holistic development of the students.
- The NSS Unit motivates the students in social service activities by special camps in nearby villages and towns.
- The co-curricular & extracurricular activities are given importance and college organizes State Level technical events, Games & Sports, extra-curricular events like cultural fest, every year, to develop interpersonal and decision making skills.
- Days of importance like Teachers day, Engineers day etc., are celebrated in a grand way to highlight the importance of teacher-student relationship and the role of engineers in nation building.

**Career Options:**

- Career Guidance Cell organizes programmes to create awareness about various career options for the students.
- Training and Placement Cell interacts continuously with employers and identifies the new areas of knowledge in demand and new career options available and accordingly the students are trained in sophisticated skills to enhance employability.
- Special training on Programming languages and their applications is given to the students to enhance the capability of students to fit into any type of Industry.

**Community Orientation:**

NSS team of the college participates in community services/development activities like

- Blood donation camp
- Health awareness programs

- Plantation
- Community Service
- Providing relief to the flood and cyclone victims.
- Help extended to the orphanage.

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

- The student feedback is taken once in a semester which enables the college to understand whether curriculum contents are reaching the students or not.
- Similarly, the class review committee meetings give an opportunity to the faculty to understand the needs of the students and initiate corrective steps in teaching and learning processes.
- Feedback is collected from all stake holders, i.e., students, parents, alumni, recruiters, faculty and management on curriculum. These inputs are summarized and discussed in the meetings of departmental advisory committees and college academic committee.
- The exit feedback is recorded on curriculum and training. The views of the students on curriculum are well received and the relevant suggestions are communicated to the affiliating university.
- Suggestions for enriching the curriculum are sent to the university for Consideration.
- The concerned faculty identifies the gaps in the syllabus and delivers some lectures on topics which are beyond syllabus
- The department conducts workshops/Seminars/Guest Lectures to the students for enriching their knowledge to help them understand the state of the art in industry.

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

#### **Monitoring:**

- Internal Quality Assurance Cell (IQAC) is constituted with all the stake holders.
- The members of the cell suggest measures for institutional functioning towards quality enhancement through internalization of quality culture and implementation of best practices.

- This cell suggests the action plan to improve the academic and administrative performance of the institution.

### **Evaluation:**

Evaluation is based on the outcomes of the following

- Students accomplishments
- Faculty contribution and achievements
- Placements
- Triumphs as disseminated in media/public.
- University results.
- Students enrolled for higher studies.
- Course outcome assessment

## **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?**

Being an affiliated Institute to the Biju Pattnaik University of Technology 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 Principal who is one of the members of the Board of Studies of the university. 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 later have gathered during their participation in orientation/refresher courses/seminars. Inputs from alumni, students and other stakeholders are communicated to the university by members of 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?**

- Feedback is obtained from the students in a formal manner at the end of each semester. The feedback is analyzed by the heads of the departments and a summary of the same is

prepared. This feedback is primarily used for identifying the weaknesses in teaching learning process.

- Feedback from the stakeholders such as employers, alumni is obtained once in a year from which the adequacy of the curriculum is ascertained. Any shortcomings in the curriculum are discussed by the institute academic committee and the same is conveyed to the University for Necessary Action.
- Based on feedback from stake holders, new syllabus is introduced once in every four years. The institution takes part in the curriculum development process through appropriate feedback given by the various stake holders from time to time and assimilates the suggestions in the functional style of the institution.
- Based on this, modified curriculum is prepared and forwarded to the university for implementation after going through the ratification process.

#### **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?**

The college introduced three Post Graduate (M Tech) programs in Mechanical Engineering, Computer Science Engineering and Electronics and Communication Engineering Department during the last four years.

##### **Justification for Introduction**

In view of the below, it was intended to start new PG course

- The demand for post graduates has increased with growing market.
- The Government policy of promoting Research and Development in the country enhanced the scope for PG education.
- Placement opportunities have increased in the teaching profession.
- There is a worldwide demand for specialists in research labs and technology providers.

## **CRITERION II: TEACHING-LEARNING AND EVALUATION**

### **2.1 Student Enrolment and Profile**

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

The college ensures publicity through the following process

- Prospectus
- Institutional website
- Advertisement in newspapers
- Participating in educational fairs at various places

The College has an admission cell which responds to queries regarding the courses offered by the college as well as the fee structure. The college maintains absolute transparency during the admission process and strictly adheres to the rules and regulations formulated by the AICTE and BPUT. The fees are collected through bank drafts only. The fees are collected as per the decision taken by the fee structure committee, Govt. of Odisha.

#### **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.**

- As an affiliated college the admission process is controlled by Odisha Joint Entrance examination Cell. The total admission process of UG and PG courses is done by the university through online counseling from the rank holders of JEE(Main), OJEE
- Admission process is transparent and is made known to all through institution prospectus, institution website, as well as advertisement in regional /national dailies.
- The institution strictly adheres to the reservation policies of the State Government and University rules and regulations ensuring equity and access.
- The candidates for admission are selected on the basis of the rank published by JEE (Main). However an online counseling is done by the JEE cell Odisha for admission into 1st year of all engineering colleges in the state.
- The Odisha JEE conducts entrance examinations for admission into Lateral entry at the third semester and M Tech Programme.

- There is also a provision of reservation of seats for admission into Post Graduate courses from GATE as decided by OJEE.
- The basic required qualification for admission into all these above courses is determined by the Odisha JEE and JEE(Main).

**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 college offers four years Under Graduate courses in various departments like (1) Electronics and communication Engineering, (2) Computer Science and Engineering (3) Electrical Engineering (4) Civil Engineering (5) Mechanical Engineering (6) Applied Electronics and Instrumentation Engineering. Admission to particular departments is made after the e- counseling and preparing the merit list only. The admission procedure is done strictly according to the conditions laid by the BPUT and AICTE. The same procedure is followed in the case of Post Graduation courses M.Tech. The Selection of students for various departments is done through the basis which is laid down by the BPUT.

**AS PER OJEE RANK**

S.N O	COLLE GE NAME	BRANC H	OC		SC		ST		OTHERS (BC-A)	
			LOWE ST RANK	HIGH EST RANK	LOWES T RANK	HIGHE ST RANK	LOWE ST RANK	HIGH EST RANK	LOW EST RANK	HIGHE S T RANK
1	SSCE	CE	202	4746	-	-	-	-	2986	3060
		CSE	47	2366	-	-	-	-	-	-
		ETC	497	4888	-	-	-	-	260	260
		EE	336	4846	-	-	-	-	2225	4948
		ME	33	4742	-	-	-	-	300	4640
		AEIE	-	-	-	-	-	-		

S.N O	COLLE GE NAME	BRAN CH	OC		SC		ST		OTHERS (BC-A)	
			LOWE ST RANK	HIGH EST RANK	LOWE ST RANK	HIGHE ST RANK	LOWE ST RANK	HIGHE ST RANK	LOWE ST RANK	HIGHE ST RANK
1	Srinix	CE	538	4620	-	-	-	-	3891	3891
		CSE	61	4370	-	-	-	-	1922	4521
		EEE	241	4853	-	-	-	-	1301	4021
		EE	940	4732	-	-	-	-	-	-
		ME	379	4956	-	-	-	-	774	3247

#### JEE MAIN RANK

S.N O	COLLE GE NAME	BRANC H	OC		SC		ST		OTHERS (BC- A)	
			LOWE ST RANK	HIGHE ST RANK	LOWES T RANK	HIGHE ST RANK	LOW EST RANK	HIGH EST RANK	LOWE ST RANK	HIGHE ST RANK
1	SSCE	CE	655477	1113196	1054917	1098381	11205 82	11205 82	-	-
		CSE	397246	1085942	900053	1067212	96335 2	11085 947	-	-
		ETC	603293	1096579	-	-	10797 34	10997 77	-	-
		EE	447857	1085395	-	-			-	-
		ME	418055	1112405	991246	1065833	11055 96	11425 0	-	-
		AEIE	-	-	-	-	-	-	-	-

S.N O	COLLE GE NAME	BRAN CH	OC		SC		ST		OTHERS (BC-A)	
			LOWE ST RANK	HIGHE ST RANK	LOWE ST RANK	HIGHE ST RANK	LOW EST RANK	HIGH EST RANK	LOWE ST RANK	HIGHE ST RANK
1	Srinix	CE	397303	1106940	105211 0	105211 0	10930 65	110266 5	-	-
		CSE	385306	1097843	110756 5	111371 4	-	-	464028	464028
		EEE	285197	1092171	-	-	-	-	-	-
		EE	588391	1073625	-	-	-	-	-	-
		ME	358440	1061244	108008 4	108008 4	10961 93	109619 3	-	-

Graphical

**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?**

YES

**Mechanism to review the admission process and student profile:**

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
- Demographic 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 student’s 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 ex-student's 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
- \* OBC
- \* Women
- \* Economically weaker sections
- \* Any other

Students from SC/ST/OBC are allotted seats as per state government policies. Tuition Fees reimbursement, fees exemptions, and endowment benefits are also extended to these students in our institution as per the state government rules. These students are provided with some extra facilities provided by the college management also. The institution continuously bestows their efforts to create awareness on the importance of higher studies i.e. education as a means of empowerment to bring a change in the society. The faculty members of our institution visit the neighboring villages in order to promote the awareness of higher studies by counseling the students who belong to the non-creamy layers. The faculty members also explain the various benefits they are getting from the government according to the reservation policies, financial and academic facilities gained through the institution and state government.

**Women:**

For women, there is a separate reservation policy of the state Government and University in admission. They will also compete on a fair merit basis with men. Over and above this, the women are provided with 33 percent reservation. The women candidates are provided with equal opportunity. Separate hostel facilities are available for the women category. The institution also provides special orientation and counseling for the needy parents on the importance of women education and exclusive facilities provided for them in terms of incentives, security, protection and special reservation by the state government and institution.

**Economically Weaker Sections of the Society:**

The management committee of the institution provides special benefits and reservations for the benefit of the students who belong to economically weaker sections like the concession in fee, free books, free transport, free hospitality and special rewards which help them in their career.

**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.**

Program	2015-16		2014-15		2013-14		2012-13	
	Approved intake	Admitted						
<b>B.TECH (CE)</b>	60	75	60	73	60	72	60	69
<b>B.TECH (CSE)</b>	60	46	60	12	60	10	60	11
<b>B.TECH (EE)</b>	120	147	120	150	120	135	120	131
<b>B.TECH (ETC)</b>	60	29	60	12	60	8	60	26
<b>B.TECH (MECH)</b>	120	159	120	149	120	146	120	140
<b>B.TECH (AEIE)</b>	60	4	60	7	60	9	60	7
<b>M.TECH (ETC)</b>	18	4	18	8	18	2	18	Nil
<b>M.TECH (CSE)</b>	18	16	18	8	18	1	18	Nil
<b>M.TECH (MSD)</b>	18	11	18	4	18	Nil	18	1

## **2.2 Catering to Diverse Needs of Students**

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

Institute provides counseling to differently-abled students specially those who are weak in mental health and physically disabled. Special classes, counseling sessions are arranged to these students as a part of academic support. Our college maintains counseling and mentoring system for mentally weak health students. Many students when they experience life events or academic pressures that leave them feel anxious, confused, lonely, angry, depressed or overwhelmed. When those feelings persist for more than just a few days, it is often helpful to speak with an unbiased, objective professional through counseling.

The institute is also well equipped with facilities to accommodate physically weak students:

- **Wheel chair:** the institution provided a wheel chair to help moment of the physically disabled students with in the campus.
- **Ramp:** ramp facility is there for the disabled students.

### **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.**

The objective of conducting of entrance examination by OJEE and JEE(Main) and to fix the cut-off mark in addition to the performance of students in qualifying examination, is to assess the candidate's knowledge, merit and skills required for the course. As the admission is totally controlled by Odisha JEE, the institution role starts only after allotment of the students to the college.

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

**Bridge course-** Bridge courses are being conducted for 7 days at the beginning of the semester by the Faculty members. As majority of our students are from the rural background, special

attention is paid in organizing programmes on personality development and computer skill enhancement.

**Remedial courses-** The College conducts remedial classes for the improvement of academically weak students

**Add-on-courses** – For enrichment of subject knowledge, every department organizes special seminars by the experts in respective subjects.

**Tutorial hours** -Courses which require more practice, includes critical thinking or programming are provided with tutorial hours. Tutorial hours are specially marked in the time table and the lesson plan.

#### **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 and environment by arranging lectures, workshops, seminars, documentary film, invited talks on Women Empowerment, law awareness, and “Save Girl Child”. Our institution maintains Women’s Grievance Cell to cater to the problems and issues. Health awareness programs, pregnancy & leave matters are paid special attention to via various feministic programs. Similar efforts are channeled in various grooves for awareness of adolescence, clean and eco-friendly environment. NSS, of college keep keen interest in arranging the various lectures and programmes regarding above issues and celebration of national and international days.

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

- There is a specific strategy for the identification of slow and advanced learners at entry level; the indicator is just their Marks Memo. As the classes begin, their academic standards are judged through their responses and the regularly conducted class-tests.
- The advanced learners are identified on the basis of their responses, their pace of comprehension and assimilation, their articulation of ideas, conceptual abilities and progression in learning subjects.

- Every student has to submit a home assignment in every course .Some of these tasks is beyond syllabus to encourage out-standing students to develop their self learning capabilities.
- Additional experiments are conducted in the labs to enrich the student performance.
- Lab facilities are provided even after the institution hours.
- Students from both the categories are encouraged and provided need-based guidance and material. These students are encouraged to take initiatives in all curricular and extracurricular activities.
- Opportunities are provided for them to acquire knowledge in different areas for facilitating better future. The students are encouraged to have membership in professional bodies and paper presentations and publishing at national seminars and workshops.

**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.)?**

- Dropouts are very few and insignificant in this institute. The institute has a sound system of counseling and mentoring such students.
- Academic performance of the students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc. is detected by the teachers during their lectures in classroom.
- We use marks as index for identifying slow learners students are subjected to various methods of evaluation, vocal responses, sample individual responses & written test after each unit of syllabus.
- These students who do not seem to cope up with the pace of learning are advised and counseled by the faculty members and the Head of the department. They are specially advised and counseled so as to help them improve themselves.
- We are maintaining mentoring books for every department in the college to know the status of the student and counseling the students who are weak in the academics.

- The morale of the slow learners is boosted by counseling sessions, remedial classes and intensive interactive sessions. They are also given advice after class hours and are motivated by providing additional learning material such as text books and solved question papers from exams.

## **2.3 Teaching-Learning Process**

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

Teaching-learning process is central to the academics and student commitments. It means that all are learners and continually strive to acquire, apply and impart knowledge. This means that the old model of teaching being active, learning being passive, and faculty transferring knowledge to students, gives way to an active learning environment.

#### **Academic Calendar:**

- For both UG and PG courses, academic calendar (date of commencement of teaching, dates of class test and semester 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 including members of time-table committee, and members of the examination committee and Head of every department of the college chaired by Principal.
- The time-table committee of the college prepares comprehensive timetable for all the faculties and allots class rooms as per the requirements. 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 an individual department is addressed by the head of the department to discuss the courses/syllabus for the following semester. During the meeting, the distribution of the syllabi among the faculty
- members based on their preference/interest/expertise is finalized.

- All the faculty members of respective departments then prepare comprehensive teaching plan for their respective courses for the current semester. 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.
- Lesson plan is prepared by the faculty members considering the curriculum prescribed by the university, bridge course and course beyond syllabus.
- The students are provided with the syllabus, lesson plan, unit wise divisions, the list of assignments and 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 exam.

**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 prepares the time frame for conducting the internal and semester (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 class tests and two surprise tests are conducted internally before the final semester examination.
- Assignments/seminars are also a 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.
- Combined score of two class tests is sent to the university (these marks have 30% credit in a student's final score in each subjects). The pass mark (combined score in the internal class test and final university semester exams) in each subject is 37%.
- A minimum of 75% attendance in each subject is mandatory for the 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.
- Solutions of the last three semester questions are provided to the student along with their marking schemes.

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

IQAC plays a predominant role in teaching-learning process to maintain the quality and it consists of two members of each department. It conducts the meetings of the members of the committee for the improvement in teaching - learning process. The IQAC monitors the various aspects of the teaching-learning process and periodically reviews the effectiveness of the strategies adopted to make the process effective. The IQAC meets regularly and realigns practices based on formal (for example, student council meetings) and informal feedbacks whenever necessary. The IQAC proposes to the department the various strategies such as syllabus coverage, pass percentage, assessment of learning outcomes. It also recommends participation of faculty and students in seminars and conferences. IQAC regularly reviews and evaluates the teaching learning process. The IQAC also conducts special meetings to have a detailed result analysis of each batch. Meetings are held at the departmental and at the college level. These meetings emphasize on the strategies on improvement of results and adhering to the strategies.

### **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?**

The institution follows the student centric learning through the different ways specified below.

- Each faculty prepares and discusses lesson plans with students.
- Lesson notes are distributed / discussed after each unit is covered in the class.
- Questions asked to the students based on current trends in technical fields.
- Group discussion is conducted after completion of units
- Students are asked to deliver the presentation on the selected advanced topic.

- After completion of the unit assignments are given to the students.
- Students are encouraged to do projects according to their field of interest.

**Collaborative learning:** Students are getting practical knowledge by industrial visits.

**Interactive learning:** group discussions are conducted and NPTEL videos are provided.

**Independent learning:** unit wise assignments are given and ask them to give presentations.

### **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?**

**Critical Thinking:** It is nurtured by organizing debating competitions, group discussions, newspaper reading, etc.

1. Encouraging students to do the problems in exercises.
2. Encouraging students to do the projects based on application-oriented.
3. Acquaintance of the technical journal to improve Life-long learning

**Creativity:**

1. The institute conducting competitions such as circuit design, programme writing etc.
2. For enhancing creativity, students are asked to prepare posters and models and mini project exhibition on various fields.

**Scientific Temper:**

- To create scientific temper among of the students, the college has organized project exhibition every year to become innovators.
- The institute motivates students to participate in National and International seminars and present their research papers.

To transform them into lifelong learners and innovators, students are encouraged to solve case studies, present their analysis, inculcating the habit of reading journals and magazines.

### **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.**

- The institute has Local Chapter of NPTEL.
- The faculties adopt e-learning from the resources of MIT open course ware, VLABS for experiments which are available through internet.
- 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.
- Computers with internet facility are available in all the departments of the college
- Lab Manuals along with list of experiments are provided to the students.
- Faculties are encouraged to be the members in the PROFESSIONAL SOCIETIES which in turn brings the technology advancement and results in effective teaching and learning process.

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

#### **Blended Learning:**

- During Industrial visits they are exposed to practical- new trends provided blended learning pattern.

#### **Expert Lectures:**

The staff is encouraged to identify topics beyond the syllabus and a few latest topics which are necessary(changing the trends in technology), by inviting experts and organizing their lectures from industry, university and other national laboratories or organizations.

#### **Seminars / workshops:**

- The institution organizes workshops and by eminent professionals in their respective areas in which the student community and faculty community actively participate to reap their benefits.
- The faculty members are advised to attend the FDP programmes which are conducted by the reputed institutions and universities.
- The faculty members have been participating in the national and international conferences.

**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?**

The college makes enough provision for student's need of the following:

**Professional counseling system:**

- There is a provision for counselors/advisors for each class or group of students for academic and personal guidance. The students are divided into groups and each group is provided with proctor/mentor to provide academic and personal guidance to the needy students.
- For every 15-20 students one faculty member is allotted to provide counseling and to look into the problems of the students. The faculty in –charge carefully monitors the regularity of attendance, participation in seminars and other activities and also the performance of the students in internal tests/semester examinations.

**Academic advice:**

- The progress of the students is monitored by the faculty counselor. The students are advised with some sort of remedial classes which help to improve their caliber.
- The Career Guidance Cell provides worthy services in guiding the students for Interviews, Job Placements and training programmes which enable them to develop skills required to cater the needs of competitive world. The Cell organizes different programmes such as Seminars on Personality Development, Interpersonal Relationship, and Communication Skills etc for improving the latent skills of the student.
- Placement co-coordinators are identified from the final year students to take training and help from the placement office. GATE coaching is also conducted for Higher education to students.
- The cell which provides career counseling through professional experts and in-house faculties.
- Placement co-coordinators are identified from the final year students to take training and help from the placement office.

**Psycho-social support:**

- The students who seek psychological boosting or the candidates who are psycho-socially left out are given psychological counseling by the college faculty itself. To add, the college teachers really act as a true friend, philosopher and a guide for the students.

**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 faculty to adopt new and innovative approaches and the the impact of such innovative practices on student learning?**

- The faculty members are allocated subjects based on their professional and teaching skills. The faculty members prepared detailed **course files** which consist of course schedules and the teaching notes. The teaching notes are elaborate and are available in digital form.
- Topics beyond the syllabus are covered to enhance the knowledge of the students.
- Experiments beyond syllabus are also conducted in the specified laboratories.

**Bridge courses** are conducted for overall development of students with rural backgrounds.

Some of the teaching methods adopted by the faculty are:

- OHP
- LCD projectors
- Mock sessions
- Case study
- Use of language lab for enhancement of language skills.

As a result of using these above teaching methods students have gained confidence, overcome stage fear, improved communications skills and acquired management skills. This has also resulted in improvement in class room atmosphere which resulted in better teaching-learning.

The College constantly encourages faculties on ICT, Library resources CD &Internet facilities to update learning & use of other technological aids which helps in enhancement of knowledge & skills.

**The management of the college is making special efforts for the professional development of its faculty such as**

- Faculty is encouraged to pursue PhD programs and/or encouraged to take up the research work individually or in collaboration.

- The faculty is encouraged to apply for projects for research grants to different funding agencies such as AICTE, DST, UGC etc., which help to enhance professional competence and increase promotional avenues to the staff under CAS and other channels.
- The college also considers for financial support case by case.
- In order to cater to needs of the research activates by different departments the management of the college has planned for and central R&D facility with all the infrastructure and instrumentation required by the departments. This in itself is a huge encouragement for the faculty to pursue their research activities with in the institution. These facilities would also help in Institutional- Industry interaction in research and development in engineering and sciences.
- The faculty is regularly encouraged to attend National and International symposia and conferences and present their research findings.
- The necessary travel expenses and registration fee are borne by the college.
- The faculty also is encouraged to publish their research findings in National and International journals and a part of the publication cost is reimbursed by the institution.
- Study leave is extended to faculty members who wish to pursue Masters or PhD programs.
- All the faculty members of various departments are encouraged to participate in National/International Conferences, Seminars, Training Programs Note: Research papers and publications are shown in individual departmental profiles.

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

The Library is well stocked with books, journals, back volumes, projects and dissertations including e-books and e-journals. Students are allotted a library hour within the time table. Besides this the Library is kept open from 8.00 a.m. to 6.00 p.m. Monday to Saturday which facilitates optimum use. Staff and students use the library for projects, dissertations and research. Staff members provide reading lists to the learners to supplement teaching learning.

Library resources are augmented to enhance teaching-learning process through:

- A wide range of reading materials, learning resources and information helps to support the Development of successful learners and confident individuals.
- Promoting independent learning skills supports lifelong learning and encourages students to grow as responsible citizens and make an effective contribution to society.
- Using websites constructively for research.

- Introduction of e-journals for faculty & students.
- Every year books, magazines, journals are added as per to the needs of staff & students.
- The library is open well beyond college hours for faculty & students to prepare for seminars, project reports, etc.,
- Internet facility.
- Wi-fi enabled campus.

The college has one of the best stacked libraries in the region. The books and journals available are

Number of titles - 1133  
 Number of volumes – 20,055  
 Number of Courses in digital library (NPTEL) - 55  
 Number of e-Books in digital library - 47  
 No. of Technical Magazines/Periodicals- 12  
 No. of Journals in hard copy- 5  
 No. of Journals in soft copy : 115  
 Library books for faculty – 5 and for students – 3

DELNET: By using DELNET software, students and faculty will get information of unaware of books.

**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 institute has till now not faced any problem in completing the curriculum within the stipulated timeframe as the progress of academic activities is monitored on a day to day basis. However, the faculties manage to successfully complete the curriculum in time by taking extra classes even if the institute faces some challenges due to the strikes declared by political parties, unforeseen calamities and unscheduled declaration of holidays by the Government. The IQAC keeps check on a syllabus covered by the various departments on regular basis.

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

The Institute monitors the quality of teaching by several means such as

- Scrutiny of Course files prepared by faculty

- Regular meetings of the students' representatives of the class and the faculty
- Oral and written feedback from the students
- Students' performance in the internal examinations
- Students' results analysis
- Students' Academic project performance
- Minimizing the absentees of the students.

Teaching and learning process is best attained by interactive process between the teacher and the taught. The success of the teacher however, depends on their innate ability and art of his teaching methodology and through preparation for the class. These processes cannot be quantified or universalized. Generally the standard methods of teaching, learning and evaluation methods which are proven over the years are being followed. Institution makes regular effort to enhance the staff skills and their ability by organizing in house- training programs and or deputing the staff to get training in communication skills and other areas of standard methodology. IQAC keeps check on feedback on various departments' student feedback on regular basis for further improvements.

The faculty in whose subjects more than 10 students fail is counseled by the Head of the Department.

Any short comings identified in theory class or practicals are being addressed through / conducting tutorials / printing reference materials (literature or teaching).

## **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 policies:**

1. HOD must send requirement of the faculty well in advance at the beginning of the academic year.
2. Open advertisement will be given for positions in two leading newspapers..
3. The selection committee comprising of Principal, HOD of concerned program and one senior faculty of the relevant shall make the selection of faculty and staff.

4. Attendance sheet, Evaluation form, finalization then short list is obtained.

**Retention policies:**

1. Increments will be given to the faculty members every year based on performance, feedback reports, results and contribution of Department/College development.
2. Faculties are encouraged to conduct for quality improvement programs, seminars, conferences, workshops. For each faculty such opportunity provided twice in an year. Total Expenses to conduct the above programs will be bared by the institution.
3. Faculties are encouraged to attend for quality improvement programs, seminars, conferences, workshops. For each faculty such opportunity provided twice in an year. Registration fee, TA & DA will be provided by the institution.
4. Staff members are selected for best teacher award of the year based on their performance, conduct and commitment in their academic activities as well as their involvement in the departmental activities of the department and the college.
5. Senior faculties are encouraged by the institute for pursuing of Ph.D with special casual leaves per year.
6. Yearly 12 CLs are provided for the faculty.

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	0	0	0	0	0	0	0
Ph.D.	3	0	0	0	0	0	3
M.Phil.	0	0	0	0	0	0	0
PG	0	0	4	3	35	19	61
UG	0	0	0	0	9	3	12

**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.**

Attract the qualified faculty and retain the existing ones the institution provides requisite facilities like transport for teachers coming from a distance, facilities like library, internet etc.

- High perks are offered to the qualified faculty.
- Flexibility in timings for senior faculty specially those who are in research.
- To encourage staff to participate in workshops and seminars the faculty is considered as on duty and are provided with TA /DA and also with other benefits to upgrade their knowledge by participating in national and international seminars.
- During the last three years many of our teachers have participated in number of state and national level conferences and workshops.

**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 programmes**

<b>Academic Staff Development Programmes</b>	<b>Number of faculty nominated</b>
FDP programmes	17
Summer / winter schools, workshops, etc.	12
Conferences	04
Seminars	17

**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 institute encourages the faculty members to participate in the Faculty development programmes.
- Faculty development programmes are regularly arranged.
- Research and Development activities are encouraged to publish research papers and attend international and national conferences.

**Handling new curriculum**

The Board of Studies of the university decides on the development and modifications in the curriculum. The Principal of our institution Dr.A K Sahoo is a member of the Board. When a new

curriculum is introduced, the institute takes immediate steps like inviting guest lecturers, train the existing faculty members and later appoint faculty members with adequate expertise if required.

### **Content/knowledge management**

The heads of every department hold meeting with faculty members of their departments and divide the syllabus amongst them according to their respective fields of interest/expertise. Later, meetings are held by the faculty members of a particular department under the guidance of concerned HOD, to discuss problems that they face during the classes. Simultaneously, In order to face the challenges, our faculty members are imparted training by subject experts 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.
- Training regarding the use of e-journals, e-books, digital library and internet.
- The teachers follow the course material available on NPTEL, MIT open course ware,.
- The teachers follow text books, reference books and journals for preparing study material.
- 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.

### **c) Percentage of faculty**

- \* invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies -3.4%
- \* participated in external Workshops / Seminars / Conferences recognized by national/international professional bodies - 19.73%
- \* presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies - 28%

**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.)**

- Recharging the teacher / faculty, is a serious concern of the institution and it allows the faculty to attend the State level and National level Seminars.

**Study Leave:**

1. Any faculty applied for the study leave, maximum of six months it is provided and one faculty per department is encouraged in the same tenure.
2. For the part time courses, study leaves provided with pay to attend for the classes.

**Research:**

1. The College encourages its faculties to undertake department-wise R&D Activities along with Students and other Staff Members.
2. Staff members can submit their proposals through the Head of the Department and can avail the components, towards developing a prototype or model.
3. College encourages the faculty to submit research proposals to DST , AICTE and to the other funding agencies.
4. Faculty is encouraged for the doing Ph.D, by providing Saturday as leave on adjusting of work load.
5. Faculty is encouraged for doing industrial visits to get the projects.
6. The College encourages its teachers to take consultancy and R&D assignments within Institution, with other institutions or Industries, appropriate to the teachers' competence.

**Paper Publications:**

- The institution provides duty leave to faculty for participating and presenting papers at National and International seminars/workshops/conferences.
- Reimbursement of registration fee is provided based on the quality of the paper publication.

**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.**

**Faculty Appraisal for the year 2015-16**

The Faculty appraisals are decided based on their academic performance, feedback from the students and their contribution to the institute development.. These appraisal certificate and momento are handed over to the faculty on college day.

**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. The feedback forms are collected from students on the performance of teachers and they are evaluated. Such evaluation is really improving the quality of teaching learning process. A faculty / teacher understands the area where he / she is very strong/ weak and suitable remedial measures are being taken through experts and visiting lecturers from internal and external sources.

**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?**

A handbook which includes academic regulations, course structure and detailed syllabus is provided to all the students at the time of admission and it is available in the college website.

The Stakeholders of the institution i.e. students and faculty members and even the parents of the students are informed about evaluation process by giving general instructions mentioned in the prospectus of the institution.

The periodic instructions issued by the parent university are promptly communicated to the students. The students are individually provided with copies of the university syllabus which included the detailed evaluation procedure. Likewise they are informed at the start of the session regarding the terminal tests after the gap of three months. Students are clearly made aware of the eligibility conditions required to appear in the final exams. They are informed of the criterion of the internal assessment.

The evaluation is the integral part of teaching learning process. So, the institution makes effective arrangements for the smooth application of the rules about the evaluation processes. The college has developed a proper Mechanism for this purpose. Time to time staff meetings are also conducted concerning evaluation process.

### **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 students are allotted with registration numbers based on the code and criterion given by the affiliating university. The internal evaluation is conducted for theory subjects on basis of Assignments, Quiz, Internal tests. The internal evaluation carries 20% weightage in R07 Regulation. The college is affiliated to BPUT Rourkela. And now the internal evaluation carries 25% weightage in R10 Regulation. The university has initiated various evaluation reforms viz.

#### **Reforms initiated by the University:**

1. Introduction of quiz test, assignmet
2. Introduction of multiple choice type questions.

#### **Reforms initiated by the institution:**

1. Class tests and assignment tests are conducted to evaluate the performance of students.
2. Student centric learning through assignments, projects, seminars and practical sessions.
3. Periodical project reviews are conducted for assessment of student performance in projects.
4. Laboratory internal & external exams were evaluated by proper scheme of valuation.

### **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?**

The evaluation reforms of the university are followed in the best of the spirit. To make the evaluation process just and fair the students are shown the evaluated answer sheets to know about the evaluation process and mistake committed by them. This enables the students to rectify their mistakes and prepare accordingly for the final exam. Any doubt about evaluation is made clear to the students. All records are maintained i.e. answer sheets, award lists, record of monthly tests, lab records, seminar/Projects reports. The credit based CGPA and SGPA system has been explained to the students and is mentioned in the hand books provided to them. The institution has followed the improved examination system as prescribed by the BPUT, which ensures display of grades awarded to students after semester and allowing them to clarify mistakes and doubts in the calculation of grade, if any. Students are clearly made aware of the eligibility conditions required to appear in the final exams. They are informed of the criterion of the internal

assessment. So, the institution makes effective arrangement for the smooth application of the rules about the evaluation processes. The college has developed a proper Mechanism for this purpose. Time to time staff meetings are also conducted concerning evaluation process. Thus, the system is continuously evolving for comprehensive and continuous evaluation mechanism.

- Content beyond syllabus practices in courses, additional experiments in the laboratories, providing adequate importance to laboratory work, industrial training during summer, introduction of term papers and seminars, modernization and up gradation of equipment.
- Teacher evaluation by students (student feedback) and Self evaluation by teachers.
- Maintaining staff - student ratio as suggested by the AICTE.
- Assessment of administrative practices.
- Schedule of lectures in advance by the teachers (planning).
- Regulation of students' attendance through monthly progressive reports and student counseling.
- Organizing seminars, workshops, expert lectures etc.,
- Deputation of the faculty to improve qualification and knowledge base.

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

University is the sole authority for implementation of reforms in examination and evaluation but faculty members who are a part of academic bodies of the university actively campaign for reforms. Even then for bringing about a positive change in the evaluation practices, the institution adopts both formative and summative methods of evaluation.

**Formative Assessment** - The goal of formative assessment is to monitor student learning, to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning. Formative Assessment of the students is done on the following parameters: 1. Assignments 2. Presentations 3. Quiz Test 4. Industrial visits 5. Class interactions 6. Group discussions/Viva-voce 7. Workshops/Seminars 8. Research activities 9. Projects 10. Written and practical tests 11. Organizing functions 12. Curriculum based training 13. Social activities 14. Inter college competitions 15. Overall attendance and conduct during the session.

**Summative Assessment** – The goal of summative assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark.. Summative Assessment takes place at the end of the academic session which is conducted by the college during the terminal test at the end of the semester. The university conducts a summative evaluation at the end of each semester through the following. 1. Written Exams 2. Practical Exams 3. Viva voce 4. Project work.

**2.5.5 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.**

There is complete transparency in the internal assessment. The criterion adopted is as directed by the University. All the students are familiar about the transparency in internal assessment. In semester, we are conducting two tests. In subjective exams marks 40 scaled to 15. In objective exam (online exam) for 10 marks. Total 25 marks for internal exam.

After preparing the assessment report, it is submitted by the concerned teacher and the same is displayed on the notice board at the end of the session. The internal assessment is made by the faculty Members keeping in mind the following aspects / factors of students' Performance during the academic year:

- 1) Class attendance
- 2) Class assignments
- 3) Quiz Test.
- 4) Score in the term examination etc.

Placement training is provided to the students beyond curriculum. Behavioral aspects and communication skills are comprehensive addressed in the placement training provided to the students. Communication skills are tested by report writings, presentations and group discussions

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

The College aspires transformational impact on students through comprehensive education by inculcating qualities of competence, confidence and excellence. The college has specified its

graduate attributes clearly.

**The graduate attributes specified by the college are:**

- I. Engineering Knowledge
- II. Problem Analysis
- III. Design and development solutions
- IV. Investigation of complex analysis
- V. Modern tool usage
- VI. Engineer and society
- VII. Environment and sustainability
- VIII. Ethics
- IX. Individual and team work
- X. Communication
- XI. Project Management & Finance
- XII. Life long learning

**The college ensures the attainment of the attributes of the students by Mapping with POs**

Taking the Graduate Attributes and POs prescribed by ABET as reference, the Departmental Assessment Committee (DAC) has adopted the following cycle to define the Pos and by Mapping the pos with student attributes

Pos	Graduate Attributes											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
A	√	√	√	√								
B		√	√	√	√							
C			√	√	√	√	√	√				
D						√	√		√		√	
E			√	√		√	√					
F							√	√				
G										√		
H						√	√					
I											√	√
J											√	√

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

For Internal tests, concerned faculty member shows answer scripts to individual student and reviews the performance with individual students. However, students may approach HODs/Principal in case of any grievance.

For semester examinations, the University has a well defined grievance redressal method regarding evaluation. The details are as under:

There is a statutory Examination Committee, which meets regularly for objective and effective redressal of the grievances of the students regarding evaluation.

The student has the right to

- (i) get the photocopy of the answer script
- (ii) re-totaling / re-addition
- (iii) re-evaluation

A student may apply to the University through his/ her institution for Re-totaling / Rechecking of a paper within 30 calendar days from the date of publication of the results in each Semester. However, evaluation be done for un-evaluated portions of the answer, if any. This facility is, however, not available for special examinations.

Photocopy of Answer Scripts: A student may apply for photocopy of Answer Scripts through his / her college within 30 calendar days from the date of publication of the results in each Semester. The Re-Checking is a precondition for supply of photocopy. The institution shall forward the application along with requisite fee within 30 calendar days from the date of publication of the results in each Semester. The Photocopy of re-checked answer scripts will be sent to the respective institution within a minimum period of 3 (Three) months from the last date of receipt of application for distribution among the respective 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?**

Yes, the college has clearly stated learning outcomes mentioned in its Vision & Mission. These are made aware to students and staff through:

- Vision, Mission prominently put up at strategic places in the College
- During inaugural function every year the college learning outcomes and performance report given by the Principal.
- Student handbook given to students the day they join the college.
- All the faculty of the institution is maintaining course files which contain lesson plans, time-tables, unit-wise assignment topics, sample answer scripts of internal examinations, scheme of evaluation for internal question papers, sample assignments submitted by the students and internal marks statements
- Updated laboratory manuals prepared by the senior faculty of the respective departments are maintained. The laboratory files which include master readings, model calculations, day to day evaluation sheets, experiments completion sheet, lab schedule etc. are made available

The *Outcomes Pyramid* shown below presents a pictorial clarification of the *hierarchical* relationships among several different kinds of goals, objectives, and outcomes that appear in assessment.



The 'pyramid' image is chosen to convey the fact that increasing complexity and level of specificity are encountered as one moves downward. The pyramid structure also reinforces the notion that learning flows from the mission of the institution down to the units of instruction.

### **Mission Statements of the College, and Program**

*Mission Statement* is a general, concise statement outlining the purpose guiding the practices of an institution. The student learning outcomes flow from the mission statements of the institution.

### **Goals of the Program (or Department)**

Goals should provide a framework for determining the more specific educational objectives of a program PEO, and should be consistent with the mission of the program and the mission of the institution.

### **Outcomes:**

**Learning Outcomes** are statements that describe significant and essential learning that learners have achieved, and can reliably demonstrate at the end of a course or program through assessment tools .Learning Outcomes identify what the **learner will know and be able to do** by the end of a course or program. The program outcome assessment plan is set to primarily confirm that the students are achieving the desired outcomes. It is also used to improve the program and the student learning, based on real evidence.

**The learning outcomes approach to education** means basing program and curriculum design, content, delivery, and assessment on an analysis of the integrated knowledge, skills and values needed by both students and society.

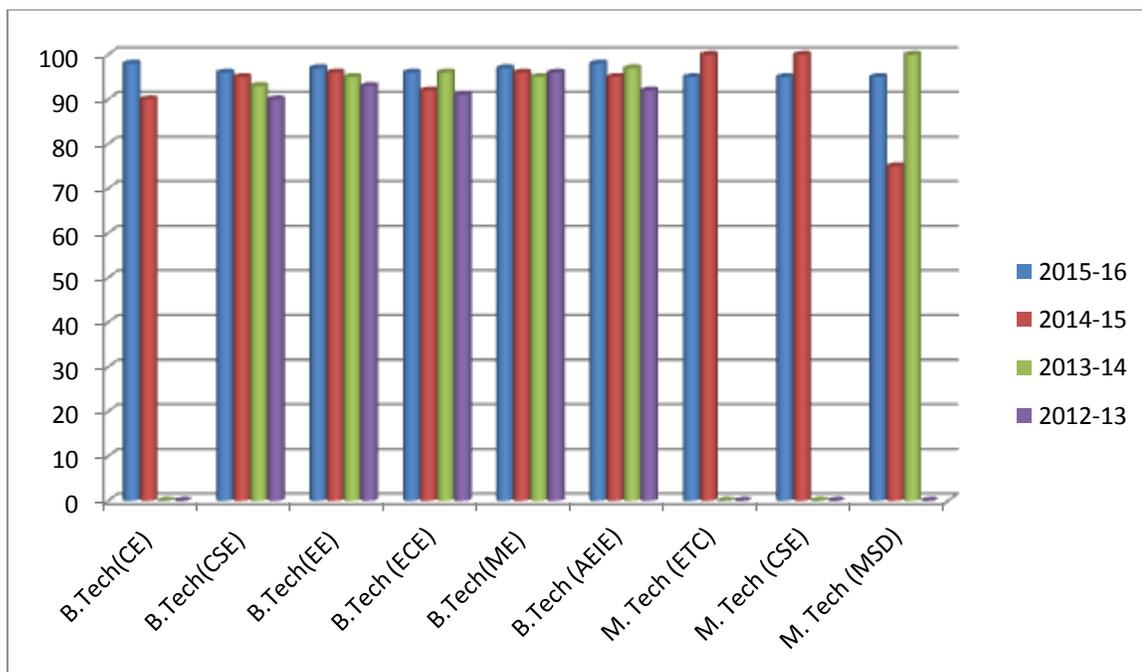
**2.6.2 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the students results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns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

1. Two mid-term tests are taken during the semester. These tests are both subjective and objective. The institution evaluates the students through two mid tests, assignments and quiz tests during the semester.
2. The report is sent to the head of institution after evaluating in a fair and open manner. The parents are informed through letters and even telephonically (for weak students).
3. The students' performance is closely monitored by their respective faculty mentors / counselors. The mentors interact with the Head of the department to suggest remedial actions such as extra classes and tutorials. The record of the whole evaluation process is transparent. The answer books are shown to the students. The head of the Department arranges to inform the parents through the following
  - Display on the notice board

- Through periodic performance reports to the parents including attendance.
- Parents Teachers Meet

**Result analysis: Pass percentage**

Course	2015-16	2014-15	2013-14	2012-13
B.Tech(CE)	98	90	-	-
B.Tech(CSE)	96	95	93	90
B.Tech(EE)	97	96	95	93
B.Tech (ECE)	96	92	96	91
B.Tech(ME)	97	96	95	96
B.Tech (AEIE)	98	95	97	92
M. Tech (ETC)	95	100	-	-
M. Tech (CSE)	95	100	-	-
M. Tech (MSD)	95	75	100	-



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

The teaching-learning strategies are structured to facilitate the achievement of the intended learning outcomes by designing the academic plan, lesson plan, suitable teaching-learning methods, by implementing them with necessary additions or modifications as per need, and by evaluating the students performance periodically.

- Students give feedback twice in a semester on Teachers and Teaching-Learning System for corrective actions.
- Students assess the level of achievement of course outcomes, at the end of every semester, to measure level program outcomes achievements

In the institute assessment measures has done as direct and indirect.

Direct assessments provide for the direct examination or observation of student knowledge or skills against measurable learning outcomes. Faculty conduct direct assessments of student learning throughout a course are.

**Direct Assessment Methods:**

1. Using measurable performance
2. Indicators of Students' Performance
3. Exams
4. Assignments
5. Projects
6. Tutorials
7. Labs
8. Presentations

**Indirect Assessment Method:**

Indirect assessments of student learning ascertain the perceived extent or value of learning experiences. They assess opinions or thoughts about student knowledge or skills. Indirect assessment methods are:

1. Alumni Feedback
2. Employer Feedback
3. Course-end Feedback

**2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (quality Jobs, entrepreneurship, innovation and research aptitude)**

### **of the courses offered?**

To enhance the social and economic relevance of the courses offered the measures/ initiatives have taken.

**a. Quality of Jobs:** The institute have Regular Industry Interactions, Job Fairs, Seminars, Work-Shops, Campus Placement Drives etc. to improve the student skills for getting quality jobs.

**b. Entrepreneurship Development:** To encourage the Engineering students, through an EDP Cell programs on Entrepreneurial Opportunities, Business Environment Scanning, Technology Changes, Marketing, Entrepreneurial Motivation Training etc., are organized.

**c. Innovation:** For innovation in research students are encouraged to undertake, participate in research projects, national seminar & conference.

**d. Research aptitude:** There is no provision for enhancing research aptitude. However preparation of field study report, project report and laboratory experiment done by the students may be considered as the first step to ignite their research aptitude.

Students are motivated through personality development and encouraged to participate in activities for social and community service. In Our institute NSS implements the issues in society such as tree-plantation, eradication of child labor and other issues in rural areas.

### **e. NSS :**

Social activities are conducted in our college through NSS

### **2.6.5 How does the institution collect and analyse data on student learning outcomes and use it for planning and overcoming barriers of learning?**

Institution has specified procedure to collect and analyze data on student learning outcome, the following points are adopted by the institute in this context:

- Midterm and continuous evaluation comprising of internal tests, assignments, group discussions and seminar presentations.
- Tutorials, class tests, viva in the lab
- Mini project
- Annual system of examination for all courses.
- Seminar presentation by students.

### **Institute has taken following steps to overcome barriers:**

- Providing Question bank of various subjects to the students.

- Timely Redressal of students grievances.
- By showing answer books to students to make them understand their relative strengths and weaknesses.
- Minimum attendance limit for students to minimize absenteeism.
- Measures like remedial classes, assignments and extra classes are conducted for slow learners.
- counseling classes for weak students in the subjects to improve their performance
- Periodic evaluation helps the improvement of learning outcome
- Communication English classes are conducted to improve their oral, written and conversational skills to help them to cope up with the subject.
- The intended data is collected feedbacks from parents, alumni, experts from industry and the same is analyzed in order to overcome the barriers of learning.

#### **2.6.6 How does the institution monitor and ensure the achievement of learning outcomes**

The institution has a clearly defined, set mechanism to monitor the 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 counsel them accordingly
- ✓ Remedial classes, Mentoring System and Written assignments.
- ✓ Surprise tests, quizzes, class tests etc. to monitor the academic progress of each student.
- ✓ Daily attendance is taken and an SMS is sent to the parents of the absentees on a daily basis.
- ✓ Analysis of University and Internal Exam. results
- ✓ Analysis of placement record
- ✓ Number of students opted for higher studies.
- ✓ Analysis of student feedback (existing and out-going), alumni feedback, parents feedback, employers' feedback
- ✓ Publication of research papers by the students in national/international journals/conferences
- ✓ Students' representation in various national and international level competitions

- ✓ Organizing seminars/guest lectures, etc.
- ✓ Parent-Teacher meeting.
- ✓ Alumni meeting

**2.6.7 Does the institution and individual teachers use assessment/evaluation 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. The indicators used by institution and individual teachers to assess the student performance are:

- Marks in internal exams.
- Class room performance and Behavioral aspects.
- Communication skills.
- In addition to the above, the introduction of the process of evaluation of teachers by the students is really improving the quality of teaching learning process. A faculty / teacher understands the area where he / she is very strong/ weak and needed remedial measures are being taken through experts and visiting lecturers from internal and external sources.

The following are the methods of assessment used as indicators of student performance:

<b>S. No</b>	<b>Assessment Criteria</b>	<b>Learning Outcome</b>
1	Assignment assessment	To improve the performance of slow learners
2	Course learning outcome assessment	To improve the teaching learning process
3	Exit student Feedback assessment	To enrich the curriculum
4	Project assessment	Helps in gaining in depth knowledge
5	Attendance Assessment	Leads to regularity and punctuality

### **CRITERION III: - RESEARCH, CONSULTANCY AND EXTENSION**

#### **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?**

The University has yet to recognize any affiliated colleges as Research Centres. The institute has applied to Department of Scientific and Industrial Research (DSIR) to be recognized as a Scientific and Industrial Research Organization (SIRO). The faculties of our college are pursuing research under BPUT and other universities utilizing the laboratory and infrastructural facilities available in the college.

##### **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.**

Yes there is a committee consisting of a Chairman (Dr. A. K Sahoo), and senior teaching faculty members from each department of the college. The Committee is active in guiding both faculty and students to pursue research in cutting edge technologies.

#### **R&D CELL**

<b>NAME</b>	<b>DESIGNATION</b>
Dr. A. K Sahoo	Chairman
Dr. Mayadhar Behera	Member
Prof Pravat Kumar Swain	Member
Prof Manas Ranjan Mohanty	Member
Prof. Sushree S. Pradhan	Member

Prof. Natabara Mohapatra	Member
Prof. Mihir Kumar Patra	Member
Prof. Sambit Kumar Sahu	Member

**Impact of the Recommendations of Research Committee:-**

- A faculty must publish two papers in conference or journal in one academic year.
- Faculty must attend at least one Faculty Development Programme (FDP) in a year.
- Seminar, conferences, FDP and guest lectures must be arranged by each department under the aegis of various professional societies.
- Interdisciplinary research must be given top priority.
- All the departments must apply to various funding agencies for promoting research activities.
- Research journals are subscribed from DELNET.
- Committee collected more over 100 reputed journals of various field and made it available in central library for use by faculty and students.
- The student research projects for UG and PG courses are conducted in the college under the guidance of the faculty.
- Rewards/ recognition are to be extended to the faculty members involved in research activities.

To give guidance for the research activities, a Research Council has been constituted by taking 4 eminent researchers from industry and academia as follows. The meeting of the Research Council is convened once in year.

<b>Sl. No</b>	<b>Name</b>	<b>Organization</b>
1.	Dr.Sabyasachi Pattnaiak	FM University, Balasore
2.	Dr. A K Sanigrahi	PXE-DRDO, Chandipur, Balasore
3.	Dr. P K Das Gupta	PXE-DRDO, Chandipur, Balasore
4.	Prof. PSR Murty	ITR-Hyderabad,
5.	Dr. B K Das	ITR-DRDO, Chandipur
6.	Prof.(Dr).Uma Ranjan Jena	VSSUT, Burla
7.	Dr. Chittaranjan Ojha	PXE- DRDO, Chandipur

8.	Dr. S Kumar	PXE- DRDO, Chandipur
9.	Dr. Rati Ranjan Das	CET,BBSR

**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: YES**
- **Timely availability or release of resources**

Necessary funds have been provided by the management for the above activities. Some of the consultancy works, training programs are generating revenue for the institute which is specifically used for R&D activity.

- **Adequate infrastructure and human resources**

The institute maintains faculty to student ratio of 1:15 in respect of UG courses and 1:12 in respect of PG courses. Senior faculty is utilized for R&D activity by reducing their teaching load. Adequate infrastructure and equipment has been made available for the R&D.

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

Teaching load is reduced for the faculty involved in research and development or consultancy. On duty facility is extended to the staff visiting other organizations for promotion of R&D and consultancy.

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

High end systems, internet facility, hardware and software are available for the purpose of R&D. A separate R& D Cells in the institute has been provided. The research journals, both print version and online are available in the central library.

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

The institute R&D committee carried out audit of consultancy works undertaken by various departments. Utilization certificates are submitted in respect of all grants received from external agencies.

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

Students are encouraged to take up small projects as co-curricular activity for development of indigenous technology. The college provided a budget for in-house R&D. The teachers are being

given Cash awards for publication in refereed journals. In the Best Teacher Awards scheme, R&D and Consultancy activities of faculty are given good weightage. Inculcating research in the mind of the student is the main motive of the institution. The institute motivates the students for higher education, the staff is always on its toes when it comes to encouraging the students to join higher education for research. To understand the basic needs of the present trends and to develop scientific temper and aptitude, the institution organizes industrial tours for third year students of all departments to interact with the industries to enable them to carry out a practical exposure. The college is also organizing workshops, seminars for the students to enhance the learning process in their respective areas with the eminent personalities from Industries.

<b>Sl. No.</b>	<b>Name of the Event</b>	<b>Organized under</b>	<b>Date (s)</b>	<b>No. of Participants</b>
1.	Seminar on Research Methodology	Dept of BSHM	11/11/2016	41
2.	Seminar on Renewable Energy Systems	Dept of EE	14/09/2016	37
3.	Workshop on P-Spice	Dept of ETC	26/08/2016	48
4.	Seminar on HR Skills for Manager	Dept of BSHM	12/08/2016	52
5.	Seminar on Recent Advances in Science & Technology	Dept of ETC	18/03/2016	27
6.	Seminar on Power quality monitoring analysis & remedial measures	Dept of EE	12/02/2016	39
7.	Workshop on CAD	Dept of ME	08/01/2016	61
8.	Workshop on Front End Digital System Design using VHDL	Dept of ETC	21/12/2015	37
9.	Workshop on Ethical Hacking	Dept of CSE	06/11/2015	43
10.	Seminar on Land & Water Management	Dept of CE	06/08/2015	31
11.	Recent Advances in Alternative Fuels	Dept of ME	10/04/2015	42
12.	Workshop on Soft computing and its application in Engineering	Dept of EE	08/04/2015	41

13.	Workshop on Matlab Basics	Dept of ETC	17/02/2015	47
14.	Technical Seminar on Importance of Management studies in Recent Trends of Technical Education	Dept of BSHM	29/10/2014	82
15.	National Workshop on Recent Trends in Engineering Materials (RTEM-2013)	Dept of ME	14/09/2013	71

**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.**

With encouragement and motivational incentives provided by the College, one faculty member is has submitted his PhD thesis and one has registered for her Ph.D.

Sl. No	Name	Department	Research activity	Specialization area
1	Prof. Pravat Kumar Swain	BSHM	PhD (Thesis Submitted)	Applied Chemistry
2	Prof. Sushree S. Pradhan	ETC	PhD Research work Registered	Image Processing

**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.**

Seminar / Symposia/ Workshop organized. Semenan / Workshop organized by the department.

**Department of Civil Engg**

- Seminar on land & water management in 2015-16
- Seminar on Advance in water resource engineering (Planned to be conducted in December 2016)
- Seminar on alternative Technologies In Rural Areas (Planned to be conducted in January 2017)

**Department of CSE**

- Workshop on Parallel and Distributed Computing in 2016-17

- Seminar on Cloud Computing
- Workshop on Ethical Hacking in 2015-16
- Workshop on Cyber-The robotics workshop
- Seminar on Information Security & cyber forensic
- Training on Office Software,
- Workshop on Web Designing using HTML,

#### **Department of ETC**

- Workshop on Front End Digital System Design using VHDL in 2014-15
- Basic MatLab in 2014-15
- Recent Advances in Science & Technology in 2015-16
- Workshop on P-Spice in 2016-17
- Emerging Trend In Signal and Image Processing (Planned to be conducted in January 2017)
- Seminar on Wireless /Mobile Communication (Planned to be conducted in December 2016)
- Recent Advances In Communication & Computing Technologies (Planned to be conducted in February 2017)

#### **Department of EE**

- Workshop on Experiments of Power Electronics in 2014-15
- Workshop on Soft computing and its application in Engineering 2014-15
- Seminar on Power quality monitoring analysis & remedial measures in 2015-16
- Seminar on Renewable Energy Systems in 2016-17
- Seminar on Modern Trend in operation of power system (planned to be conducted in December 2017 )
- Seminar on Application of FACTS in Power System (planned to be conducted in January 2017 )
- Seminar on Green productivity for sustainable energy environment (planned to be conducted in March 2017 )

#### **Department of ME**

- National Workshop on Recent Trends in Engineering Materials (RTEM-2013) in 2013-14
- Seminar on Recent Advances in Alternative Fuels in 2014-15
- Workshop on CAD in 2015-16
- Workshop on advanced in planning & quality control in manufacturing & service organization (planned to be conducted in January 2017 )
- Workshop on robotics & its application ( planned to be conducted in February 2017 )

#### **Department of BSHM**

- Seminar on HR Skills for Manager in 2016-17
- Seminar on Research Methodology in 2016-17

#### **3.1.7. Provide details of prioritised research areas and the expertise available with the institution.**

The following are the prioritized research areas and the expertise available with the institution.

##### **Details of Expertise**

<b>Sl. No</b>	<b>Name of the Faculty</b>	<b>Prioritized Research Area</b>
1	Dr. A K Sahoo	Signal Processing
2	Dr. P K Raj	Economics
3	Prof.Pravat Kumar Swain	Chemistry
4	Prof Sushree S Pradhan	Image Processing
5	Prof. Manas Ranjan Mohanty	Data Mining and Data Wirehousing
6	Prof Natabar Mohapatra	Thermal Engineering
7	Prof Mihir Kumar Patra	Power Electronics and Drives

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

The college has a policy of conducting seminars, workshops, faculty development programmes, conferences, college fests, and technical events around the year by inviting reputed and eminent researchers from various organizations.

The details of few researchers participated are as follows

Sl. No	Name	Organization
1.	Dr.Sabyasachi Pattnaiak	FM University, Balasore
2.	Dr. A K Sanigrahi	PXE-DRDO, Chandipur, Balasore
3.	Dr. P K Das Gupta	PXE-DRDO, Chandipur, Balasore
4.	Prof. PSR Murty	ITR-Hyderabad,
5.	Dr. B K Das	ITR-DRDO, Chandipur
6.	Prof.(Dr).Uma Ranjan Jena	VSSUT, Burla
7.	Dr. Chittaranjan Ojha	PXE- DRDO, Chandipur
8.	Dr. S Kumar	PXE- DRDO, Chandipur
9.	Dr. Rati Ranjan Das	CET, Bhubaneswar

**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 institution provides duty leave and special leave to faculty instead of Sabbatical leave for participating and presenting papers at national and international seminars & conferences attending workshops. More than 20% of faculty has availed duty leave and special leave. This helps the faculties to interact with researchers and academicians and boost their interest towards research.

- Mr Mayadhara Behera, Registered in F.M. University under guidance of Dr. B. Ash, Asst Prof, Dept of Chemistry, SSEC, Balasore. Title:- Effect of Temperature, Additives and Solvent on Electrochemical Preparation of Battery Grade Nickel Hydroxide.
- Ms Rutuparna Dash, Registered in F. M. University under guidance of Prof. Dr. Gayadhara Parhi, Prof. F. M. Autonomous College, Balasore. Title: Effectiveness of Inventory Control System With Reference to a Manufacturing Unit.
- Ms Sushree Sasmita Pradhan, Registered in BPUT under the guidance of Prof. Dr. A. K. Sahoo, Principal, SSEC, Balasore

**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 following are 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.

- Institute organizes Project Exhibition, Poster presentations, Robo-Competitions, Model Expos etc. for all students.
- Institute has started Dr.A.P.J. Abdul Kalam club for dissemination of its research and development activities.

### **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.**

The Institution receives grant from management exclusively for research, seminars and workshops. Over and above the grant expenditure is borne by the Institution from its own resources.

#### **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.** The Institution is ready to provide seed money to promote the research by the faculty on request and the value of seed money is decided by the research committee as when required .

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

This is provided for in the operating grant of the department. Students are encouraged to take part in National competitions. Some have won awards in these. Financial support is provided to attend these events.

#### **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.**

There are interactive sessions and seminars given by the faculty to discuss the work being done and all faculty and students are thus exposed to the work being done in the college. The institute

has been conducting basic degree programs and in these degree programs there is no provision for research work. However, for the inculcation of research aptitude in the students, institute takes several initiatives like interdisciplinary seminars on the current, relative and burning issues in Electronics, CSE, Mechanical Electrical, & Civil the college also takes several initiatives in these directions. Many industrial experts will come and interacts with the students on current issues for technical and non technical for all trades of B.Tech, M.Tech and students. Very soon institute is planning to have institutional tie-up with University and professional institutions to enhance the research activities through various departments.

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

The Institute has a well stocked library which includes latest syllabi as well as reference books of all relevant subjects and disciplines and the institute is always eager to purchase new edition of books every year. The college has spent about lakhs on learning resources and specialized hardware and software for the staff and students to expose new technologies in-vogue in industry. The serene atmosphere and the facilities provided in the library encourage/ motivate the staff and students to take a forward step to pursue research in their relevant field/interests. Basic research facilities are available in all Technical departments. Each department has relevant infrastructure and instruments for basic research work. Provision of internet to individual staff member is available in many departments to help them review their academic as well as research programs. Institute also ensures that the deserving students should be facilitated to use the equipments, books, Journals, Magazines beyond the college timing and also during summer vacations. The major and latest instruments are made available to the faculty and students (with faculty assistance) at any time even beyond the working hours.

**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.**

The college is established in the year 1999 and it is more than 17 years old institution. Taking into consideration the college is having huge infrastructure & equipment facilities, big play ground etc., some of the instruments became obsolete. To update and to conduct the various research programs, the college applied for grant but not received any grant.

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

As mentioned in 3.2.6, College has not received any grant from outside agencies. The college is also taking initiation to conduct the research activities on present burning issues, in case of expenditure incurred by the research activities they are utilizing the fund which has sanctioned by management from its own resources. The institution is planning to have a separate fund @Rs 50,000/- for research activities in the first year and will increase as per the demand ratio.

**3.3. Infrastructure for Research (Research Facilities)**

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

As mentioned earlier, the college is having the UG & PG courses are available in the college with all resources like laboratories, library-digital library and huge computer lab especially for research and project works of the students. The IQAC cell has been established for guiding research activities and to create an environment for innovative practices in different sphere for maintaining and sustaining the quality parameter for the students of the college. Internet connectivity and Wi-Fi facility is also available for the students and faculty to enable them to review their academics as well as their research programs. The institute is providing the following facilities to encourage their research.

- Faculty members make use of E Journals from DELNET, Virtual Lab and the free softwares available in AICTE website for research work.

**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?**

User friendly infrastructural facilities are available in the campus with hi-end library, Canteen, in-campus Boys and Girls hostel, Guest room, 24 hours security, well equipped laboratories, Girls common room, lavatory and R&D cell. Institution are planning to provide a separate room for the research activity through IQAC cell.. A separate Research and Development Cell has been

established with a Professor and Head to facilitate research and promote research culture among the students and faculty. Attempts are on to invite and involve industries in the state and outside for financial support. The faculty and students regularly visit the industries to get acquainted with industrial problems.

**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.**

No, we have not received any special grants from the industry or other beneficiary agency for developing research facility.

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

The faculty is in contact with IIT Bhubaneswar, IMMT Bhubaneswar, IIT Kharagpur, NALCO Bhubaneswar, and CIPET Bhubaneswar on personal levels. Attempt is on to have a memorandum of understanding with these organizations.

**3.3.5. Provide details on the library/ information resource centre or any other facilities available**

College is having computerized library has modern catalogue and e-journal facilities. The library consists of 46,503 books. Being one of the biggest libraries in the Eastern region, the researchers within the region and outside make use of this facility.

**Library facilities for researchers**

The college has one of the best stacked libraries in the region. The books and journals available are

Number of titles - 1133  
Number of volumes – 20,055  
Number of Courses in digital library (NPTEL) - 55  
Number of e-Books in digital library - 47  
No. of Technical Magazines/Periodicals- 12  
No. of Journals in hard copy- 5

No. of Journals in soft copy : 115

Library books for faculty – 5 and for students – 3

DELNET: By using DELNET software, students and faculty will get information of unaware of books.

**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.**

Efforts are being made to have collaborative research facilities in the college campus as per the curriculum of BPUT the following infrastructure exists in the college, which can be utilized effectively by the faculty and students time to time. The library has an institutional membership of developing library network and its databases are accessible through World Wide Web using the web address <http://delnet.nic.in>

**3.3. 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)**

Ans:- NA

- **Original research contributing to product improvement**

Ans:- Final year students are guided by faculty members to develop model as per recent needs of the society.

- **Research**

Sl. No	Name of the Faculty	Prioritized Research Area
1	Prof.Pravat Kumar Swain	Chemistry
2	Prof Sushree S Pradhan	Image Processing
3	Prof. Manas Ranjan Mohanty	Data Mining and Data Wirehousing
4	Prof Natabar Mohapatra	Thermal Engineering
5	Prof Subhra Subhankari Dash	Wireless Sensor Networks

- **Research inputs contributing to new initiatives and social development**

Ans:NA

**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?**

We are planning to publish one research journal from our institute. Under R&D Cell.

**3.4.3. Give details of publications by the faculty and students:**

- \* Publication by faculty 6
- \* Number of papers published by faculty and students in peer reviewed journals (national / international) : 11
- \* 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.): Nil
- \* Monographs Nil
- \* Chapter in Books One
- \* Books Edited Nil
- \* Books with ISBN/ISSN numbers with details of publishers:- NIL
- \* Citation Index:-Mentioned in the Departmental Evluation report.
  - \* SNIP Nil
  - \* SJR Nil
  - \* Impact factor:- Mentioned in the Departmental Evluation report.
  - \* h-index Nil

**3.4.5 Provide details (if any) of**

- \* research awards received by the faculty
- \* recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally
- \* incentives given to faculty for receiving state, national and international recognitions for research contributions.

### **3.5 . Consultancy.**

#### **3.5.1 Give details of the systems and strategies for establishing institute –Industry interface?**

Institute industry interface is established by our T&P cell. T&P cell is headed by Principal and supported by placement officers. The placement cell takes the students to the job fairs where different companies come and select the students according to their requirements. The Training and Placement Officer (TPO) makes a liaison with the H.R departments of different companies.. The institute keeps in touch with the passed out students of the college who are presently working in the companies. These students are also very helpful in arranging the visits of the companies for placements. As per requirement, bio-data of the eligible students is also mailed to different companies directly by the Institute.

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

Institution is now interested to promote consultancy to aware the institution about the mandatory process of NAAC and NBA accreditation to improve the quality education. . The Institute has a Placement Cell and Training and Placement Officer (TPO) forms a liaison with various companies/Industries regularly, so as to select the best visiting companies a representative of the Industries. The Students get are being placed as per their ability and awareness to meet the standards of recruiting agencies. The information of the students selected is displayed by pamphlets; flexes of the college and our college web site also include the names of the students who are being placed in various companies.

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

Institution is encouraging the staffs to start the awareness programme on accreditation and to generate revenues for the institution and in person. and in different ways like to attend seminars, publication of papers in various journals etc. The Institute makes every effort to encourage the staff for utilization of all human resources, intellect and available facility in the campus to promote liaison with industries/companies so as to thicken the ties between the two in a very

flexible manner by which the consultancy services is gets a boost. The college motivates the professionally qualified faculty to utilize their expertise for consultancy services with the permission of the institute. This helps in promoting liaison with industry/ companies. In return, the students get an opportunity to visit these companies and the placement process is, thus, facilitated.

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

The Consultancy is provided to the college students and faculty only on the gratuitous basis and no revenue is generated from the same.

**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?**

As per the decision taken by management income generated by the staff through consultancy is shared by the institute and staff on a 30:70 percent basis. The money thus generated by the institute is used for develop of the research facility on consultation with the concern staff and department head.

**3.6 \_Extension Activities Institutional Social Responsibility(ISR) and Extension Activities.**

**3.6.1 How does the College promote College-neighborhood network and student engagement, contributing to holistic development of students and sustained community development?**

The college always trying to build in the students mind the better living style and the process to live the life and lead the life in the manner which is acceptable by the society. Also encouraging the young mass to feel the importance of education in this competitive era. Many times our college organized the programmes to aware the society for the enhancing their skills to create a space in the society of education. Students are involving themselves in different activities through NSS for building confidence in them as well as for the society

**National Service Scheme (NSS)**

The institute has introduced National Service Scheme as per the provision of BPUT. It has 2 units, two for boys and one for girls. Each unit consists of 50 members heading with a student

representative (Counselor). A senior faculty member guides and organizes the NSS activities with student volunteers. The wings organize programs related to Environment Enrichment and Conservation, Health & Nutrition, aimed at creating an awareness for improvement of the status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Recreations. The students are encouraged to participate in the events. Introduction of Social activity helps the student to come across the different problems of the society. It develops high moral character, quality leadership, discipline, sportsmanship & the spirit of selfless service as a human being.

### **ACTIVITIES:-**

Our NSS organize activities like

- Plantation programme in & around of college campus
- Health programme
- Blood donation
- Awareness camp like dowry prohibition, unsociability, sunstroke, computer awareness etc.
- Seminars & street play like awareness covering drug abuse (NISA NIBARAN)
- First-aid service in local festivals
- Disaster management.

<b>Sl. No</b>	<b>DATE</b>	<b>PROGRAMME</b>	<b>Number of students Participated</b>	<b>Place</b>
1.	11 <sup>th</sup> Feb 2015	Health Check-up program	62	SSEC, Balasore
2.	13 <sup>th</sup> March 2015	Blood Donation Camp	84	SSEC, Balasore
3.	14 <sup>th</sup> July 2015	Plantation of trees, their preservation and upkeep	52	SSEC, Balasore
4.	25 <sup>th</sup> September 2015	Anti Ragging Awareness program	87	SSEC, Balasore
5.	23 <sup>rd</sup> November	Distribution of material to the poor students	15	SSEC, Balasore

	2015			
6.	11 <sup>th</sup> Jan – 17 <sup>th</sup> Jan 2016	Observation of Road Safety week	48	Road near to SSEC Balasore
7.	6 <sup>th</sup> September 2016	Anti Ragging Awareness program	103	SSEC, Balasore
8.	2 <sup>nd</sup> October 2016	Swatcha Bharat Program	57	SSEC, Balasore
9.	31 <sup>st</sup> October 2016	Organized seminar on Environmental issues	49	SSEC, Balasore
10.	23 <sup>rd</sup> November 2016	Distribution of Blankets to the poor senior citizen of nearby villages.	21	SSEC, Balasore

**3.6.2. Does the College have a mechanism to track the students' involvement in various social movements / activities which promote citizenship roles?**

The institute continuously creates awareness and encourage students to participate in various social service activities. Students who have an inclination for social service and proactive nature are identified by the class teachers and the consolidated list is forwarded to the NSS coordinator. The NSS coordinator arranges meeting at regular intervals with all the above students and briefs about the activities and benefits of NSS to the students. Our students voluntarily take part in all activities.

Activities carried out to promote citizenship roles:

- Plantation/Environment Awareness
- Institute organizes personality development programs at regular intervals.
- The different associations /committees and NSS will plan and organize additional events according to need like Anti-Plastic Awareness Rally, World Environment Day, Road safety week , Swacha Bharat, etc.,
- Health check-up camps and blood donation camps.

### **3.6.3 How does the institution solicit stakeholder's perception on the overall performance and quality of the institution?**

After the establishment of the IQAC cell, the college is making clear to everyone who is attached to the institute about the vision and objectives. Details of the activities and information are mentioned in our website and anybody can get any information and can communicate to any one at any moment. The first day in the college i.e. on the orientation programme the new comers are well informed about the college's aim and their duties in the college. The college is having many committees, clubs, research teams and science activities to develop the student's standard. The college always takes the opinions of all the stakeholders for increasing the effectiveness of the institute. The stakeholders are:

#### **Students:**

- We consider the suggestions of the students
- Every class has one boy class representative and one girl class representative for smooth functioning of the class.
- Our college has one grievance cell for the students for solving the problems inside the college.
- Students can approach any faculty during the working hours of the college.
- Under mentorship system, students are interacting with the faculty regarding their matters in mentorship class.
- Student representatives from each stream are meeting with the authority for the development of academic activities.
- Educational consultant

#### **Parents:**

- Every year two times the parents are coming to attend the parent's meet for discussing their student's growth.
- Parents are always in touch with the mentors for their child's growth.
- Parents can contact any faculty for any kind of information.
- Parents can meet the HODs of different departments for the discussion for their wards performance and future action.

#### **Staffs:**

- The staffs are motivated in the staff council meeting held twice or thrice in a year.

- Staffs are encouraged by achievement awards in the institute.
- Staffs are also participating in annual games and sometimes organizing cricket matches for their good health.

**Alumni:**

- We organize alumni meets in different locations to enhance the knowledge and opportunities.
- Alumni suggestions are considered while taking decisions.
- Alumni are invited to the institute to motivate the students for technical education.

**3.6.4 How does the Institution plan and organize its extension and outreach programmes? Providing the budgetary details for last 4 years, list the major extension and outreach programmes and their impact on the overall development of students.**

The college organized many activities related to society, education, environment, health, promotional activities, rehabilitation activities for the development of person and the society as a whole. These are the some of the activities done during last 3 years and the budgets as follows:

YEAR	NSS	AWARENESS	BLOOD DONATION	PLANTATION
2013-14		-	12000	15000
2014-15	4000/-	2100/-	10000	15000
2015-16	3000/-	3661/-	10000	15000

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

- Institute promotes the participation of students and faculty in various extension activities of NSS and the activities of National Agencies.
- The NSS coordinator of the institute will conduct an awareness program to the newly joined students. In addition, details, scope and activities of NSS program are also displayed in the institute notice boards.

- The NSS committee inspires and motivates the students by conducting NSS-meets regularly where every student will have freedom to express his views. These views are taken into consideration in order to improve the activities in future.
- Interested Faculty members are requested to join along with the students in NSS activities voluntarily and participated in different activities.

**3.6.6 Give details on social surveys, research or extension work (If any) undertaken by college to ensure social justice and empower students from underprivileged and vulnerable sections of society.**

The organization has developed the meaning of education in the society by implementing some volunteer activities in the interior rural areas. The students with faculty members visiting different villages to spread the importance of education and orphanage and blind schools for their upliftment in the society. The institution is distributing free books to the unprivileged areas for their better career. The students and faculties are visiting the rural schools and teaching them the science knowledge.

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

**Objectives:**

The college is trying to inculcate the knowledge, skill and experience in students for their better future and career by means of number of extension activities. To feel the students about the emerging trends and how to cope up with the changing scenario and achieving the expected aim. The college is trying to attain the organization's aim as well as the stakeholder's aim. The aim is to provide world class education to our students do develop their knowledge and moral values for making them a good human being. For achieving the expected aim the college is concentrating on the following parameters as:

- Having experienced faculty members.
- Experts from outside for personality development of students.
- Organizing department functions for energizing the students.
- Organizing sports and cultural programmes for enhancing the student's interest.

- Study tours to different industries for more experience.
- Organizing seminars and competitions for student's development.
- Involving the students in social works to realize the responsibilities towards the society.
- Maintaining the industry academia relationship.

**Outcome:**

- The performance of the institute has been developed by doing the above activities in terms of result and opportunities for the students.
- Participating in different social activities creating belongingness in students.
- Students are motivated for their better future and life.
- The performance of the institute increased in competitive era.
- Industries are encouraged to provide opportunities for the students.

**3.6.8 How does the College ensure the involvement of the community in its outreach activities and contribute to the community development? Detail the initiatives of the College which have encouraged community participation in its activities.**

The institution is participating in all the extension activities which develop the community and the institute as a whole. Students, staffs and local people are encouraged to participate in following activities:

- Blood donation camp.
- Plantation.
- Awareness programme like HIV, Swine Flu, Road safety, environmental pollution etc.
- Rehabilitation programmes like, relief distribution, books and clothes distribution.
- Cleanliness of the surrounding society.
- Awareness regarding importance of education.

**3.6.9 Give details on the constructive relationships (if any) with other institutions in the nearby locality in working on various outreach and extension activities.**

The institution has witnessed a number of social activities for the society with the help of

students, staffs and local authority. The contribution for the locality is creating a good atmosphere in the district. With the help of institution and local authorities, the college could able to contribute the amount of bloods to the society by conducting blood donation camps.

Apart from the Blood donation, other activities took place in the locality, which are:

- Awareness programme on HIV/AIDS . As part of the programme the student volunteers of the club went to the nearby villages to sensitise the people against the deadliest diseases.
- Organised a road safety awareness programme with the help of RTO of Balasore district.
- Awareness program on Swine flu, NSS units with the help of District Medical Authority CDMO and ADMO Public Health organized the awareness programme swine Flu Epidemic in the college Conference Hall, where more than 150nos of students and staff members were participated.

### **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.**

Our Institute is very much concerned with the social activities. It carefully identifies the social needs and anticipates through NSS programmes leaded by Mr. Bikash Chandra Bhuyan Asst.Prof ME and Mr.Jayaguru Das, Asst. Prof EE. thereby our institution received the following certificate/appreciation:

- Certificate of appreciation from Red Cross Society for blood donation camp.

### **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.**

As it has been stated earlier, the college has been running UG and PG courses for a long time. Hence the research activities at the students' are high especially B.Tech and M.Tech students for their project works, students are choosing our college is on the basis of providing research

facilities. As per the above statement Institution will sign MoU for institutional tie-up to interact with research laboratories, institutes and industry for research activities by staff exchange programme, sharing facilities, equipment and exchange of scholarship.

**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.**

Institution is in the process of MoUs with BSNL, CTTC, CIPET. The institute always facilitates students of final year and prefinal year to undergo summer training for 30 days during the month of June each year to the Govt. Sectors, Pvt sectors & public sectors such as DRDO (ITR), Chandipur, BSNL, Bhubaneswar, Birla Tyres, Ispat, Emami Paper mills PVT. LTD. Ori plast, Nesco, Rourkela Steel Plant, TSP, Jamshedpur and many more

**Though these industrial training :**

- Students will be trained on various cutting edge technologies .
- Students have the opportunity for getting exposed to the real working environment.
- Transfer of technology information and knowledge from industry to the faculty and students is done through collaborative programs like guest lectures, seminars and other interactive programs.

**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.**

Interaction with eminent personalities from various reputed universities and industries is very useful for the creation of establishing better academic facilities for staff and students. As stated above the firms are providing assistance in all the problems which are related technically and theoretically. The labs are being upgraded for the upkeep of latest electronic equipments, computers etc. The placements process got a boost by such interactions. Though our institution cannot change the syllabus on its own we take value added courses like .NET, soft skill training, AUTOCAD keeping in mind the need of the industry.

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

“SSEC” invites people from reputed academic and R&D institutions to share their experience and encourage the faculties and students for research work. Some of the eminent persons visited the institute on different occasions are:

<b>Sl. No</b>	<b>Name</b>	<b>Organization</b>
1.	Dr.Sabyasachi Pattnaiak	FM University, Balasore
2.	Dr. A K Sanigrahi	PXE-DRDO, Chandipur, Balasore
3.	Dr. P K Das Gupta	PXE-DRDO, Chandipur, Balasore
4.	Prof. PSR Murty	ITR-Hyderabad,
5.	Dr. B K Das	ITR-DRDO, Chandipur
6.	Prof.(Dr).Uma Ranjan Jena	VSSUT, Burla
7.	Dr. Chittaranjan Ojha	PXE- DRDO, Chandipur
8.	Dr. S Kumar	PXE- DRDO, Chandipur
9.	Prof.(Dr). Rati Ranjan Das	CET, Bhubaneswar

**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
- b) Internship/ On-the-job training
- c) Summer placement
- d) Faculty exchange and professional development
- e) Research
- f) Consultancy
- g) Extension
- h) Publication
- i) Student Placement
- j) Twinning programmes

- k) Introduction of new courses
- l) Student exchange
- m) Any other

The institute always facilitates students of final year and prefinal year to undergo summer training for 30 days during the month of June each year to the Govt. Sectors, Pvt sectors & public sectors such as DRDO (ITR), Chandipur, BSNL, Bhubaneswar, Birla Tyres, Ispat, Emami Paper mills PVT. LTD. Ori plast, Nesco, Rourkela Steel Plant, TSP, Jamshedpur and many more

**Though these industrial training :**

- Students will be trained on various cutting edge technologies .
- Students have the opportunity for getting exposed to the real working environment.
- Transfer of technology information and knowledge from industry to the faculty and students is done through collaborative programs like guest lectures, seminars and other interactive programs.

**3.7.6 Detail on the systemic efforts of the institution in planning, establishing and implementing the initiatives of the linkages/collaborations. Any other relevant information regarding Research, Consultancy and Extension which the college would like to include.**

We are in a continuous process to constant touch with people from Institute of Physics, IMMT, IIT, BBSR & IIT, KGP and other institutions for research work.

The initiatives for linkages/MoU in addition to the management lend total support to departments to plan and establish contact with agencies for fruitful Institutional collaboration.

The departments through academic contacts, visiting experts and through contacts in research laboratories constantly endeavor to enter into collaboration the outcome of which will ultimately benefit the students, teachers and the institution. Similarly when external agencies approach the college or the departments, the institution is more than willing to consider the possibility of entering into a collaboration or MoU that will of advantage to the stakeholders of the institution.

## **CRITERIA IV: Infrastructure and Learning Process**

### **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**

In order to create and enhance the infrastructure that facilitates effective teaching and learning, the policy is framed according to the strength of students in different streams. The policy also conforms to the strength of the staff appointed for the institution. There are various committees such as department committee, Advisory Committee, College Academic Council and Governing Body to review availability and requirement of infrastructural facilities and approve creation of new facilities.

These improvements will take place under the following circumstances:

- Change in syllabus,
- Increase in intake
- Additional experiments
- Add on topics
- Creation and enhancement of infrastructure (preparation of departmental requirements based on curriculum, based on development of technology )
- Effective teaching and learning
  - a. Development of self learning facilities
  - b. Providing of ICT facilities
  - c. Sending of faculty for FDPs
  - d. Encouragement for the paper presentation
  - e. Encouragement for the preparation of teaching modals

#### **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 college has excellent infrastructure facilities to run the academic programme.

- The college has an Administrative Block, Examination Cell, Central Library, Department libraries
- Spacious, well ventilated and furnished class rooms
- Classrooms with ICT facilities
- Computer Centers for each department
- Digital Library
- English communication labs
- Seminar Hall exclusively for each department
- Conference Halls
- Auditorium
- Ladies waiting halls
- Faculty rooms.
- Well equipped laboratories.
- Workshops
- Spacious drawing halls
- Hostels for boys and girls
- Open quadrangles are available for co-curricular competitions
- To cater to the needs of the faculty and students a fleet of 10 buses, a canteen & Cafeteria, a stationery shop with reprographic facilities, a health centre with a part time doctor are provided within the campus.

The details of physical infrastructure available in the college

- The total available land is **10.41 acres** and the Built-up floor space is **30,096 sqm**

S. No	Item	Area Sqm
1	Academic Block1	14000
2	Academic Block2	9000

5	Boys Hostel	9000
6	Ladies Hostel	1500
7	Security room	25

S.No	Item	Area Sqm	Total Number
1	Class Rooms	100	28
2	Tutorial Rooms	50	7
3	Laboratory Rooms	102	26
3	HOD Room	10	6
4	Faculty Rooms	100	8
4	Seminar Hall 1	150	1
5	Seminar Hall 2	200	1
6	Drawing Hall	184	1
7	Conference Hall1	300	1

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

To encourage sports and games and other activities:

- Play ground available for Cricket; Throw ball, Volley ball, Basket ball, Ball Badminton, Kho-Kho, and Hand Ball.
- Facilities available for indoor games like table tennis, shuttle, chess & caroms are also provided.

S. No	Sports Facilities	Number
<b>Out door Facility</b>		
1.	Volley ball courts	1
2.	Cricket Net Practice pitch	1
3.	Kabaddi	1
<b>In door Facility</b>		

4.	Shuttle Badminton courts	1
5.	Carrom boards	4
6.	Table Tennis	1
7.	Chess	6
8.	Chinese checkers	8
<b>Athletics</b>		
9.	100m and 200m Running race	1
10.	Shotput	2
11.	Discus throw	2
12.	Skipping	10

- A dedicated lab for the development of communication skills with adequate systems and software.
- Spacious open ground is available to celebrate general events like Independence Day, Republic Day, Engineer's Day, National Science Day, etc by conducting technical events, science events and public speaking
- A fully fledged state of art T & P Cell is actively working and arranging on-campus placements and training to the students.
- Besides providing internet connectivity through LAN to all the departments and computer centers through 20 mbps internet facility.
- Medical checkup facility with dispensary and a doctor visits periodically.
- Spacious canteen with hygienic food is providing to staff and students
- For the continual academic activity an installed capacity of transformer (100 KVA), main service points for power distribution (01-HT service) and a stand by 65 KVA generators are provided.

**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).**

- Improved infrastructure facilities as per the academic requirements(labs)
- Amount spent on infrastructure (computer Labs)for the last seven years
- Additional blocks constructed for academic as well as hostel

Sl. No.	Academic Year	Construction	Salaries	Laboratories	Lab maintenance/ consumables/ servicing	Academic related activities
1	2015-16	105.5	200	10	2	13
2	2014-15	265.8	275.5	41	3.05	33
3	2013-14	250.67	262.5	42	2.75	29.7
4	2012-13	243.68	200	35	2.5	27.5

\*Amount is in Lakhs

Since its inception , the college has been keeping pace with the changing needs and requirements to meet its academic growth. To keep pace with the needs and requirements, additional infrastructure is being added from time to time. In the last seven years, many buildings have been constructed and renovated.

**The details of the facilities are as follows:**

- The total available land is **10.41 acres** and the Built-up floor space is **30,096 sqm**

S. No	Item	Area Sqm
1	Academic Block1	14000
2	Academic Block2	9000
5	Boys Hostel	9000
6	Ladies Hostel	1500
7	Security room	25

S.No	Item	Area Sqm	Total Number
1	Class Rooms	100	28
2	Tutorial Rooms	50	7
3	Laboratory Rooms	102	26

3	HOD Room	10	6
4	Faculty Rooms	100	8
4	Seminar Hall 1	150	1
5	Seminar Hall 2	200	1
6	Drawing Hall	184	1
7	Conference Hall1	300	1

**4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of the differently-abled students?**

- The persons authorized by them are permitted to borrow books from the library.
- They are also provided support in laboratory and workshops.
- Ramps are provide at the entrance of the buildings
- Handicapped toilets
- Wheel chair
- Primary health care

**4.1.5 Give details on the residential facility and various provisions available within them:**

Hostel Facility – Accommodation available Recreational facilities, gymnasium, yoga center, etc.

Computer facility including access to internet in hostel Facilities for medical emergencies

Library facility in the hostels Internet and Wi-Fi facility, Recreational facility-common room with audio-visual equipments

Available residential facility for the staff and occupancy constant supply of safe drinking water and Security

S.No	Facilities	Provisions
1	Hostel facility	Accommodation available for both boys ( 54 rooms) and girls ( 16 rooms)
2	Recreation facility	Gymnasium, yoga center, TV rooms (2) and Gym rooms (2)

3	Computer facility	Common computer centre is open from 8.00 a.m – 7.00 p.m
4	Facilities for medical emergencies	Emergrncy medical cases are immediately referred to Govt. Hospital, Balasore
5	Library facility	Central library is open from 8.00 a.m - 6.00 p.m
6	Internet and Wi-Fi facility	24hours, 10mbps
7	Residential facility for staff	Available in the hostel
8	Safe drinking water	Mineral water facility has been provided at multiple areas.
9	Security	security available round the clock
10	Sports	Play ground, cricket practice net, tennis court, volley ball & basket ball
11	Canteen	Daily Usage - 200-300
12	Cafeteria	Available
13	Cooperative stores	Stationary items

**Hostel details:**

S.No	Hostel	Boys	Girls
1	No. of rooms	54	16
2	Student rooms	44	11
3	Staff rooms	02	01
4	Warden rooms	02	02
5	TV rooms	02	01
6	Gym rooms	02	00
7	Attendance room	02	01

**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?**

- Health Insurance
- Psychological and Psychiatric counseling is made available in the campus through a qualified doctor. As well as the senior faculty trained in counseling also takes part.
- The Faculty counsels the students every month (20 students each) and Specific cases are referred to Dr. A K Sahoo (at an average of 2 students per month)
- In-house Dispensary is available with qualified doctor, and full time Nurse.
- The Institute is tied up with Govt. Hospital for providing Medical emergencies.
- Availability of ambulance service is at the campus (response times and medical facility, critical Care ) along with ambulance Stretcher, ventilator, first-aid kit etc.,
- Response-time in calling ambulance services from outside is 05 Minutes (through 108)

**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, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.**

S.No	Common facilities	Details
1	IQAC	Available
2	Grievance Redressal unit	Available
3	Women’s Cell	Available
4	Counseling & Career Guidance	Available
5	Placement Unit	Available
6	Health Centre	Dispensary is available
7	Canteen	Sitting space 150 Sqm
8	Recreational spaces	Available
9	Safe drinking water facility	08 no of water purifiers and coolers
10	Security	Security office 10 Sqm

## **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 composition of the

### **Name with Designation**

**Chair Person:-**Prof. (Dr.) Mayadhar Behera

**Convener:-** Prof. Debasish Panda.

### **Members :-**

- (i) Prof. Sambit Kumar Sahu
- (ii) Prof. Pravat Kumar Swain
- (ii) Prof. Mihir Kumar Behera .
- (iii) Prof. Rajib Kumar Rana .
- (iv) Mrs.Sasmita Satpathy, Librarian .

The Library Committee meets at the beginning of each semester. Members of the committee and HOD from each department present their views and requirements in the meeting. Such requirements are discussed by the committee and necessary procurement action starts by the concerned authority.

### **Significant initiatives**

- The Library provides both a physical space and a virtual environment in which students and researchers can explore and acquire knowledge and develop lifelong information-seeking skills.
- Facilitate current awareness for their higher education and better communication skills.
- Creating new digital documents & linking them
- Providing access to digital collections
- Establishing services for digital libraries
- Online access and offline support

### **Implemented tasks**

- Committee will see the availability of no. of books related to different branches in the library. They will be contact with the students and staff, if there is a need to purchase new books or journals, suggest the same to the library.

- Internet facilities increased
- Committee will give the support to the librarian to establish new learning facilities like NPTEL materials through Media Resource center
- The department coordinator in the library committee will look after the activities of the department library.

#### **4.2.2 Provide details of the following:**

- Total area of the library (in Sq. Mts.) 1200 Sqm
- Total seating capacity : 300 Nos
- Working hours 08:00 AM to 06:00 PM

Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)

- Separate reading areas are provided for students with a good ambience and relaxed environment.
- The Library has online e-journals subscriptions for staff and students to access e-journals and DELNET Services.

#### **CENTRAL LIBRARY**

- Number of titles - 1133
- Number of volumes – 20,055
- Number of Courses in digital library (NPTEL) - 55
- Number of e-Books in digital library - 47
- No. of Technical Magazines/Periodicals- 12
- No. of Journals in hard copy- 5
- No. of Journals in soft copy : 115
- Library books for faculty – 5 and for students – 3
- Total types of News Paper per day :- 5

DELNET: By using DELNET software, students and faculty will get information of unaware of books.

**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.**

The institute spends around Rs 3-5 Lakhs on the average on books, journals etc in every year.

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

S.No	ICT Details	Availability
1.	Electronic Resource Management package for e-journals	YES
2.	Federated searching tools to search articles in multiple databases	YES
3.	Library website	<a href="http://www.satyasaienggcollege.edu.in/library.html">www.satyasaienggcollege.edu.in/library.html</a>
4.	In-house/remote access to e-publications	Yes' (DELNET Service)
5.	Library automation	Yes
6.	Total number of computers for public access	15
7.	Total numbers of printers for public access	01
8.	Internet band width/ speed	10Mbps
9.	Institutional Repository	YES
10.	Participation in Resource sharing networks/consortia (like Inflibnet)	'Yes' (Login Id & Password Mandatory)

**4.2.5 Provide details on the following items:**

S.No	Items	Details
1	Average number of walk-ins	150 users per day
2	Average number of books issued/returned	75 per day
3	Ratio of library books to students enrolled	13:1

4	Average number of books added during last three years	3000
6	Average number of login to e-resources	20-30 per day
7	Average number of e-resources downloaded/printed	20
8	Number of information literacy trainings organized	2
9	Details of “weeding out” of books and other materials	N.A

#### 4.2.6 Give details of the specialized services provided by the library

S.No	Services	Availability
1	Manuscripts	Yes (course files)
2	Reference	Yes
3	Reprography	Yes
4	ILL (Inter Library Loan Service)	Yes
5	(IDN) Information Deployment and Notification	Yes
6	Download	Yes
7	Printing	Yes
8	Reading list/ Bibliography compilation	Yes
9	In-house/remote access to e-resources	Yes
10	User Orientation and awareness	Yes
11	Assistance in searching Databases	Yes
12	INFLIBNET/IUC facilities	Yes (DELNET)

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

- Provides information about and from the sources available in library at appropriate time to students and staff.
- The available documents in the library stacks will be issued to the users during office hours for a fixed duration of days.

- Xerox, printing facility available to the library users throughout the library opening hours at minimum charges.
- As part of current awareness service the library issues current periodicals, display of new arrivals, notifying the forth-coming conferences / seminars etc., and important notifications.
- An Online Public Access Catalogue terminal is kept to the users to facilitate them to search through catalogue to ascertain the availability of documents. It can be searched using various options like title, author, subject, publisher etc. in a user friendly way.

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

- The persons authorized by them are permitted to borrow books from the library.

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

- Yes, the library gets the feedback from students and staff
- **Strategies:**
  - Library has a suggestion box from which the feedback is being collecting every month.
  - Library coordinators are gathering information from the students about further improvements
  - Library committee meetings are conducted twice in a semester for better implementation of library facilities
- **Improvements:**
  - Media resource centre is established which connects to NPTEL server to access online teaching techniques
  - Projects and thesis repositories are being provided to the students for their reference
  - Increased number of Competitive related books like SAT, GMAT, GRE, TOEFL and GATE

**4.3 IT Infrastructure**

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

- **Total No. of Computers:**

Sl No.	Configuration	Quantity in Numbers
1.	Server	1
2.	Dual core	261
Total		262

- **Total No. of Printers**

**Laser Printer :** 9

- **Total No. of scanners** 5 Nos

- **Total no. of LCD projector** 6 Nos

- **Computer-student ratio:-** 1:6

- **LAN facility:** All the systems are connected with LAN.

**WI – FI facility:** Complete Wi-Fi across the campus with 5 Mbps and 10 Mbps bandwidth. Wi-Fi access points have been installed at the college main campus and the hostels: the students and the faculty can access WI-FI facility any where inside the campus.

**Any other**

- Surveillance camera facility
- College website.
- Back-up electricity supply.

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

Internet service is available in the college for faculty and students. The College has a fully computerized library and wireless broadband internet connectivity with LAN cable, access points with manageable structure. Every student is provided with own identity for access control/e-wallet etc. The whole campus is interconnected through a highly secured Network, where over PCs are connected to the internet through Bandwidth of 10 MBPS subscribed from BSNL.

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

### **Institutional plans and strategies**

- All the computer systems in the college are able to connect with LAN.
- Maintains Computer –student ratio is 1:3
- WI-FI facility will have to be provided to entire Campus
- All the computers in the college should have the internet facility
- Licensed software have to be provided to all Labs for Project and research Labs
- Upgrade the existing hardware to the new configurations to meet the current requirement.
- Internet bandwidth has to be increased 10mbps to 50 mbps in the next 2 years.

### **Facilities to be implemented in future:**

- E class rooms
- Provide more advanced software for research and development.

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

S.No	Provision	Annual Budget Expenditure (Lakhs)			
		2012-2013	2013-2014	2014-2015	2016-2017
1	Procurement	5	10	30	30
2	Up gradation	2	5	10	10
3	Development & Maintenance	1	2	10	10

#### **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?**

- College is conducting Subject Expert webinars
- Teachers liberally take help of the ICT resources to enrich their prescribed curriculum.
- College is providing on line NPTEL video material.
- Faculty members are provided with computers with internet browsing facility for preparation of teaching/learning materials in their respective departments.
- Also Multimedia projectors, are available within the college for the faculty use.

- College also has seminar halls equipped with projectors and are available as and when requested by particular teacher.
- College also has a fully air-conditioned multimedia hall.
- By giving assignment students browse the information from internet and also the self learning facilities available at the library.

**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 vision and the mission of the institution have always been to provide holistic knowledge to its students.
- Keeping the students' learning at the centre of everything, the college understands that the teachers have to be reoriented from time to time.
- Use of technology has become very vital in imparting quality based education.
- Every class has a separate hour in the timetable for library, internet etc such that they can develop the learning skills by the IC technology provided by the college.
- The institution encourages the staff to undergo training on the computer-aided teaching and training.
- The computer department also organizes training sessions on the use of Internet for learning resources.
- Well equipped computer Labs, LCD and OHPs are available to the faculty for computer aided teaching.
- Providing on line NPTEL video material for students Conducting Subject Expert webinars on different subjects like Data Mining, data Communication and others.
- The course material is also available in Digital library students can access from any systems in the college campus

**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?**

Yes, The college has the National Knowledge Network Connectivity through

- BPUT University
- NPTEL
- DELNET

#### 4.4 Maintenance of Infrastructure

**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 4 Years) ?**

S.No	Infrastructure	Budget Allocation for maintenance (Lakhs)			
		2013-2014	2014-2015	2015-2016	2016-17
1	Buildings	15	15	15	15
2	Furniture	10	10	10	10
3	Equipment	30	30	30	30
4	Computers	30	30	30	30
5	Vehicles	20	20	20	20
6	Potable water facility	5	5	5	5

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

**a) Building maintenance committee:**

A committee is constituted to monitor the maintenance of academic infrastructure and facilities.

**Members of the committee:**

S.No	Name of the Staff	Designation
1	Mr. Sushant Kishore Das	Coordinator
2	Mr. Umakanta Mukhi	Co- Coordinator
3	Mr. Srikanta Nayak	Member

4	Mr. Dilip Samal	Member (Electrician)
5	Mr. Deepak Ku Ray	Member (Electrician)
6	Mr. Ganesh Das	Member (PHD)
7	Mr. Sudam Das	Member (PHD)

#### **Functions of the committee**

- Proper upkeep and maintenance of the buildings
- Maintenance of the lawns and surroundings
- Carrying out minor repairs of furniture, electrical and sanitary fittings
- Maintenance of the roads, water tanks and other services in the compound
- Maintaining security ensuring the safety requirements in the campus

#### **b) Transport maintenance committee:**

A committee has been constituted for the day to day maintenance of the college vehicles

#### **Members of the Transport Maintenance committee:**

<b>S.No</b>	<b>Name of the Staff</b>	<b>Designation</b>	<b>Department</b>
1	Mr. Bikash Chandra Bhuyan	OIC	Asst. Prof ME
2	Mr. Aditya Ranjan Dandpat	Co-OIC	Asst. Prof ETC
3	Mr. Sambit Kumar Sahoo	Member	HOD, CE
4	Mr. Mihir Kumar Behera	Member	Asst. Prof CSE
5	Prof Manas Ranjan Mohanty	Member	HOD, CSE
6	Mr. Ashok Kumar Sahoo	Member	Asst. Prof EE
7	Mr. Pradeep Kumar Sahu	Member	Transport Supervisor

#### **Functions of the committee**

- Maintenance of the college buses
- Obtaining necessary clearance certificates, insurance, permits etc. for the college vehicles from RTA
- Routine checking of the condition of the vehicles.
- Appointment of well trained and experienced drivers.

- Ensuring safety requirements like operation of Speed limiters, fire extinguishers etc.

**c) Electrical Maintenance Committee**

Maintenance of all equipment related to electrical applications is taken up by this committee.

**Members of the Electrical Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1.	Prof. Mihir Kumar Patra	OIC	Associate Prof EE
2.	Mr. Sibanarayan Giri	Lab Asst.	EE
3.	Mr. Satyajit Sahoo	Lab Asst.	EE
4.	Mr. Sanjay Kumar Mohanta	Lab Asst.	EE
5.	Mr. Dilip Samal	Electrician	

**Functions of the committee:**

- Maintenance of Diesel Generators
- Maintenance of UPS systems and its batteries
- Maintenance of Building and equipment earthing- measurement of earth resistance at regular intervals, ensuring the proper earth connection for various equipments in the labs and class rooms.

**d) Equipment maintenance Committee:**

A team is identified for the maintenance of various equipments in the college.

**Members of the Equipment Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Prof. Sushree S Pradhan	OIC	HOD ETC
2	Prof Natabara Mohapatra	Co-OIC	HOD ME
3	Prof. Mihir Kumar Patra	Member	HOD EE
4	Prof Manas Ranjan Mohanty	Member	HOD CSE
5	Mr. Bijan Kumar Dash	Lab Asst.	CSE
6	Mr. Sibanarayan Giri	Lab Asst.	EE
7	Mrs. Sunita Dandapat	Lab. Asst.	ETC
8	Mr. Devi Prasad Jena	Lab. Asst.	ME

9	Ms. Kalpashree Behera	Lab. Asst.	CE
10	Mr. Brajagopal Mohanty	Mech Maintenance	ME

**Functions of the committee:**

- Maintenance of the laboratory equipment
- Routine checking of the condition of the equipment
- Appointment of skilled lab technicians
- Ensuring safety requirements

**e) Internet Maintenance Committee**

**Members of the Internet Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Mr. Manas Ranjan Mohanty	OIC	CSE
2	Mr. Aditya Ranjan Dandpat	Co-OIC	ETC
3	Ms. Subhra Subhankari Dash	Member	CSE
4	Sk. Ajibur Reheman	Comp maintenance	CSE
5	Mr. Bijan Kumar Dash	Lab Asst.	CSE

**Functions of the committee:**

- Monitoring the internet access
- Fiber checking

**f) Library Maintenance Committee**

**Members of the Library Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Prof. Mayadhar Behera	Chairman	BSHM
2	Mr. Debasish Panda	Co-ordinator	ME
3	Mr. Pravat Kumar Swain	Member	BSHM
4	Mr. Sanjay Kumar Mohanta	Member	EE
5	Mrs. Sasmita Satpathy	Member	Librarian
6	Mr. Saroj Kumar Mohanty	Member	Asst. Librarian

**Functions of the committee:**

- Maintenance of books and facilities
- Check the availability of sufficient books for all the departments
- Conducts meetings with library coordinators and students
- Implementing the activities suggested by the students

**g) Hostel Maintenance Committee****Members of the Hostel Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Mr. Santanu Kumar Sahoo	Supdt.(Boys Hostel)	ETC/AEIE
2	Mr. Bikash Chandra Bhuyan	Asst.Supdt. (Boys Hostel)	ME
3	Mr. Dilip Kumar Panda	Co.Supdt. (Boys Hostel)	ETC/AEIE
4	Mrs.Saswati Madhusmita	Supdt.(Girls Hostel)	ETC/AEIE
5	Ms. Shrilekha Mishra	Asst.Supdt. (Girls Hostel)	BSHM
6	Mr. Ramakanta Maharana	AO	Hostel I/C

**Functions of the committee:**

- Maintaining safe drinking water.
- Maintenance of sanitation and electricity.
- Maintaining study room, entertainment and gym for the students.
- Maintain discipline in the hostel.

**h) Canteen Maintenance committee****Members of the Canteen Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Prof.Manas Ranjan Mohanty	OIC	CSE
2	Prof.Sushree S Pradhan	Co-OIC	ETC/AEIE
3	Mr. Aditya Ranjan Dandpat	Member	ETC/AEIE
4	Mr. Pragyan Paramita Dalai	Member	CE
5	Mr.Sishir Chandra Jena	Member	CSE

6	Mrs. Priyadarshani Parida	Member	BSHM
7	Mr. Bikash Chhandra Bhuyan	Member	ME
8	Mr. Mihir Kumar Behera	Member	CSE
9	Mr. Rajib Kumar Rana	Member	ME
10	Mr. Bibuti Bhusan Giri	Member	PA to Principal

**Functions of the committee:**

- Plan, organize, control, and evaluate needs of the canteen.
- Ensure a healthy and safe environment
- Produce a canteen menu and price list.
- Maintenance of food and water quality.

**i) Fire & Safety Maintenance committee**

**Members of the Fire & Safety Maintenance committee:**

S.No	Name of the Staff	Designation	Department
1	Prof. Mihir Kumar Patra	OIC	EE
2	Prof. Manas Ranjan Mohanty	Member	CSE
3	Prof. Sushree S. Pradhan	Member	ETC
4	Prof. Natabar Mohapatra	Member	ME
5	Mr. Sambit Kumar Sahu	Member	CE

**Functions of the committee:**

- Conducts safety committee inspections
- Educates the staff and students about fire prevention and safety precautions

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

**Maintenance of Labs & Lab Equipments:**

- The equipment in the labs is monitored by the lab technicians who closely observe their functioning & calibration regularly and report failures to the lab in –charge.

- The lab in-charge is responsible for the physical safety, preventive and breakdown maintenance of all lab equipment and the register is maintained for all laboratories. They are also in-charge for suggesting the purchase of new equipment (necessitated by change of syllabus), scrapping obsolete and old equipment in the lab stock and for the replacement of the damaged.
- They ensure that at least 97% of equipment is in condition all the time and is available for use.
- The lab in-charge also monitors the charts and notice boards in their respective labs.
- The laboratory equipments are maintained through College Development Fund.
- The computers and electronic devices are maintained and repaired through the funds available in the institution.
- A team of qualified technical staff for maintaining computers and networking facilities is available.
- Some of the members are stationed in the campus so that they are available at short notice

**Qualified and skilled lab technicians**

S.NO.	NAME OF THE TECHNICIAN	DEPARTMENT
1	Mr. Bijan Kumar Dash	CSE
2	Mrs. Sunita Dandapat	ETC
3	Mrs. Gayatree Panda	ETC
4	Ms. Namita Pradhan	ETC
5	Mr. Devi Prasad Jena	ME
6	Mr. Sidhartha Biswal	ME
7	Mr. Prafulla Ku Nayak	ME
8	Mr. Narayan Behera	ME
9	Mr. Sibanarayan Giri	EE
10	Mr. Satyajit Sahoo	EE
11	Mr. Ranjan Kumar Das	EE
12	Mr. Laxman Kumar Giri	EE
13	Ms. Kalpashree Behera	CE
14	Ms. Monalisha Nayak	CE

15	Mr. Prasanta Kumar Samal	Physics
16	Ms. Sabita Das	Chemistry

**4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment: Details of voltage stabilizers, security measures in electricity, generator facilities, and earthen points, Water purification systems etc.**

**Major steps**

- The College has clear cut mentioned places for the sensitive equipments like water purifiers and scientific instruments.
- The laboratory staff keeps a strict vigil regarding the maintenance and upkeep of the scientific instruments. Their repair or replacement upkeep is fully undertaken in their supervision.
- The college electrician and the supporting staff are responsible for the upkeep of electrical equipments and their maintenance.
- The institution has a tie up with the company from which the Aqua guard purifiers were brought for the regular and routine check up and upkeep of the purifiers.
- All the laboratories have been properly earthed with a total of **38 earth pits** and the power from the distribution board is through the earth leakage relays. The earth resistance at the earth pits is regularly monitored.
- Also all the electrical installations in the campus are well defined and checked periodically and the same is certified by the concerned authorities i.e. electrical inspectorate of state government once in a year.

## 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 annually. The prospectus provides all the necessary information the students need to know. The college prospectus provides a complete profile of the college. The handbook is having the academic calendar, quality policy, time-table, vision – Mission, fee details, ambiance, courses offered and their accreditation status, faculty, facilities and innovative practices which the students need to observe during their stay in the college.

Every year the college brings out one issue of Newsletter per semester called “**CONVERGENCE**” containing the salient features and it is given to every student and faculty. The website is also updated regularly and the students are informed to browse the same.

In-Charge coordinator for college news letter is Ms.Soumyashree Samantray., Asst. Prof, ETC

#### **Editorial Board Members:**

S.No	Name of the Staff	Designation	Department
1	Mr.Mihir Kumar Patra	Chairman	EE
2	Ms.Soumyashree Samantray	Convenor	ETC
3	Mrs. Priyadarshini Parida	Chief Editor	BSHM
4	Mrs.Saswati Madhusmita	Member	ETC
5	Mrs. Pragyam Paramita Dalai	Member	BSHM
6	Mr. Sishir Charan Jena	Member	CSE

#### **Student Co-Ordinators:**

S.NO	Co-ordinator	Department
1	Manas Ranjan Mohanty	ECE
2	Manas Kumar Puhan	
3	Satyakanta Lenka	EEE

4	Dinton Das	CSE
5	Dhruti Ranjan Bag	
6	Ajay Kumar Rout	

**Commitment and accountability:**

- Committee will look after the Newsletter printing and distributions.
- The total expenditure of the News letter is funded by the college.

Hence the college is maintaining the accountability

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

At present there are no institutional scholarships, but the management has given some fee exemptions regarding tuition fee, bus fee, hostel fee and other sponsorships are also provided.

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

About **70%-75%** of the students are receiving financial assistance from the state govt., in the form of fee reimbursement.

**Fee reimbursement from State Government:**

Description	2015-16	2014-15	2013-14	2012-13
Total numbers				
Total Amount Rs.				
Total Strength				

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

**(a) Students from SC/ST, OBC and economically weaker sections**

- SC/ST grievance cell is developed..
- The cell will help to solve any circumstances regarding scholarships and academics.

**(b) Students with physical disabilities**

- Provided Wheel chair, Ramp facility, Physical assistance from the faculty and students and also provided scribes for helped those who are unable to written.
- Personal interest will be paid by faculty in case of deaf and dumb persons and also conducted ambulance classes facilitate in staff room.
- The persons authorized by them are permitted to borrow books from the library. They are also provided support in laboratory and workshops.

**(c) Is there any overseas students on the campus at present.:- No**

**(d) Students to participate in various competitions/National and International - YES-**

The following are the necessary facilities provided for the students to participate in various competitions

- Play ground
- Guidance or coaching is made available for sports competitions.
- Faculty encourages, guides and provides financial support to the students to participate in various national events and competitive examinations like GATE,PGAT, CAT, GMAT, MAT etc.

**(e) Services/facilities available for Medical Assistance to students; health centre, health insurance etc.**

- Institute has a very special concern for the health and hygiene of the students, staff and other members.
- Organizing medical check-up camp arranged for all students and other members

**(f) Services/facilities available for organizing coaching classes for competitive exams**

- Guidance cell for Competitive Examinations.
- Lectures of eminent persons from different fields are organized throughout the year.
- Library has large collection of competitive examination related books.
- Audio-video, LCD projector, OHP etc. facilities.

**(g) Services/facilities available for Skill development programme**

- The college regularly conducts Personality Development Programs which enhance the IQ level and communication skills of the participants.
- The college also invites Guest speakers from the industry which provides regional and global employment opportunities for the students.

- Special classes are taken for communication skills taking into considerations the rural background of the students.
- Besides this college offers “Introduction to Computer Science” as one of the subjects to all the students taking admission in the first year. This has really helped the students learn the basics of the computer language and Internet.

**(h) Services/facilities available for Support for slow learners**

- The students who are slow in their learning or if their grasping power is not up to the mark, the faculty members identify such students at the beginning of each semester.
- For them remedial coaching classes and counseling facility is available.

**(i) Services/facilities available for Exposures of students to other institution of higher learning/corporate/business houses**

- Students are encouraged and guided to participate in events organized by other institutions. Industrial visits and field trips are arranged for the students for practical exposure.
- Workshops on entrepreneurship development are organized to enhance the interests of students to start their own business/industry.
- College organizes guest lectures by inviting eminent persons from corporate, industries, premier research institutes and Universities to improve the knowledge of students on recent technologies.

**(j) Services/facilities available for Publication of students Magazines**

No, but the institution is planning to prepare student magazine in every department comprising of the latest issues and developments in industries. It also includes the achievements of the students and faculty.

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

- The college has an entrepreneurship development cell to enhance the talents of the students and faculty members in their areas of interest. The cell is planning to establish a

research center in developing and experimenting in the research areas and to extend the facility to the industries and organizations.

- Entrepreneurship Development Cell is involved in arranging one day seminars / workshops by the well known entrepreneurs from medium and small scale industries.
- To motivate the entrepreneurial instinct and zeal among the students fraternity.
- To help in analyzing the various options to select the most appropriate product suiting to the Entrepreneur and the market.
- To develop various businesses related skills of marketing, quality management production, distribution and human resource management etc.
- To make the potential entrepreneurs know about the possible risks and failures of the project and make them learn how to overcome these problems.
- To develop team building, technology upgradation, growth and above all broad vision about the business.

**List of Committee members:**

Sl. No	Name of the Chairman/ Members	Member
1)	Prof. Natabara Mohapatra	Coordinator
2)	Prof. Mihir Kumar Behera	Member
3)	Prof. Soumyashree Samatray	Member
4)	Prof. Souravraj Mahana	Member
5)	Prof. Nishali Mohanty	Member

**List of Student Coordinators:**

S.NO	Co-ordinator	Department
1	Dhruti Ranjan Bag	CSE
2	Kanhu Charan Das	
3	Sunita Bera	ETC
4	Monalisha Ghosh	
5	Deepen Ku Barik	AEIE
6	Soumya Ranjan Jena	Civil Engg
7	Rojalin Shaw	

8	Swapnalisha Rath	
9	Pinton Das	EE
10	Satyakanta Lenka	
11	Dipankar Panda	ME

### Events Organized

Sl No	Date	Entrepreneur Addressed	Target Audience
1.	04.03.2015	Mr. Nirmalya Choudhury, HR, Head, Intex Technology Ltd, Kolkata	3 <sup>rd</sup> year and 4 <sup>th</sup> year Students
2.	24.07.2015	Er. U C Pattnaik, MD, Edgefx Technologies Pvt. Ltd, Hydrabad	3 <sup>rd</sup> year and 4 <sup>th</sup> year Students
3.	19.02.2016	Mr. Sashikanta Chaturbedi, Regional Head, Ardent Technology, Bhubaneswar	3 <sup>rd</sup> year and 4 <sup>th</sup> year Students

**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.**

#### **Policies and Strategies:**

- Attendance will be considered to the students who participate in extracurricular and co-curricular activities.
- TA & other expanses will be provided to the students if they are participated in university and zonal levels, and also provided to students who got the prizes in inter institutional activities.

#### **Implementations:**

- A full time Physical Director has been appointed.
- A sports club has been developed with 7 male faculty coordinators, 6 female faculty coordinators and 20 student coordinators along with PD to organize several games and sports and to encourage the students for better participation in competitions.

**List of sports club members:**

<b>Department</b>	<b>Faculty co-ordinator</b>	<b>Student co-ordinator</b>
CSE	Manas Ranjan Mohanty	Dhruti Ranjan Bag
EE	Sourav Mahana	Hrusikesh Panda
EE	Jayaguru Das	Bikash Ku. Behera
CE	Sambit Sahu	Jitendra Behera
ETC	Aditya Ranjan Dandpat	Biswajit Nayak
ME	Bikash Ranjan Bhuyan	Debasihis Sahoo
ME	Rajib Ku Rana	Diptikanta Mohanty
BSHM	Prajyan Paramita Dalei	

- A cultural club has been developed with 6 faculty coordinators and 12 student coordinators with one Physical Director organizing various extra-curricular activities like singing, dance, skit playing and role plays which leads to students to involve in the competitions.

**List of cultural club members:**

<b>Department</b>	<b>Faculty co-ordinator</b>	<b>Student coordinators</b>
ETC	Aditya Ranjan Dandpat	Durga Madhab Panda
ETC	Sushree S. Pradhan	Aswini Ku Jena
CSE	Manas Ranjan Mohanty	Deepak Rana
ME	Natabar Mohapatra	Sanjib Behera
CE	Sambit Ku Sahoo	Narayana Jena
BSHM	Bhikari Chandra Mallick	

- A Literary Club has been implemented with 8 faculty team and 12 Student coordinators as listed and conducting various literary activities like debate, quiz, extempore etc., on regular basis and winners are awarded prizes and certificates.

**List of literary club members:**

<b>Department</b>	<b>Faculty co-ordinator</b>	<b>Student coordinators</b>
BSHM	Ladu Kishore Panda	Soumyadeep Ray
BSHM	Srilekha Mishra	Soumya Ranjan Jena
CE	Munmun Patra	Aishwarya Behera
ETC/AEIE	Dillip Kumar Panda	Sunita Bera
EE	Sumitraj Mahana	Rosalini Shaw
ME	Debasis Panda	Suryananda Soren

**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.**

- A Carrier Guidance Cell is developed with one TPO, one professor In-charge along with 8 teaching faculty coordinators.
- All the coordinators are interacted with the students; based on their interest we can form the groups and making a path for their success according to their own interest.
- In past years the committee has been conducted GATE classes and Mock tests with the help of GATE FORUM and GATEWAY learning training intuitions.

**Activities organized by SSEC:**

- Awareness is created for Civil Services, Defense Services and other competitive examinations to inculcate the interest in the students.
- The college faculty Provides guidance for admission tests like GATE, GRE,TOEFL, CAT and other competitive examinations.

- They train in communication, English, Verbal, Non-Verbal and Reasoning for Campus Placements and other Competitive Examinations

**Career Guidance Cell is constituted with the following members.**

Sl. No	Name of Faculty Coordinator/ Member	Department
1.	<b>Prof. Natabara Mohapatra</b>	<b>ME&amp; TPO</b>
2.	Dr. P K Raj	BSHM
3.	Subhra Subhankari Dash	CSE
4.	Jayaguru Das	EE
5.	Nishali Mohanty	BSHM
6.	Arundhati Senapati	ETC
7.	Ladu Kishore Panda	BSHM

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

Teachers counsel the students for their academic, social and cultural development. Faculty is allotted with 20 students to mentor and counsel regularly.

##### **Academic Counseling:**

- Faculty Advisor advise the students on academic aspects. The primary activity of these counselors is to monitor the academic progress of the students.

##### **Personal Counseling:**

- Mentors regularly counsel the students and give proper guidance to overcome their personal difficulties.
- During the process of academic counseling by class counselors some students express their personal problems which have impact on their academic career. Such cases are referred to the concerned Head of the department who in turn counsel such students. Based on the requirement, the HODs contact the parents of the students and appraise them regarding the problem being faced by the student.
- A Grievance Redressal Cell looks into the grievances of students and resolves them.

##### **Career Counseling:**

- Career counseling is given to the students by career guidance cell of the college.

**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 College has established a separate carrier guidance and Training and Placement Cell with one full time Placement Officers. It invites reputed companies for campus placements by sending the profile of the college. The institution also effectively uses its alumnus working with the companies in attracting the companies for campus placements.

**The salient activities of Training & Placement Cell of the college are:**

- Mock recruitment process.
- Training by external experts on aptitude, English, communication and soft skills.
- Organizing Workshops/Seminars.

T&P Cell in SSEC campus with the assistance of our Management promote and educate young students to take the benefit of the policies of the government by establishing their own ventures. The cell organizes different activities and events to inculcate Entrepreneurial Spirit among the students.

The mission is to promote entrepreneurship-led innovation, thereby creating "Nation of Entrepreneurs" driven by creativity, initiative, risk taking, discipline, and personal development. The Training and Placement cell established in the college invites various companies for the campus recruitment.

**Training and placement committee:**

<b>Sl. No</b>	<b>Name of Faculty Coordinator/ Member</b>	<b>Department</b>
1.	<b>Prof. Natabara Mohapatra</b>	<b>ME&amp; TPO</b>
2.	Dr. P K Raj	BSHM
3.	Subhra Subhankari Dash	CSE
4.	Jayaguru Das	EE
5.	Nishali Mohanty	BSHM
6.	Arundhati Senapati	ETC
7.	Ladu Kishore Panda	BSHM

**LIST OF INHOUSE TRAINING PROGRAMS CONDUCTED**

<b>Academic Year</b>	<b>No of Programs</b>	<b>NAME OF THE AGENCY</b>	<b>DATE</b>
2015-16	4	Globative, Balasore	July 2015
2014-15	2	Purple Leaf Bangalore	July 2014
2013-14	1	CIPET Balasore	July 2013

\*Internal Training is built up with strong and experienced professionals from

**DETAILS OF PLACEMENT ARE GIVEN BELOW**

<b>ACADEMIC YEAR</b>	<b>NAME OF THE ORGANIZATION</b>	<b>DATE OF APPOINTMENT</b>	<b>SALARY PACKAGE PER ANNUM</b>	<b>NUMBER OF STUDENTS SELECTED</b>
2015-16	Vodafone	15-09-15	1.8LPA	27
	Westin	17-06-15	1.8LPA	12
	FCS Soft Solution	01-07-2015	2.4LPA	6
	RICO-COMP Factory	17-08-2015	1.8LPA	14
<b>TOTAL</b>				<b>59</b>
2014-15	Ritika Print Tech Ltd.	13-10-14	1.44 LPA	13
	Traitsvs Tech Pvt. Ltd.	13-12-14	1.8 LPA	11
	Raltech Project Pvt.Ltd	18-9-14	2.8 LPA	10
	Labour Net	12-11-14	2.5 LPA	09
<b>TOTAL</b>				<b>43</b>
2013-14	Finolex Cable Industries		1.8 LPA	12
	Scorpio Tech		1.8LPA	21
	Ritika Print Tech Ltd.		1.44 LPA	11
	Alpha Tele Comm		1.8 LPA	06

	KAY Tech Services		2 LPA	02
	Bharat Elect. Industries		2.4LPA	17
	Facon Power Ltd.		1.8 LPA	13
	Singhi Cement		2.4LPA	06
	SEPCO		1.8 LPA	19
<b>TOTAL</b>				<b>106</b>

**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.**

The college has established grievance Redresses cell for students.

- Principal is the chairman for all the grievance committees.
- HODs are responsible for resolving the grievances under the guidance of principal.
- Grievance redressal cell is developed with 5 faculty members. The total team will look after grievances.

**Grievance redressal committee:**

In-charge of the committee: Dr. A K Sahoo (Principal)

Department	Faculty co-ordinator
ME	Natabar Mohapatra
EE	Sourav Mahana
CSE	Manas Ranjan Mohanty
ETC	Soumyashree Samantray

**Redressal Mechanism:**

- A transparent system of grievance redressal cell exists in the institute under the leadership of Coordinator.
- A number of suggestion boxes have been placed in students hostels, reception etc. so that students can drop their suggestions/complaints.
- These suggestions/complaints are handled by the Coordinator at appropriate level for their speedy redressal.

- Similarly, for girl students, a separate women redressal committee functions under a senior lady faculty member.

**Women Grievance redressal committee:**

In-charge of the committee: Prof. Sushree Sasmita Pradhan (HOD ETC)

Department	Faculty co-ordinator
BSHM	Nishali Mohanty
CE	Munmun Patra
CSE	Subhra Subhankari Dash

**Major grievances and action taken:**

AY	Grievance Received	Action Taken
2015-16	Internet Speed	Extended Internet facility
2014-15	Extension of library times	Extended morning 1 hour (8:00A.M to 9:00 A.M) and evening 3 hours(4:00 P.M to 8:00 P.M)
2013-14	Need ATM facility	Problem Resolved

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

- The Principal shall constitute a Grievance committee to redress the grievances for all students and staff.
- The grievance cell composed of three people's senior faculty and principal.
- Any staff and students having a grievance, he or she shall make a representation to the committee directly or through the suggestion boxes provided in all the departments and principal's chamber.
- The convener of the grievance committee shall include such grievance as an item of the agenda in the next monthly meeting, unless the seriousness of the grievance warrants a meeting to be commissioned immediately.

**List of the committee members:**

Principal Dr. A K Sahoo is acting as chairman of this committee

Department	Faculty Member	Student Member
BSHM	Dr. P K Raj	Lipsita Swain (CSE)
ETC	Prof. Sushree Sasmita Pradhan	Manas Ranjan Mohanty
EE	Prof. Mihir Patra	Soumya Ranjan Rout (EE)
BSHM	Mr. Mayadhar Behera	Bijayalaxmi Jena (CE)
		Prakash Chandra Behera (ME)

**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?**

Yes, The Anti-Ragging committee maintains a strict vigil in the campus, at bus-stops and buses to prevent ragging. No major instances of ragging have been reported in the last four years. A few minor cases detected have been disposed off by the principal by counseling the students and involving the parents.

**The following committee has been constituted for the academic year 2015-16 and 2016-17**

Sl. No.	Name of The Staff Member	Designation	Position	Contact Number
1.	Dr. A K Sahoo	Principal	Chairman	9437166655
2.	Prof Natabar Mohapatra	HOD ME	Member	9439953798
3.	Prof Manas Ranjan Mohanty	HOD CSE	Member	9437265008
4.	Prof. Sushree S. Pradhan	HOD ETC/AEIE	Member	9437159845
5.	Prof. Mihir Kumar Patra	HOD EE	Member	9776700982
6.	Prof. Sambit Kumar Sahu	HOD CE	Member	9861117781
7.	Prof Santanu Ku Sahu	Associate Prof CSE	Member	8455818061
8.	Prof. Aditya Ranjan Dandpat	Assistant Prof. ETC	Member	9861297321
9.	Prof J Das	Assistant Prof. EE	Member	9437695179
10.	Prof M K behera	Assistant Prof. CSE	Member	9861389743
11.	Prof Rajib Rana	Assistant Prof. ME	Member	9861974666
12.	Prof S Madhusmita	Assistant Prof. ETC	Member	9438287461

13.	Prof Munmun Patra	Assistant Prof.CE	Member	9776711155
14.	Prof A K Sahoo	Assistant Prof.EE	Member	9437813411
15.	Prof B Bhuyan	Assistant Prof. ME	Member	8763871620
16.	Prof Shreelekha Mishra	Assistant Prof. BSHM	Member	8895106813
17.	Mr. B B Giri	PA to Principal	Member	9438287322

- **Class representatives are the coordinators for anti ragging committee.**

**Measures taken for preventing Ragging:**

- Separate bus timings for I year B.Tech students
- Separate lunch and break timings for I year B.Tech students
- Display of boards for anti-ragging located at corridors, library, canteen and departments.
- The members of the committee visit campus, bus-stops, and main centers to look after the students against ragging.
- Security has been strengthened

As on date no incident of ragging has been reported or brought to the notice of the anti-ragging committee

**5.1.13 Enumerate the welfare schemes made available to students by the institution.**

- Free medical aid on the campus.
- Scholarships to the economically backward students.
- Supporting facilities for getting Educational Loans.
- Comprehensive placement training
- A separate cell to facilitate the processing of applications and remittances of government scholarships.
- Stationary and reprography facility are available within the campus
- ATM facility
- Library is open before and after the college hours
- Internet lab for day scholar beyond working hours

**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?**

The alumni association meets every year in the college campus. The main activities are:

- To arrange interactive sessions with the students of present batch and to provide counseling.
- The alumni help in bringing industries and companies for campus placements and provide employment opportunities to the students.
- As few members of the alumni are entrepreneurs, they play an important role in motivating the students to become entrepreneurs.

**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	Academic Year			
	2015-16	2014-15	2013-14	2012-13
Graduated	98%	99%	100%	100%
Placement	70%	82%		
Higher Study	4%	6%	2%	2%

**5.2.2 Provide details of the programme wise pass percentage and completion rate for the last four years (cohort 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.**

Results are in %

Course	2015-16	2014-15	2013-14	2012-13
B.Tech(CE)	98	90	-	-
B.Tech(CSE)	96	95	93	90

B.Tech(EE)	97	96	95	93
B.Tech (ECE)	96	92	96	91
B.Tech(ME)	97	96	95	96
B.Tech (AEIE)	98	95	97	92
M. Tech (ETC)	95	100	-	-
M. Tech (CSE)	95	100	-	-
M. Tech (MSD)	95	75	100	-

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

Yes:

**Carrier Guidance Cell & Placement Committee:**

In-charge of the committee: **Prof. Natabara Mohapatra**

Sl. No	Name of Faculty Coordinator/ Member	Department
1.	<b>Prof. Natabara Mohapatra</b>	<b>ME&amp; TPO</b>
2.	Dr. P K Raj	BSHM
3.	Subhra Subhankari Dash	CSE
4.	Jayaguru Das	EE
5.	Nishali Mohanty	BSHM
6.	Arundhati Senapati	ETC
7.	Ladu Kishore Panda	BSHM

- Conducting seminars, soft skills and training programs at regular intervals.
- The interested students are guided on how to perform well in the competitive exams like GATE, Civil service exams etc.
- Special seminars had been arranged to know the current challenges.
- Conducting coaching/training classes to improve the employability skills of the students.

**Activities**

- Placement training is conducted for students which include aptitude tests, online mock tests, group discussion etc...
- Pre-Placement Training classes are conducted to III B.Tech.

- Online Assessment Tests are conducted for IV & III B.Tech. students
- Mock Tests are conducted for the III B.Tech students in the topic of Quantitative aptitude and reasoning

**5.2.4 Enumerate the special support provided to students who are at risk of failure and drop out?**

- Identified the slow learners and conducted remedial classes.
- Remedial classes are made part of the regular time-table for the analytical subjects in UG programmes wherever there is scope.
- The main thrust of the remedial classes is close interaction of students with faculty, where the students get their individual doubts clarified.
- Special classes after regular college hours are conducted in those subjects where some students are not able to cope with.
- Separate counseling is made to build the confidence in them and to concentrate on studies.

**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.**

The college has a large play grounds for games like cricket, football, basket ball, volley ball etc.,

**Sports committee:**

<b>Department</b>	<b>Faculty co-ordinator</b>	<b>Student co-ordinator</b>
CSE	Manas Ranjan Mohanty	Dhruti Ranjan Bag
EE	Sourav Mahana	Hrusikesh Panda
EE	Jayaguru Das	Bikash Ku. Behera
CE	Sambit Sahu	Jitendra Behera
ETC	Aditya Ranjan Dandpat	Biswajit Nayak
ME	Bikash Ranjan Bhuyan	Debasihis Sahoo

ME	Rajib Ku Rana	Diptikanta Mohanty
BSHM	Prajyan Paramita Dalei	

**Sports facilities available in the college**

S.NO	LIST OF SPORTS	NO.OF COURTS
<b>Outdoor Facilities</b>		
1.	Volley ball	01
2.	Throw ball	02
3.	Cricket	01
<b>Indoor Facilities</b>		
4.	Carroms	04
5.	Chess	06
6.	Table tennis	01

**Activities of the Sport Committee:**

- Preparation of play fields for the use of players for time to time.
- Conduct of selection trials to pick up talented players for participation at inter collegiate tournaments matches.
- Coaching provided to the participating teams.
- Providing games and sports material for the regular practice.
- Calling quotations for the purchase of quality sports material.
- Attending university tournaments and general body meetings.
- Organizing practice matches for different events from time to time.
- Guiding students/players towards academic accomplishments.
- Providing sports uniform for the students for participation in tournaments.
- Financial support to the outstanding sports person to participate in international/national level tournaments.
- Conducting intramural games and sports competitions for men and women students separately in volleyball, cricket, table tennis, badminton, throwball, ball badminton, Tennicoit, carrom, chess, kabaddi, kho kho, soft ball and athletics events.

- Conducting games and sports competitions for staff of the institute both teaching and non-teaching (men and women separately).
- Presenting merit certificates and mementos to the winners and runners in the institute competitions.
- Providing TA/DA to the players for participation in the outside tournaments.
- Grant of attendance to the participating students in the competitions.

**List of events conducted**

Year	Events				
	Cricket	Footbal	Badminton	Volley Ball	Kabaddi
2015-16	2	1	2	2	2
2014-15	2	1	2	3	2
2013-14	2	1	1	2	2

**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.**

**Student achievements in extracurricular activities:**

**Academic year: 2015-16**

**Academic year: 2014-15**

**Academic year: 2013-14**

**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 institute has a clearly set and defined mechanism of obtaining the feedback from the students and stake holders to improve the performance and quality of the institutional provisions. Following feedbacks are taken so as to assess attainment of Program Objectives and Program Education Objectives.

- Introducing Wi-Fi, Add on programs in curriculum conducting extra lab hours in academic calendar and proposed to buy new reference books and journals in library based on analysis of Semester End feedback from the students in curriculum
- From analyzed feedback of exit students conducted Extra classes for soft skills and coaching is given for competitive exams to get jobs as well as higher education.
- Facilitate advanced equipment in labs, Industry institution interaction facilities and extra guidance are provided based on the analysis of Alumni feedback
- Introduced intercom facilities
- Increasing infrastructure in the campus, maintenance improvement of hygienic canteen and hostel accommodation, SMS alerts for absent students and college holidays are provided based on Parents feedback

**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.**

- In-Charge coordinator for college news letter is Ms.Soumyashree Samantray., Asst. Prof, ETC
- **Editorial Board Members:**

S.No	Name of the Staff	Designation	Department
1	Mr.Mihir Kumar Patra	Chairman	EE
2	Ms.Soumyashree Samantray	Convenor	ETC
3	Mrs. Priyadarshini Parida	Chief Editor	BSHM
4	Mrs.Saswati Madhusmita	Member	ETC
5	Mrs. Pragyan Paramita Dalai	Member	BSHM
6	Mr. Sishir Charan Jena	Member	CSE

- College News letter every semester named “**CONVERGENCE**”
- College Magazine is initiated to be released from this academic year.

**5.3.2 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.**

Yes, the college have a student council.

**Selection of Student Council:**

The topper, an average student and a academically weak student of each section are nominated as a class representatives who has more integrity with other students, for all the sections from First year to final year. Regular meetings are conducted by the heads of the departments to review the problems faced by the students.

**Activities:**

- Took active part in academic and technical activities for smooth functioning of the college.
- Organization of Add on Courses & Guest lecturers
- Workshops/seminars by Career guidance, training placement & various professional body activities can be done with the help of student council.
- Anti ragging & Social responsibility activities (NSS)

**Funding:** For cultural and technical activities college provides the funding depending upon the anticipated expenditure.

**5.3.3 Give details of various academic and administrative bodies that have student representatives on them.**

Various committees are constituted with a senior faculty as Chairman to monitor the maintenance of academic infrastructure and facilities.

- Canteen Committee
- Hostel Committee
- Anti Ragging Committee
- Library committee
- Student Grievance cell
- Women’s Grievance cell

- Career Guidance cell
- Entrepreneurship cell
- Training and Placement cell
- R&D Cell
- College Newsletter/Magazine Committee
- Internet facilities
- Electrical Maintenance
- NSS
- Fire & Safety committee
- Transport committee
- Sports committee
- Cultural Council
- Literacy Club

Chairman of various committees are empowered to take remedial steps for smooth functioning of the institution.

### **5.3.3 How does the institution network and collaborate with the Alumni and former faculty of the Institution.**

- Alumni committee has been formed with 6 alumni Student coordinators.
- In-charge of the committee:-

#### **List of the alumni committee:**

<b>Name of the coordinator</b>	<b>Designation</b>	<b>Occupation</b>
Dr. A K Sahoo	President	Principal
Prof Sushree S Pradhan	Vice – President	HOD ETC
Prof Manas Ranjan Mohanty	Secretary	HOD CSE
Mr. Chandrakanta Nayak	Treasurer	Software Engineer

- Staff and the Heads of the Departments will maintain rapport with the Alumni
- Active alumnae come and address 3rd and 4th year students towards career development programmes.

- The former faculty of the institution is invited for annual day, traditional day, workshops of the relevant departments.
- Any other relevant information regarding Student Support and Progression which the college would like to include.
- Institution is providing industrial interaction to the student by visiting directly to the industries and for doing projects externally.
- To empower the technical knowledge in practical we are conducting add on courses by the industrial experts.

## **Criterion VI: Governance and Leadership**

### **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**

Promoting societal empowerment by augmenting Human Resource Capital through Quality Technical Education with strong ethical values.

#### **Mission**

- Academic excellence in Science, Engineering and Technology through dedication to duty, innovation in learning and faith in human values.
- Enable the students to develop into outstanding professionals with high ethical standards capable of creating, developing and managing global engineering enterprises.
- Promote all round personality development of the students through interaction with alumni, academia and industry.

#### **Quality Policy**

We are committed to achieve excellence in teaching and research by ensuring creative environment with challenging opportunities.

#### **Distinctive characteristics of the institute:**

- Readiness to provide infrastructural facilities and learning resources.
- Exposing students and faculty to latest technologies by frequent interaction with research and industrial experts.
- Promoting research culture among students and faculty by encouraging staff to pursue higher studies and students to take up socially beneficial project works.
- Inculcating service motto among students and there by sensitizing the surrounding public through NSS and special campaigns

### **Vision for the Future:**

- To impart practical skills to students and make them industry ready at end of the completion of their course work.
- Obtaining and sustaining accreditation at National level.
- Acquiring autonomous status to offer Industry specific programs.

### **6.1.2 What is the role of top management, Principal and Faculty in design and implementation of its quality policy and plans?**

#### **Role of the Top Management:**

The college has a governing body that has Principal as Member Secretary which meets at least once in a year and has the following responsibilities:

- ✓ To provide effective leadership to enhance quality and performance of the institution.
- ✓ To motivate, empower and encourage the Principal and staff to prepare and implement Quality Policy.
- ✓ To encourage innovation and excellence in all departments of the Institute.
- ✓ To provide Institutional benefits to the faculty and staff involved in preparation and implementation of Quality Policy and plans.
- ✓ To provide research facilities for the benefit of staff and students.
- ✓ To provide necessary manpower and infrastructure for the scrupulous implementation of Quality Policy and plans.
- ✓ To extend authority, support and freedom to all the staff engaged in implementation of Quality Plans.
- ✓ To consult the Principal and other experts (in-house as well as outside) on all matters for enhancing the Quality of Institutional activities.

#### **Members of Board of Governors :**

<b>S.No</b>	<b>Name</b>	<b>Category</b>	<b>Position</b>
1	Sj. Padmalochan Panda	Management	Chairman
2	Smt.Kuntala Kumari Panda	Management	Member
3	Sri. Benumadhab Panda	Management	Director, Member

4	Sri. Rabindra Kumar Panda	Management	Member
5	Sri. Kishore Chandra Das	Management	Member

**Role of the Principal:**

The Principal provides support and empowers staff and students and takes a proactive role in the design and implementation of quality policy and all academic activities.

**Duties of Principal:**

- ✓ To determine the quality policy, educational character and mission of the institute and for oversight of its activities.
- ✓ To ensure maintenance of quality in all areas of the institute as per the Institute's Quality Policy and guide lines from NBA, NAAC, AICTE, and affiliating University.
- ✓ To prepare infrastructure development plans, budget requirements and obtain approval, keeping in mind the Quality maintenance aspects.
- ✓ To improve the quality of publications, quality of website and research activities of the institute.
- ✓ To maintain and enforce strict discipline in the campus.
- ✓ To collaborate with industry and undertake developmental activities that are mutually beneficial.
- ✓ To conduct internal and external examinations as per the Quality guide lines and academic calendar of the affiliating university.

**Role of Faculty:**

All faculty actively participate in design and implementation of the Quality Policy and plans of the institute.

**Duties of Faculty:**

- ✓ To educate the students using latest and innovative teaching methodologies.
- ✓ To generate and ensure maintenance of quality plan as per the standard enforced by the accreditation agencies like NAAC, NBA, affiliating University and professional societies.
- ✓ To participate in relevant workshops/seminars/symposia/FDPs.
- ✓ To collaborate with the campus web team and ensure updating and correctness of institute website and E-learning process.

- ✓ To counsel the slow learning and differently abled students to improve their academic performance
- ✓ To become members in engineering professional bodies and keeping abreast of the latest developments in their areas of interests/research and Quality aspects.
- ✓ To inculcate the spirit of maintaining Quality in all the Endeavours undertaken by students.

### **6.1.3 What is the involvement of the leadership in ensuring?**

- **The policy statements and action plans for fulfilment of the stated mission**
- **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**
- **Interaction with stake holders**
- **Proper support for policy and planning through need analysis, research inputs and consultations with the stake holders**
- **Reinforcing the culture of excellence**
- **Championing organizational change**

#### **The policy statements and action plans for fulfilment of the stated mission:**

To meet the goals specified in the mission, vision and quality policy statements of the institution, management provides the required infrastructure for creating learning environment in the college. Prior planning is made by every department well before the commencement of the academic year and after critical study, the budget is allocated under various heads for providing state-of-the art infrastructure in the institution. Highly qualified faculty are recruited and retained to impart need based technical education with sound ethical values with an aim to develop research and development aptitude and enhance interaction with industry.

#### **Formulation of action plans for all operations and incorporation of the same into the Institutional strategic plan:**

The academic council of the institute generates the academic calendar which details the curricular, co-curricular and extracurricular activities and ensure implementation of these activities.

**Interaction with stakeholders:**

The top management ensures interaction with various stakeholders like students, parents, industry, alumni and faculty. Regular meetings are conducted to gather opinions and feedback. Constructive suggestions are put into practice.

**Proper support for policy and planning through need analysis, research inputs and Consultations with the stakeholders:**

The inputs collected from various stakeholders are taken into account by the management and through various interactive methods with the staff, identifies critical areas and chalks out further action plan.

**Reinforcing the culture of excellence:**

The institute continuously sets higher standards for itself to emulate. It formulates procedures and practices from time to time to achieve the set standards.

**Champion organizational change:**

For effecting organizational change, which is often a very sensitive issue, top management creates thorough awareness among the stakeholders and ensures effective communication to all of them. Parameters like results analysis, faculty performance, goals achieved etc., are taken into account for ensuring smooth organizational 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?**

Satyasai Engineering College is committed to promote societal empowerment by augmenting Human Resource Capital through Quality Technical Education with strong ethical values.

The Institute has a Governing Body (GB) constituted as per AICTE/ UGC guidelines. The GB constitutes of minimum of five members from the Society, nominees from AICTE, Industry, Affiliating University, State Government, and two Faculty members from the Institute. Principal is the member Secretary and arranges the Governing Body Meetings and records the minutes of meeting.

The Institute has an Academic Council consisting of the Principal and all HODs as members. In addition a number of committees are constituted for carrying out successfully all the academic and non-academic activities of the Institute. The appropriate body gauges the impact of the decisions and evaluates the effectiveness and devises plans and mechanism for improvement from time to time. The respective HOD with the concerned coordinator and committee takes up the task of monitoring the progress and make submissions to the Academic Council. Principal, as Head of the Institute has complete freedom to run the institute, ensuring the implementation of the rules and regulations framed by the government and affiliating university.

The decisions taken by the appropriate regulatory bodies of the institution (Satyasai Engineering College) are implemented by the respective committees. Suggestions received from committees are analyzed carefully and appropriate decisions are taken and implemented effectively.

**6.1.5 Give details of the academic leadership provided to the faculty by the top management?**

Top management and principal involved the faculty in academic leadership by involving them in various activities/committees The following are the academic heads in the departments.

1. HOD
2. Class incharge
3. Lab incharges
4. Project coordinators
5. Industrial visit coordinators
6. Mentors / counsellors

Following are responsibilities of other committees:

**Library committee:**

1. Increasing of utilization of library facility, by the staff as well as by the students.
2. Committee will see the availability of number of books related to different branches in the library. They will contact with the students & staff and if there is a need to purchase new books or journals, suggest the same to the librarian as well as principal.

3. The committee will take care about other supporting facilities like Xerox machine, spiral binding machine and maintenance of books and facilities.
4. Committee will give the support to the librarian to establish new learning facilities like online learning, NPTEL courses, E- learning.
5. The department coordinator in the library committee will look after the activities of the Dept. library.

**Sports and cultural committee:**

1. In the sports and cultural committee Faculty coordinator from each department and student coordinators work.
2. Committee will see availability of the sports& games facility to all the students and staff in the college as well as in the hostels.
3. Committee will facilitate different time slots for the hostellers. Hence utilization rate of the facility as well as physical fitness both will improve
4. At the time of Regional, District, National level competitions these committees will motivate the students
5. Regular NSS camps also monitored by the committee.

**Hostel committee :**

1. In this committee faculty and students from the various branches as well as different levels will be the members. They will look after the discipline in the hostels and counseling of the students.
2. This committee will take care of menu in the mess and quality and hygienic conditions.
3. This committee will take care about sports or games & other physical fitness facilities in the hostels.

**Canteen committee:**

1. In this committee faculty and students from the various branches as well as different levels will be the members. They will look after the discipline in the canteen and counseling of the students when ever required.
2. This committee will take care of hygienic conditions in the canteen, and arrangement of food items in the special events.

**Transport committee:**

1. In this committee coordinator of buses, faculty coordinators, coordinators from the non teaching staff involved. They will look the discipline in the buses and protect the students from the ragging in the buses.
2. They will observe whether the buses covers all the routes are not, and they will monitor the bus timings.
3. According to the strength of the students buses number also monitored.

**Fire & safety committee:**

1. In this committee faculty members and student representatives are involved, they will see the safety measures in the campus as well as in the hostels and canteen

**Infra-Structure Development Committee:**

1. This committee works along with the principal and Management representative in the campus. This committee basically anticipate the future needs of the Institute. Accordingly suggestions will be given to the management.
2. HODs of the department and senior persons by default members in the committee.

**College News letter Committee:**

1. College news letter committee consists of departmental coordinators, students. They will work in coordination with the principal.
2. For every six months i.e for the each semester one news letter will be published by this committee.

**Placement & Career guidance cell Committee:**

1. Faculty coordinators from each department, Trainig & placement coordinator and principal collectively work in this committee.
2. Faculty coordinators will conduct the career guidance programmes in the department, and also they assist the placement coordinator to form the student groups for training programs as well as they will check the genuinity of the company who are going to conduct the campus placement drives.

**Grievance Cell Committee:**

This committee will form whenever it is required; The grievances of the students/staff are noted in the register. As per report in that the committee will form.

### **6.1.6 How does the college groom leadership at various levels?**

- Faculty are trained/groomed for good leadership by deputing them as members of various committees and later making them as coordinators.
- college develops the leadership qualities among faculty by involving them in various developmental committees and provide opportunity to organize workshops/seminars/sport meet/NSS activities/blood donation camps etc.
- The principal is the academic and administrative Head of the institution. He forms various committees for effective functioning of the institution. He guides the HODs how to coordinate the staff to carry out the tasks.
- The HODs lead their departments guiding their staff in maintaining registers, in conducting curricular/co-curricular/extra-curricular activities and documenting them.
- The staff members guide the students for taking initiatives in the activities and for organizing events both at college and classroom level.
- One or two Students are taken as members in various committee
- The principal also guides the A.O in discharging his/her duties.
- The AO in turn sees the work in the office coordinating all the other supporting staff.
- The senior faculty members act as conveners for various committees in the college.
- The junior faculty members mostly act as members of these committees and gain experience in the work.

### **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 institute provides operational autonomy for decentralization of work.
- Departmental in-charges are given operational autonomy for the overall supervision of their respective departments.
- Financial autonomy extended to a limited extent.
- HODs have complete freedom in carrying out activities like time-table preparation, subject allotment, conducting of unit tests, assignment tests, project work, checking of

teaching diary, teaching notes, conducting of practical classes, maintenance of department library and laboratories etc.

- Coordinators of various committees are also given autonomy to some extent for the implementation of the action plans and policies. The required logistical support is extended to them.
- Autonomy and flexibility is to be used with in the overall vision and mission of the institute.
- Autonomy and flexibility to departments and committees increases decentralization and delegation of work and governance system.

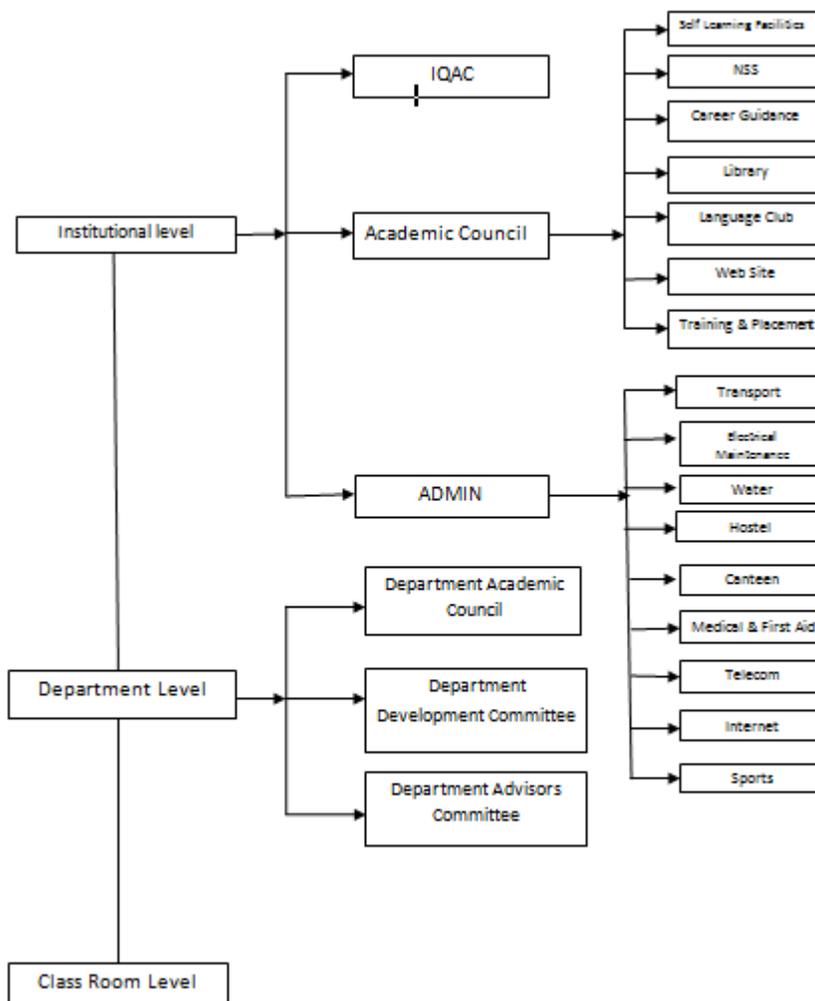
**6.1.8 Does the college promote a culture of participative management? If ‘yes’, indicate the levels of participative management.**

Yes. college promotes a culture of participative management through the following 3 levels

i) At the classroom level : a committee which consists class teacher and a faculty not concerned to the class and the active or bright students or student representatives. the lecturer in charge takes opinions of the students. they will be analyzed and give suitable recommendations to principal/HOD to take necessary decision.

ii)At Departmental level: Departmental academic council, Departmental advisory committee and Department developmental committee perform their duties, the resolutions/feedback analysis made by them are brought to the notice of the IQAC and principal so as to take the necessary action/ decisions.

iii)At Institution level: IQAC, Academic council,administration committee functions for better function of college the levels of participative management in the college . the detailed schematic diagram is as shown below.



## 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, the institution has a well designed quality policy which is implemented scrupulously. Preparation of the Quality Policy is initiated by conducting a brain storming session to all the faculty members by the Principal at the beginning of each academic year. During this session, the importance of maintaining quality in all the activities of the Institute, guidelines for preparing the Quality Policy, and the time frame in which the activity has to be completed is explained to all the faculty by the Principal as well as IQAC members. After this session, HOD of each department prepares the detailed Quality plan and also proposes modifications (if required) to the Quality Policy of the Institute. The reports received from various departments are reviewed by

the academic council and the Institutes Quality Policy and departmental Quality plans are approved for subsequent implementation at various levels.

The detailed steps involved are enumerated below:

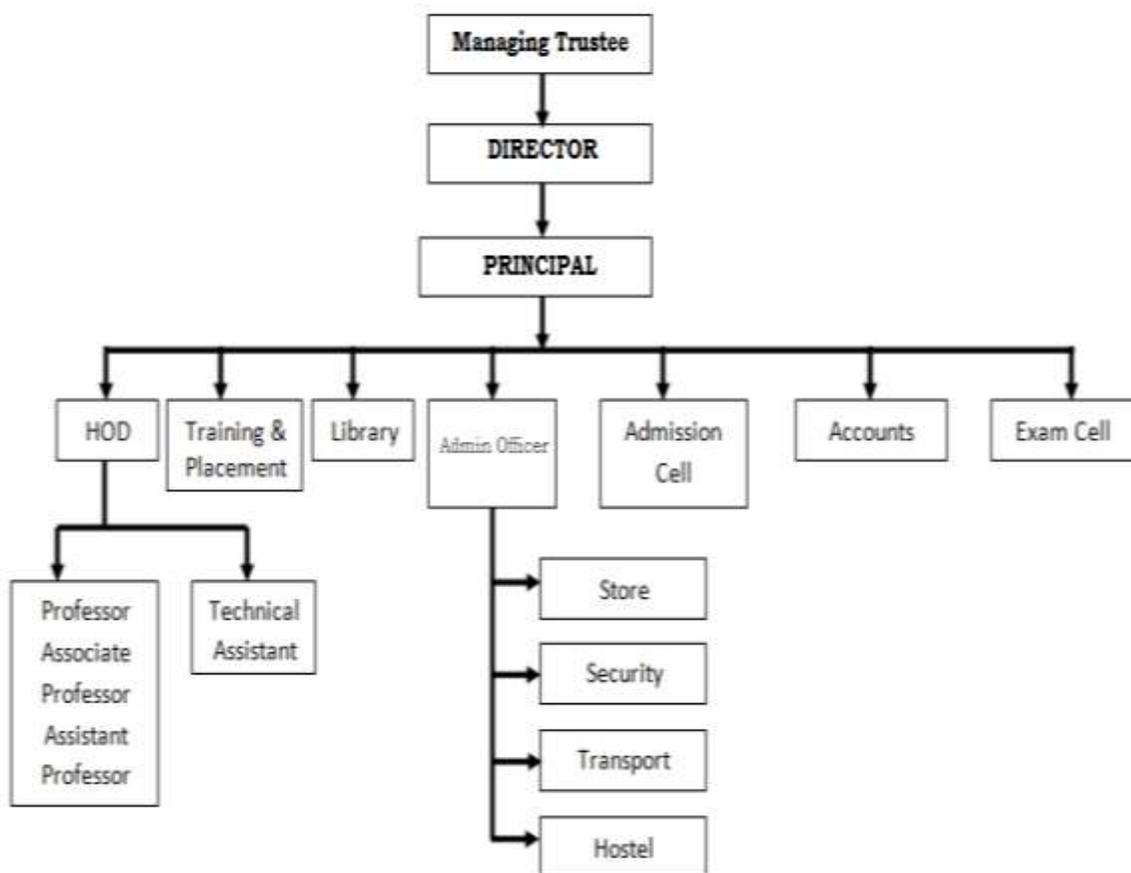
- ✓ The quality policy is developed in consensus with the guide lines of NAAC and followed by systematic assessment.
- ✓ The vision, mission and goals of the Institute also state the quality policy of the institution.
- ✓ Action plans, policies and programmes for quality improvement, enhancement and policy implementation are designed and put into action.
- ✓ All stakeholders are well informed about the quality policy and goals of the institutions from time to time through various means.
- ✓ Quality Procedures are followed in student centered teaching and learning activities like- assignments, industrial study projects.
- ✓ Quality Policy aims at cultivating the habit of research aptitude and behavior in all institutional activities.
- ✓ Quality Policy also increases the confidence among the students community for employability potential through quality enrichment programmes and training.

**6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.**

- Yes, institution has perspective plan of development. The following aspects are considered and included in the plan, they are
  - academic
  - infrastructure
  - research
  - placement
  - career development aspect
  - environmental
  - social awareness

### 6.2.3 Describe the internal organizational structure and decision making processes.

Decentralization of works including delegation of financial powers and grievance redressal system is carried through our effective internal organisational structure.



#### Administrative Setup/ Internal Organization Structure

#### Decision Making Process

Principal is the academic and administrative head of the Institute. He is responsible for proper functioning of the college, directing the academic and administrative staff, maintenance of discipline in the Institute and perform all other duties delegated to Principal by the Governing Body.

The Principal, with the help of all HODs prepares and submits annual reports, augmentation of infrastructure, research proposals, manpower requirements, training needs and funds requirements to the Governing Body and obtain its approval and guidelines.

HODs help the Principal in the administration and are responsible for the smooth functioning of their respective departments. They consult Principal in all technical, academic and administrative matters. HODs prepare budget proposals for operation, maintenance and development of their respective departments. HODs constitute various teams on need basis to help in smooth running of Institute activities various matters.

Conveners of various committees will report to the Principal, regarding the issues related to their work.

#### **6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following:**

##### Teaching & Learning:

- Prior planning for curricular and co-curricular activities
- preparation of lesson plans & course schedules by individuals
- Using ICT for classroom instruction
- usage virtual laboratories/video lectures
- optimum utilization of library facilities
- arranging bridge courses, Add-on courses.
- utilisation of E-learning facility
- encouraging innovative inter disciplinary projects
- remedial classes
- Well-planned day-wise Time-table arranging guest lecturers from eminent personalities
- arranging/ attending the work shops / EDPs/refreshers courses/skill oriented programmes
- motivated the faculty to acquire the higher educational qualifications
- Effective formative/summative evaluation system
- Best feedback mechanism

#### Research & Development:

- Encouraging staff to apply for research projects
- Encouraging staff to pursue Ph. D.
- Motivating faculty towards research
- Enlightening students about the importance of research
- Enlightening students & staff about the research grants/assistance from national agencies.

#### Community engagement:

- Holding NSS camps in the villages
- Motivating towards Out reach programmes
- Conducting Surveys through students on community
- holding awareness camps in the villages
- involving the community in college functions and development programs
- extending consultancy services to the community

#### Human resource management:

- Recruitment process: well qualified faculty are recruited by following AICTE norms
- Retention of faculty: long standing benefits such as leave facilities, increments for the acquirement of higher qualifications, awarding special appraisal certificates
- amicable relations with the staff
- concern for the problems of the staff & students
- student-friendly atmosphere in the campus

#### Industry interaction:

- having tie-ups/linkages with the nearby industries
- organising fieldtrips for students to industries
- interaction with the industry personnel

**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 principal takes adequate information from feedback etc and presents to the GB on the academic activities conducted in the college from time to time.
- Reports are submitted to the GB regarding the result analysis academic activities and statistical reports.
- Institutional staff and students particulars are submitted to management (Human Resource Management System) database.
- Regarding academic activities, the college submits required information to the university.
- In the college annual day, the principal presents the report of the activities
- All the major activities and examination schedules, Student attendance and results details are informed to management through circulars and through print media and college website to stakeholders.
- In the regular Alumni meets, the progression of the college and the areas need to be improved are presented. With the assistance of Alumni any suggestions proposed by them are implemented in college administration.
- All the Academic & Administrative activities are reviewed by taking feedback from all the stake holders i.e. students, parents, Alumni, Industry, employers. Parallely IQAC committee members also gives the improvements in the Academic and Administrative activities as feedback

**6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?**

Management encourages and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes by apprizing / announcing awards/ providing increments/ giving promotion in their cadre.

**Incentives & Awards**

- Awards are instituted for the faculty as well as supporting staff members. These awards are in the form of Promotions, increments, cash, Laptops etc.

Staff members are selected for these awards based on their performance, conduct and commitment in their academic activities as well as their involvement in the developmental activities of the department and the college.

➤ “Best Performance Teacher of the Year” are given to the faculty after the declaration of the results of each academic year, it is in the form of certificate of appraisal.

Pass percentage, No. of papers published are considered for this Appraisal. For the Engineering problematic subjects 85% pass percentage, and for the theory subjects 95% is considered.

#### **Incentives for to attend for seminars/workshops/FDPs:**

Since the development of good students depends on the quality of teachers, faculty members are given necessary encouragement to improve their competence in various areas. Following benefits are provided:

- Deputing staff regularly for quality improvement programmes, Seminars, Conferences, Workshops, summer and winter continuing education courses. For each faculty such opportunity is provided twice in an year.
- Registration fee is born by the institution.
- To attend for the workshops academic leaves are provided. Each faculty is provided with Eight academic leaves per year.
- Providing opportunity to involve in research & developmental activities of their choice in the department and at the Institutional level.
- Identifying teachers with special talents and competence and encouraging them by honoring them with awards, monetary benefits etc.
- Encouraging teachers to conduct training courses for personnel in Industries / Educational Institutions.

#### **6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.**

Resolutions made by the Management Council in the last year:

**The governing body meeting held on 19<sup>th</sup> August 2016 about the following issues for the development of the college.**

For the academic year: 2016-17

- To conduct workshops/seminars/conferences in each department.

- To conduct faculty development programs.
- Submission of NAAC and NBA application.
- Academic Improvement like results and regularity.
- Completing MOU with BSNL.
- The action of the secretary / correspondent to upload the new courses from the AICTE.
- Construction of the auditorium.
- To recruit new faculty according to the requirement.
- It has further been discussed that the performance of our students in various Placements are can be enhanced by improving communication and soft skills. In order to overcome this deficiency, it has been suggested to take special classes by the Faculty of English department, in addition to their normal load as per norms. So that there shall be some improvement in their skills.

#### **Status of implementation**

- All the above mentioned proposals are done in the subsequent year.
- Auditorium construction is in progress.

#### **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?**

Yes.

- Working with the sole objective of maintaining high academic standards with NAAC and NBA Accreditation.
- Providing career-oriented education in the most cost-effective manner.
- Good infrastructure
- Targeting excellent academic performance in university examinations and academic/co-curricular/extension activities.
- Focusing on the increase of placements
- Motivation and involvement of faculty in the promotion of innovative reforms.
- The teaching faculty are encouraged to find the gaps in the curriculum in-line with the technological developments. The gaps are filled by the eminent professors of reputed institutions

- A strict and well structured evaluation is proposed by the University for End Examinations. However for the internal exams strict and transparent evaluation procedures are adopted for theory and lab.

**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?**

- Grievance redressal Cell of the college kept complaint/**suggestion boxes** in various departments and at the office etc to collect grievances of both staff and students. They were studied by the committee and suitable action is taken by consulting principal and management
- Women Empowerment Cell looks after the grievances of the girl students and women staff.
- **Student charter/staff charter** is displayed at the administrative office to systematic salvation of their grievances related to administrative delay if any.
- Most of the grievances were addressed during counseling.

**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,

**Feedback mechanism from Alumni:**

The Institute conducts alumni Meet once in a year and collects feedback in the form of hard copy. After obtaining the feedback, analysis will be made by senior faculty and suitable measures will be adopted by incorporating their suggestions in order to improve the infrastructural and academic standards.

**Feedback mechanism from Parents:**

The parents meetings are conducted once in a year and their opinions on the academic environment in the campus are collected. After analyzing the data, their suggestions are considered for improvement.

#### **Feedback mechanism from Industry:**

Feedback from various industries is collected at regular intervals and their respective suggestions and pieces of advices are considered in designing the curricular and co-curricular activities/Add-on courses in the Institute.

There is committee for taking and analyzing student feedback on institutional performance .It analyses and put their report before principal and management Necessary steps are taken for better performance

We got good outcome on teacher quality, better infrastructural facilities, best maintenance of discipline in the campus and better exam results etc.

### **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?**

- The Head of the institution recommends the proposals received from the faculty members who wish to join for part time Ph.D/M.Phil.
- The Institution provides special leave to attend for Refresher/Orientation courses
- The teaching staff is permitted to attend faculty development programmes (FDPs) conducted within the college and outside the college.
- Leave provision (O.D) and T.A, D.A and Registration fee benefits are given to the staff who attend the seminars, workshops. Faculty Developoment Programms etc.
- Incentives are given to staff members to enhance their professional knowledge by presenting and publishing the papers in national and international conference/ journals.
- Heads of the Departments will provide transparencies and CDs etc to prepare effective modern teaching techniques such as OHPs and LCDs etc.
- Faculty makes use of NPTEL video lectures prepared by IIT experts to improve teaching learning process.
- Faculty makes use the virtual laboratories

- Non teaching staff is guided by the senior staff in the upkeep of the laboratories and handling the equipment.
- The institution encourages the staff to attend the Conferences, workshops, Faculty Development Programme & Training Programms etc and motivated to publish papers their work in journals.
- Skill development programs are conducted for teaching staff/non teaching staff to update their technical knowledge.

### **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?**

The institution prepares the employees for a bigger responsibility and role in the organization by motivating them through

- ✓ Participative decision making and participative management.
- ✓ Greater responsibility with autonomy is given to staff members.
- ✓ Delegation and decentralization of decision making at department level and preparing them for a bigger role in the organization.
- ✓ Deputing faculty to refresher courses / FDPs/seminars for professional development.
- ✓ Providing financial incentives to faculty who published research papers in various journals and conferences.
- ✓ Nominating faculty for successful teacher awards of the Institute.
- ✓ Nominating and financing faculty for the programmes associated with their respective roles.
- ✓ Publicizing faculty achievements through institute's newsletter, notice board, and website. Formulation of various committees with faculty in various cadres as members with proper allocation of work, responsibility and authority.
- ✓ Appreciation of the expertise, merit and talent by providing opportunities for self expression.
- ✓ A congenial working environment is created which encourages team spirit.

**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.**

The institute has a well thought of performance appraisal system for the evaluation of staff .This consists of a self appraisal report from each faculty member. In addition, the following measures are also taken:

- ✓ Feedback from students through a structured questionnaire.
- ✓ Feedback from HOD.
- ✓ Semester examination results analysis.
- ✓ Active involvement of staff in various institutional activities other than academics.

**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 names of the faculty members who show good performance are recommended to Best Faculty Awards .
- If any Faculty receives an award/ paper published /attended to international conferences, it will be circulated and displayed in the notice board.
- Based on the Performance Appraisal, increments or cash awards are provided to deserved candidates and for the carrier advancement of the staff.
- Positions of some staff are elevated.
- Appreciation letters are given for certain achievements,.
- The achievements are announced to the concerned staff through letters or in staff meetings or college day celebrations.
- Hod's of each dept. collect the appraisal from individual faculty.He will analysis the data collected and reported to the principal.Principal also analysis the data submitted by the hod's of each dept and take action

The faculty members whose performance is not satisfactory are advised for better performance

**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?**

Institute has its well designed HR policy, which includes the following welfare programmes to the teaching and non-teaching staff.

- ✓ FDP for eligible teaching staff.
- ✓ Provision for Maternity leave to women staff etc.

### **Yearly Increments**

Staff members are eligible for increments at the end of 12 months service in the Institution. The Increments will be affected at the beginning of every academic year, i.e. in the month of June. Additional Increments will be given to staff members based on their contributions and results achieved in the University Examinations, at the discretion of the Management.

### **Incentives & Rewards**

Staff Members are eligible for the following incentives and rewards, based on their performance, contribution and years of service in the Institution.

For producing 100% results in a theory paper: Rs 2000/- Cash Award.

Professional Society Life Membership Fee – 50% will be paid by the Management to Faculty with minimum three years of service in the Institution (Maximum One Professional Society per Staff Member).

Paper publications in National Conferences – 100% Registration Fees, On Duty (i.e., the time spent for attending the conference is treated as on duty).

Paper publications in International Conferences – 100% Registration Fees, On Duty.

Support Staff Members are provided with free computing skills and training programs. In addition, they can avail concessional fees and special leave towards higher education against service agreements.

### **LEAVES**

The staff will be eligible for casual leave at the rate of 12 days per year.

#### **Extraordinary leave**

Extraordinary Leave is granted to the staff members subject to maximum of 10 working days. It is purely at the discretion of the management and Principal as a special privilege. This leave is applicable to the staff members having three years and above experience at the institute.

#### **Study Leave**

The teaching staff of the Institute can be granted leave for advancement of their education, in India or abroad.

**On duty assignments:**

The Institute can permit any staff member to take special assignments with other Institutes or industrial units, for a specific period of time or to attend seminars or training programs. The period of absence due to such assignments is treated in the following manner:

- ✓ Where the assignment is under arrangement between the Institute and the other unit, the staff will continue to receive the pay and perquisites from the Institute.
- ✓ Where the assignment is arranged by the individual faculty member, with terms and conditions defined by him/her with the unit in which the assignment is to be carried on, he/she will not be eligible for the pay and perquisite from the Institute. Under such circumstances, the Principal/President will decide about the leave of absence, based on current responsibilities and requirements in the Institute.
- ✓ Where the Staff is proceeding on a training programme duly sponsored by the Institute, the entire period will be treated as on duty and he /she will be eligible for the pay and perquisites as though he has been working in the Institute during such period

**6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?**

- The Management looks after the enhancement of salary to the DEDICATED faculty
- Eminent faculty are elevated in their positions
- Since the development of good students depends on the quality of teachers, faculty members are given necessary encouragement to improve their competence in various areas.

Following benefits are provided:

- Deputing staff regularly for quality improvement programmes, Seminars, Conferences, Workshops, summer and winter continuing education courses. For each faculty such opportunity is provided twice in a year.
- Registration fee is born by the institution.
- Structured pay scales are proposed for qualified faculties
- For the deserved candidates i.e qualification with experience, depending upon needs of the faculty higher salaries are offered
- To attend for the workshops academic leaves are provided. Each faculty is provided with Eight academic leaves per year.

- Providing opportunity to involve in research & developmental activities of their choice in the department and at the Institutional level.
- Identifying teachers with special talents and competence and encouraging them by honoring them with awards, monetary benefits etc.
- Encouraging teachers to conduct training courses for personnel in Industries / Educational Institutions.
- Providing various leave benefits such as:
  - Study Leaves
  - Extraordinary Leave
  - Maternity Leave
  - Senior faculty are encouraged for PhD Registration

## **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**

The institute follows Governing body guidelines in respect of financial matters. The mechanism to monitor effective and efficient use of available financial resources are:

- The need aspect of all the funding requirements are thoroughly reviewed, consolidated and presented by the principal to the governing body.
- For conducting experiments on expensive equipment on rare occasions, the possibility of hiring the equipment for a short time is explored rather than purchasing the same.
- Purchasing of all major equipment shall be approved by the Governing body only.
- Minimum three quotations are obtained and techno commercial discussions are held before placing orders for major equipment.
- Purchase of equipments, furniture, and other materials are from reliable and reputed suppliers only for ensuring quality of the items.
- All payments are made through account payee cheques only.
- The details of all the new equipment's and materials purchased are entered in respective stock registers, which are audited periodically.
- All financial transactions are duly recorded in the registers.

**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.**

- Internal audit is done by various committees formed by the college to verify the stock in the depts.
- External Academic audit is done by BPUT every year.

**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.**

The major sources of institutional receipts are:

1. Fees from students and
2. Financial support from the Management.

There is sufficient budget to cover the day-to-day expenses. At the end of every financial year, the trust accounts are be audited by a Qualified Chartered Accountant. No major audit objections are received, as transparent and systematic method of accounting is maintained in the institute.

The audit statements are kept in accounts section for reference.

Items	Budgeted in 2015-16	Actual Expense s in 2015-16	Budgetedd in 2014-15	Actual Expense s in 2014-15	Budgetedd in 2013-14	Actual Expense s in 2013-14	Budgeted in 2012-13	Actual Expense s in 2012-13
Infrastructure Built up	300	105.5	270.8	265.8	256.67	250.67	255.68	243.68
Library	4.0	2.0	3.4	3.4	3.8	3.8	3.5	3.5
Laboratory equipment	50	10	46	41	45	42	40	35
Laboratory consumables	4.5	2	3.10	3.05	2.9	2.75	2.8	2.5
Teaching & non-teaching staff salary	300	200	275.5	275.5	262.5	262.5	200	200
R & D	3	1	2.5	2.5	2.2	2.2	1.75	1.75
Training & Travel	30	10	27	27	25	24.5	23	23
Other, specify	4	2	3.5	3.5	3.5	3	2.75	2.75

Total								
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**6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).**

The institution has made efforts to get funds from UGC/AICTE. If the funds are sanctioned, they will be utilized as per the rules and regulations and for the purpose of which they are sanctioned.

**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?**

**QUALITY POLICY:**

To be an institute of excellence in Technical Education, by imparting quality Technical Education through continual improvement. The institute facilitates faculty and supporting staff to work as a team and update their knowledge and skills, to match the industrial and technological development.

Yes, the IQAC was established on **5<sup>th</sup> June, 2016**, Prior to IQAC ,academic council looks after quality sustaining activities. It consists

S.NO	Name	Designation	Status in IQAC	Methodology/Functions
1.	Dr. A K Sahoo	Principal	Chairperson	Supervision
2.	Mr. Benumadhab Panda	Director Management	Advisor	Suggestions, financial support
3.	Prof. Natabara Mohapatra	HOD ( ME )	Co ordinator	Prepares Action plan of various quality activities of the college in the year
4.	Prof Sushree S Pradhan	HOD (ETC)	Member	Encouraging the Organistion of seminars, work shops,

				FDPs, etc and its documentation
5.	Prof Sambit Kumar Sahu	HOD (CE)	Member	Organization of Add-on courses/certificate courses of the departments& Supervises the documentation
6.	Prof Mihir Kumar Patra	HOD (EE)	Member	Organization of Industrial visits, project works, out reach programmes of departments& Supervises the documentation
7.	Prof Manas Ranjan Mohanty	HOD (CSE)	Member	Organization of cocurricular activities such as student seminars,quizzes,elocutions Buzz sessions, teacher activities,extention lectures etc for quality enhancement &Supervision, documentation
8.	Dr. P K Raj	HOD (H&BS)	Member	Collection of Feed back from various agencies and their analysis
9.	Mr. Mayadhar Behera	Senior staff	Member	Motivation towards Research, encourages to attend seminars, Research sharing and networking with other institutions, applying for research funding &Supervision, documentation
10.	Mr. Ramakanta Maharana	Administrative Officer	Member	Support in the development of infra structure

It is performing the following functions:

- ✓ It helps the colleges in planning and monitoring. Ensuring timely, efficient and progressive performance of academic, administrative and financial tasks.
- ✓ The relevance and quality of academic and research programmes
- ✓ Equitable access to and affordability of academic programmes for various sections of society
- ✓ Optimization and integration of modern methods of teaching and learning
- ✓ The credibility of evaluation procedures
- ✓ Ensuring the adequacy, maintenance and functioning of the support structure and services
- ✓ Research sharing and networking with other institutions
- ✓ Development and application of quality benchmarks/parameters for the various academic and administrative activities of the institution.
- ✓ Organization of workshops, seminars on quality related themes and promotion of quality circles.
- ✓ Documentation of the various programmes / activities leading to quality improvement.
- ✓ organizes the ecofriendly activities in the college.
- ✓ encourages to organize co-curricular activities.
- ✓ encourages the research activities in the college through R&D committee.
- ✓ Promotion of the quality of education, ward counseling system and monitoring the progress of the students.
- ✓ monitor regular academic audits of the departments by academic audit committee.
- ✓ Obtaining feedbacks from all stake holders on curriculum, infrastructure facilities, performance of teachers and departments.
- ✓ Ensures that the procedures are strictly followed in all quality enhancement activities.

The institutional policy with regard to quality assurance is:

- Develop a system for conscious, consistent and catalytic improvement in the performance of institutions.
- Channelize the efforts and measures of an institution towards academic excellence.
- To strengthen scholarly research and creative achievement in students and faculty.
- To improve teaching and learning with state-of-the-art infrastructure.
- To broaden global perspectives.

- To promote institutional tie-up.

**b. How many decisions of the IQAC have been approved by the management/authorities for implementation and how many of them were actually implemented?**

All the decisions of the IQAC were approved by management and 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?**

The college organizes alumni meet every year which tends to strengthen the stake holder relationship. Participate in decision making process and fosters college development. Alumni assist both in placement activities and quality improvement of both students and faculty members by concreting the relationship between industries and the institute. The alumni are very effectively utilized in the developmental activities of the college.

**e. How does the IQAC communicate and engage staff from different constituents of the institution?**

- ✓ IQAC consists of members from different departments of the institution and the decisions of the IQAC are communicated to all concerned departments.
- ✓ IQAC communicates its recommendations through institute newsletter, website, circulars, posters and presentations.

**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, the institution has an integrated framework for quality assurance of the academic and administrative activities.

- At the beginning of year the IQAC invite faculty to its meetings and chalk out an action plan for quality assurance in academic areas for the coming academic year.

- The academic calendar of the institute also incorporates important aspects of quality policy.
- The various committees including IQAC will provide the requisite mechanism for effective implementation and operationalization of quality assurance of academic and administrative activities.
- The decisions taken in the meetings of the IQAC are communicated to all the depts. through the members of the IQAC who are HODs.
- On the whole, the principal ensures quality in academic and administrative activities at the institution level.
- All the academic and administrative activities are included in annual institutional plan.

**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.**

Yes, the institution provides training to its staff for effective implementation of the quality assurance procedures. The institution always makes sure that the decisions based on the findings of the IQAC are fully adhered to. The academic as well as the administrative working is further smoothed by conducting time to time training sessions for the teaching and non-teaching staff of the college. Small workshops over the weekends, in the form of interactive sessions, have helped the staff of the institution work in a better and more promising way. Teachers are advised to monitor the workflow of the competitive colleges and thereby to improve their inter personnel skills.

**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 academic committee perform the academic audit.

- Internal audit by IQAC regularly coordinates the activities of various committees.
- Externally Annual academic audit by BPUT., (Fact finding committee) & AICTE..
- The outcomes are helpful in the betterment of the teaching-learning process.
- On the out come/report of academic Audit, suitable guidelines are framed to improve the quality of activities.

**6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?**

- The IQAC ensures the implementation of all the rules & regulations stipulated by the External Quality Assurance Agencies like **BPUT, ROURKELA** and **AICTE**.
- ISO 9001:2008
- The academic calendars issued by the BPUT, Rourkela are scrupulously followed in all the activities besides implementing the institutional academic calendar.
- Implementing ISO, NAAC and NBA quality policies.

**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?**

Yes, The institutional mechanism are in place to continuously review the teaching learning process.

**Structure:**

Academic council: All HODs and Principal are members of the Academic Council of the institute reviews the teaching learning process as for the following methodology:

**Methodology:**

- ✓ The above said committee regularly meets and discusses about various aspects of teaching learning process and suggests various measures to further strengthen the teaching – learning process.
- ✓ It motivates the staff and students to take up projects in emerging areas.
- ✓ It continuously reviews teaching–learning process for better results.
- ✓ It ensures that both students and faculty are benefitted in the teaching learning process.

**Outcome:**

The various teaching learning processes implemented in the institute has resulted in the following:

- ✓ Increased percentage of success in each semester examination.
- ✓ Increased participation of institute students in undertaking challenging project works and participation in Tech-fests conducted by other institutes.

- ✓ The communication skills of the students improved considerably.
- ✓ Number of selections in campus recruitment increased.
- ✓ Increased attendance of all students and staff.
- ✓ Improved discipline inside the campus and in classrooms

**6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?**

- ✓ By conducting meetings with staff, alumni and parents
- ✓ By displaying the circulars & information in notice boards of central levels & department levels.
- ✓ By updating news and events& bulletin boards in college web site on regular bases
- ✓ By interacting with students
- ✓ By means of prospectus and website

## **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?**

Every year the institute plants many saplings to beautify the surroundings to a greener, more eco-friendly and pollution-free environment. There are various types of huge number of plants are planted in the entire campus. Even though there is no formal conducting of green audit in the institution, Lot of expenditure is incurred to make the campus eco friendly. There are 2 permanent gardeners to carry out the horticulture work in the institute.

#### **7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?**

- \* Energy conservation.
- \* Use of renewable energy
- \* Water harvesting
- \* Check dam construction
- \* Efforts for Carbon neutrality
- \* Plantation
- \* Hazardous waste management
- \* e-waste management

To make the campus eco-friendly, the following strategies have been implemented.

#### **Energy Conservation:**

- Switching off/unplugging fans, lights, air conditioners, computers, printers, and electrical and electrical equipment when not in use.
- Awareness created among the students how to use minimum power
- Use of glass windows for maximizing use of available natural light in operational areas

The college campus is totally eco friendly. For this the management, the head of the institution and the whole staff is committed and because of their commitment and involvement, the campus can claim to be the first polythene/plastic free zone. This apart, the institution has taken several other steps/initiatives to make the campus eco-friendly.

**Use of renewable energy:**

Currently we are using two solar unit with 1 KV for street lighting and office purpose on experimental basis. There is a plan to expand it. Institution is going to be developed the following,

**Water harvesting:**

The college is having 2 bores at different locations increase the water level.

- Percolation pits and rain water harvesting structures have been installed throughout the campus to minimize water shortage and maximize available water usage.
- Waste water to be used for gardening.
- Creating awareness regarding water conservation

**Check dam construction:**

There is a pond near by college to store the rain water. No need of check dam construction in the college premises.

**Efforts for Carbon neutrality:**

- Plantation is done inside and outside the college campus to neutralize the carbon emission.
- Staffs and students are discouraged to use vehicles inside the campus. Smoking is banned inside the college campus. This helps in keeping the campus as much as possible clean. The dead leaves and the waste papers are not allowed to be put on fire.
- The leaves are buried in the soil itself and the papers are disposed off.

**Plantation**

The college has a serene green campus comprising of a variety of trees and plants.

**Hazard Waste/E-waste management**

- Safety measures are displayed in the laboratories for the users. All the users of the chemical labs are provided with gloves and aprons during the lab classes. Waste chemicals from chemistry laboratory are properly disposed by keeping them separately in protected sheets/bottles.
- Use of plastic bags discouraged within the premises of the College.

- Students and faculty members are discouraged from using cell phones in the campus.
- Regular workshops and seminars on waste disposal, their source and classification, pest control is conducted.
- Workshop was conducted for faculty and students to create awareness about environment and its conservation “Echo empiricism”
- The institution adopts the e-waste disposal management system as per the norms provided by the State Pollution Control Board, Govt. of Odisha. The Academic Council of the college is responsible for identifying the e-waste material of each department and take necessary steps for their disposal.

## **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.**

The innovations that are introduced during the last four years which have created a positive impact on the functioning college are:

**Feedback System** – Students use the feedback about the faculty at the end of each session or semester. Students are expected to do so for all the teachers concerned with their classes, informal interaction between students and the class teacher/HOD/Principal about issues pertaining to teaching quality is also encouraged. Teachers are counseled by the HOD and Principal regarding improvements in subject understanding/teaching skills

**Enrichment and Value added Courses** –The College supplements the University curriculum through value added courses by additional Lectures of subjects which are not covered under the syllabus is covered through training from the outside agencies. The system proved to be beneficial and the students are able to understand more about the subject and able to score better in the examinations and achieve more placements.

**Proctorial system-** The system is adopted where for every 15-20 students, one faculty is allocated as a proctor, who takes care of all the activity of the student inside the campus and inform the parents about the performance of the students from time to time.

**Academic Innovations** – The College has introduced remedial classes that have helped the students to cover up their back log, if any. More than that students get a chance to brush up their skills further. Another innovation that of preparing question banks which has helped ease the burden of students and improve success rate in examinations. Self learning facilities are provided to the students by making them available the class notes in departmental library. NPTEL DVDs are made available to the students.

**Faculty Education** –The faculty members who wish to pursue higher studies are encouraged to enroll for courses of their choice.

**Others(if any)-**

- The parents are informed about the regularity of their wards on day to day basis so that parents can take more care to make their sons/daughters to attend maximum number of classes.
- Majority of the students projects are guided by the faculty and executed in the institute.
- The institute has a comprehensive placement Training which is executed through qualified faculty and experts from outside.

### **7.3 Best Practices**

**7.3.1 Elaborate on any two best practices as per the annexed format (see page ...) which have contributed to the achievement of the institutional Objectives and/ or contributed to the Quality improvement of the core activities of the college.**

**Best Practice – 1**

**Multi mode teaching practice in all class rooms, Introduction of Remedial Classes and Question Banks and mini projects implementation in every year.**

**GOALS:**

- To transform the students into well meaning citizens through the committed pattern of instructions based on carefully prepared and well designed curricular aspects.
- To transform the students into well meaning citizens through well prepared socially committed patterns of instruction.
- SSEC aspires to have a transformational impact on students through comprehensive education by inculcating of competence, confidence and excellence.
- The college has been facilitating young adult learners with opportunities to hone their ethics and leadership potential.

**THE CONTEXT:**

The college in the academic world introduced the technique of remedial classes and preparing question banks keeping in view the examination perspective. The students belonging to the college are given extra coaching by addressing their problems. Their skills are sharpened and chiseled keeping in view the patterns of the final examinations. They are given a list of important prepared by the expert faculty. This has helped them attain their targets in a better way.

**THE PRACTICE:**

The students were given extra guidance in the core subjects of their respective specialization in particular. The college ensured that the students are provided with the Question framed by the experienced faculty of the college. This action has resulted in a steep in the failure. The Question Banks have facilitated the students in such a way that their efforts in the final exams have started bearing fruits. Faculties are providing course files which are containing question bank, lecture notes, assignment questions for students to improve the quality of education. Remedial classes are conducting for weak student for corresponding courses. For improving the critical thinking among the students we are conducting tutorial classes. To encourage the students to do the mini projects for improving their practical knowledge. Apart from the conventional blackboard teaching, the following multi mode teaching methods are being adopted/ introduced in class rooms in order to improve the knowledge of the students through these innovative methods of content delivery, ie Learning by doing, PPT/LCD Projector, Internet, Role play, Models/chart, Video lectures, Group tasks.

### **EVIDENCE OF SUCCESS:**

- The pass percentage was improved in university examinations.
- Most of the students from institute have participated and won awards in -Technical Paper Presentation competitions.
- Faculties from the institute have registered for PhD and few more are in the process of registration.
- Many students are involved in real time problem solving group, attend workshops related to entrepreneurship development and contribute to the society.

### **PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED:**

- To add more qualified and experienced faculties in all departments.
- More budget provision needs to be made to develop research oriented lab, to give more exposure to the students for their overall development.
- More awareness is needed to create among Faculties and students about various funding agencies, writing good research proposal and PhD research centre.
- Scarcity of senior and faculties having research experience.

### **BEST PRACTICE – 2**

#### **Creation of Awareness among Faculty and Students about Their Social Responsibility towards Society**

#### **GOALS:**

To develop ethical and moral values among Faculty and students

- To imbibe education among the Faculties and students for the upliftment of the society and community
- To inspire students and Faculties for the development of educationally deprived community.
- To develop passion among students and Faculties about their social responsibilities, this will excite community globally.
- To create harmony and peace among the Faculties and students and non-technical staff.

**THE CONTEXT:**

- To develop society, the institute has decided to create engineers having social, ethical and moral values. The need of the society today is to develop budding engineers having research mindset, ethical values and entrepreneurship skill.
- The young generation is very volatile and it is necessary to bring awareness among them regarding their social responsibility. The research work carried by the students and Faculties should be oriented towards the benefit of the society

**THE PRACTICE:**

SSEC constantly striving to create awareness among Faculties and student by following the practices mentioned below:

- Institute conducts the programs on stress management.
- Institute conducts the program on National Service Scheme.
- It also arranges the visit of faculty and student to the rural areas to make the student & faculty aware the social, rural conditions & problems.
- Institute understands the importance of learning the life skills & organizes cultural, co-curricular program, tours, and visits, conferences to develop interpersonal skill, decision making and values clarification.
- Institute encourages & motivates the student to nontraditional programs.
- It also offers the NSS scheme to understand the social responsibilities.
- Institute gives priority & concession in tuition fee to economically weaker students on case to case bases.
- Institute has code of conduct for staff & students.
- Institute arranges the special social activities to maintain good social environment in the Institute.
- Institute provides information about government aids, scholarship etc.
- Institute provides partial / full concession in fees to few deserving candidate.
- The departmental library is developed through donation of books by students & faculty which is made available to economically weaker students.
- Institute does the survey of the society needs & accordingly organized the activity.

- NSS unit understand the needs of the society and we do research in the related areas.

**EVIDENCE OF SUCCESS:**

- SC/ST/OBC/ minority students are given benefits of reservations in admission & scholarship as per government norms.
- NSS activity also gives the social ethical awareness among student.
- By organizing health camps, blood donation camps, Eye Camp, tree plantation, etc.
- Community activity is promoted in the neighborhood of the institution, by associating with NSS
- Tree Plantation drive was organized by NSS.
- Institute provides monetary benefits to weaker section of society for their minimum requirements.
- We organize Workshop such as Stress free Life by the selected resource person in accordance with community.

**PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED:**

- Going to the villages and convincing them that the institute is working for their betterment is a herculean task.
- More budget provision needs to be made for carrying out social work.
- The curriculum limits the social activity to some extent.
- Being affiliated, Institute has less autonomy to carry out social work

### **Declaration by Head of the Institution**

I certify that the data included in this Self study report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after discussion and no part there of has been outsourced.

I am aware that the Peer team will validate the information provided in the SSR during the peer team visit.

### **Signature**

Name of the Principal: Dr. Ananta Kumar Sahoo

Name of the Institution: Satya Sai Engineering College

Address: Srikona, Chandipur Sea Beach Road, Balasore

Pin Code: 756001

Work Phone: 06782-242481/82/83

Fax: 06782- 264299

Website: [www.satyasaienggcollege.edu.in/](http://www.satyasaienggcollege.edu.in/)

Mobile: 09437166655

## EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the department** : Computer Science Engineering
2. **Year of Establishment** : 1999
3. **Names of Programmes / Courses offered** : UG, PG,  
 UG : B Tech (Computer Science and Engineering)  
 PG : M Tech (Computer Science and Engineering)
4. **Names of Interdisciplinary courses and the departments/units involved:**

Year	Names of Interdisciplinary Courses	Dept Involved
1 <sup>st</sup>	Applied Mathematics-I	BSHM
	Applied Mathematics-II	BSHM
	Applied Chemistry/Applied Physics	BSHM
	Basics of Mechanical Engineering /	ME
	Basics of Civil Engineering	CE
	Basic Electronics and Electrical Engg	ETC & EE
	Environmental Studies & Health Care Engineering	BSHM
	Professional Ethics	BSHM
	English Communication Skill	BSHM
2 <sup>nd</sup>	Switching Circuit and Logic Design	ETC
	Engineering Economics and Coasting	BSHM
	Organizational Behavior	BSHM
3 <sup>rd</sup>	Principle of Management	BSHM
	Optimization Engineering	BSHM
	Signals and Systems	ETC

	Microprocessor and Microcontroller	ETC
	Communication Engineering	ETC
4 <sup>th</sup>	Entrepreneurship Development	BSHM
	Introduction to Digital Signal Processing	ETC
	Environmental Engineering	BSHM
	Satellite Communication System	ETC

**5. Annual/ semester/choice based credit system (programme wise)**

Semester based credit system for both UG and PG

**6. Participation of the department in the courses offered by other departments**

Sl. No.	Programme	Courses offered by other departments
1	B Tech.	Electronics & Communication Engineering
2		Electrical Engineering
3		Civil Engineering
4		Mechanical Engineering
5		Applied Electronics and Instrumentation Engg.

**7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**8. Details of courses/ programmes discontinued (if any) with reasons : NIL**

**9. Number of Teaching posts**

Designation	Sanctioned	Filled
Professors	1	0
Associate Professors	2	1
Assistant Professors	10	10

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of experien
--------	------	---------------	-------------	----------------	--------------------------

1.	Prof . Manas Ranjan Mohanty	M Tech	Associate Professor & HOD	Data mining Data wire housing	12
2.	Prof. Sishir Charan Jena	M Tech	Assistant Professor	Computer Science Engg	11
3.	Prof Sucharitra Sethi	M Tech	Assistant Professor	Computer Science Engg	8
4.	Prof. Alok Mishra	M Tech	Assistant Professor	Computer Science Engg	4
5.	Prof. Anita Behera	M Tech	Assistant Professor	Computer Science Engg	4
6.	Prof Mihir Ku. Behera	M Tech	Assistant Professor	Data Communication & Computer Net.	2
7.	Prof Subhranshu Sekhar Tripathy	M Tech	Assistant Professor	Computer Science Engg	2
8.	Prof Subhra Subhankari Dash	M Tech	Assistant Professor	Information & Comm. Technology	2
9.	Prof. Abhinash Mohanty	M Tech*	Assistant Professor	Computer Science Engg	4
10.	Prof Gour Jyoti Mishra	M Tech	Assistant Professor	Computer Science Engg	3
11.	Prof Krushnanu Patra	M Tech	Assistant Professor	Computer Science Engg	3

**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)**

UG : B. Tech. - 1 : 15

PG : M. Tech. - 1 : 18

**14. Number of academic support staff (technical) and administrative staff; sanctioned and filled**

	Sanctioned	Filled
Academic support staff (Technical)	3	3
Administrative staff	0	0

**15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.**

M Tech = 11

**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: (Last four years)

a) Publication in Journals : 01

Sl. No	Name of the Participant	Paper Title	Journal Name.	Vol. No	Date	Peer Reviewed
1	Prof. Subhra Subhankari Dash	A survey on localization in WSN by AOA	IJRST	2-4	Oct-2015	Yes

b) Publication in Conferences: 01

Sl. No	Name of the Participant	Paper Title	Conference Name.	National/ International	Date
1	Prof Subhra Subhankari Dash	Location Detection of Fault in Power Distribution using WSN through AOA Technique	RAREC-2015	National	April 2015

20. Areas of consultancy and income generated: NIL

21. Faculty as members in

National Committees : 04

International Committees : 02

**Editorial Boards : NIL**

**22. Student projects**

- i) Percentage of students who have done in-house projects including inter departmental / programme: 100% students have done in-house projects.
- ii) 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**

a) **Faculty:** NIL

b) **Students:**

2015-16	
<b>Merit prize</b>	
1. Debasis Kamela	1 <sup>st</sup>
2. Jyotibraha Sahoo	2 <sup>nd</sup>
3. Madhusmita Panda	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Debasis Kamela	
<b>2014-15</b>	
<b>Merit prize</b>	
1. Asish Kumar Das	1 <sup>st</sup>
2. Sk. Alarakha	2 <sup>nd</sup>
3. Rubi Mohanty	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Ashis Kumar Das	

2013-14	
Merit prize	
1. Amiya Kumar Sahoo	1 <sup>st</sup>
2. Rashmi Rekha Mishra	2 <sup>nd</sup>
3. Gayatri Panda	3 <sup>rd</sup>
For 100% Attendance	
Amiya Kumar Sahoo	

**24. List of eminent academicians and scientists / visitors to the department**

Sl. No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
1.	2013-14	Dr.Sabyasachi Pattnaiak	Professor	FM University	Seminar
2.	2014-15	Dr. A K Sanigrahi	Scientist –F, HOD	PXE-DRDO	Seminar on Positive Attitude and Team
3.	2015-16	Dr. P K Das Gupta	Scientist –F,	PXE-DRDO	Seminar on Benefits of
4.	2016-17	Prof. PSR Murty	Senior Research	ITR-Hyderabad	Seminar

**25 a) National Workshops / Conferences Conducted:**

Sl. No.	Name of the Event	Organized under	Date (s)	No. of Participants
1.	Workshop on Ethical Hacking	Dept of CSE	06/11/2015	43

**b) International Workshops/Conferences Conducted : NIL**

**26. Student profile programme / course wise:**

Year	Name of the Course / program	Selected (Number Admitted including Lateral Entry)	Enrolled		Pass %
			Male	Female	
2015-16	B Tech	11	8	3	100
2014-15		19	14	5	100
2013-14		19	14	5	100
2012-13		09	6	3	100
2015-16	M Tech	03	3	0	100
2014-15		1	1	0	100

\* Admissions are through OJEE/PGAT counseling of Odisha State Govt.

## 27. Diversity of Students

Year of Admission	Name of the Course	% students from the same State	% of students from other States	% of students from abroad
2016-17	B Tech (CSE)	100	0	0
2015-16		99	1	0
2014-15		99	1	0
2013-14		98	2	0
2016-17	M Tech (CSE)	100	0	0
2015-16		100	0	0
2014-15		100	0	0
2013-14		50	50	0

## 28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Name of the Competitive examination	No. of students qualified			
	2012-13	2013-14	2014-15	2015-16
GATE	2	1	1	2
Civil services	0	0	0	0
Defense services	0	0	0	1
SLET	0	0	0	0
NET	0	0	0	0
GRE	0	0	0	0
Public Sectors	0	2	1	0

## 29. Student progression.

Student progression	Against % enrolled
UG to PG	15%
PG to M.Phil.	0
PG to Ph.D.	NIL
Ph.D. to Post-Doctoral	NIL

Employed	• Campus selection	80%
	• Other than campus recruitment	5%
Entrepreneurship / Self-employment		Nil

**30. Details of Infrastructural facilities**

a) **Library: Available**

b) **Internet facilities for Staff & Students : 10 Mbps**

c) **Class rooms with ICT facility : NIL**

d) **Laboratories : 04**

Sl. No.	Name of the laboratory	Area in Sq. m
1	Programming Lab	100
2	Programming Lab	100
3	Computer Organization Lab	100
4	Networking Lab	100
5	Project Lab	60

**31. Number of students receiving financial assistance from college, University, Government or other agencies**

Agency	No. of students received financial assistance				
	2012-13	2013-14	2014-15	2015-16	2016-17
College					In-Process
University					In-Process
Government					In-Process
Other agencies					In-Process

**32. Details on student enrichment programmes (special lectures/workshops / Seminar) with external experts**

- Workshop on Parallel and Distributed Computing in 2016-17
- Seminar on Cloud Computing in 2016-17
- Workshop on Ethical Hacking in 2015-16
- Workshop on Cyber-The robotics workshop in 2014-15
- Seminar on Information Security & cyber forensic in 2016-17
- Workshop on Web Designing using HTML in 2015-16

**33. Teaching Methods Adopted to improve student learning**

- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
- Special training sessions are provided to motivate students for papers presentations in seminars.
- Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.

#### **34. Participation in Institutional Social Responsibility (ISR) and Extension activities.**

The college has NSS wing to organize programs related to Environment Enrichment and Conservation, Health & Nutrition , aimed at creating an awareness for improvement of the status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Recreations. The students are encouraged to participate in the events. The list is provided in section 3.6.1

#### **35. SWOC analysis of the department and Future plans**

##### **Strength :**

- Committed, dedicated and qualified faculty.
- Well equipped Laboratories
- Excellent teaching methodology
- Bridge Course and Remedial Classes
- Consistently students getting placements

##### **Weakness**

- Research activities to be improved.
- Poor communication skills for students due to rural background.
- Collaboration with national Institutes for Higher Learning is to be improved.

##### **Opportunity**

- Growing demand for talented engineers for IT and ITES

- Scope for developing innovative ideas and technologies
- Opportunity for Students to take up higher education
- Research oriented consultancy

### **Challenges**

- Current Recession in the Industry & market discourage students for admission into Engineering courses
- Government policies.

### **Future Plan**

- To conduct more workshop and seminars for students enrichment.
- Encouraging students for developing research projects
- To impart high quality technical training for more employability
- To have MOUs for collaborative research, continuous training and placement for the students with Universities and Industries of repute.
- To make the department a recognized research centre.

## **EVALUATIVE REPORT OF THE DEPARTMENT**

- 1. Name of the department** : Electronics & Telecommunication Engineering
- 2. Year of Establishment** : 1999
- 3. Names of Programmes / Courses offered** : UG, PG,  
 UG : B Tech (Electronics and Telecommunication Engineering)  
 UG : B Tech (Applied Electronics & Instrumentation Engg.)  
 PG : M Tech (Electronics and Communication Engineering)
- 4. Names of Interdisciplinary courses and the departments/units involved:**

<b>Year</b>	<b>Names of Interdisciplinary Courses</b>	<b>Dept Involved</b>
1 <sup>st</sup>	Applied Mathematics-I	BSHM
	Applied Mathematics-II	BSHM
	Applied Chemistry/Applied Physics	BSHM
	Basics of Mechanical Engineering /	ME
	Basics of Civil Engineering	CE
	Basic Electronics and Electrical Engg	ETC & EE
	Environmental Studies & Health Care Engineering	BSHM
	Professional Ethics	BSHM
	English Communication Skill	BSHM
2 <sup>nd</sup>	Network Theory	EE
	Engineering Economics and Coasting	BSHM
	Organizational Behavior	BSHM
	Electrical Machines and Power Drives	EE
3 <sup>rd</sup>	Principle of Management	BSHM
	Environmental Engineering and Safety	BSHM
	Optimization in Engineering	BSHM
	Database Management System	CSE
	Operating System	CSE
4 <sup>th</sup>	Entrepreneurship Development	BSHM

**5. Annual/ semester/choice based credit system (programme wise)**

Semester based credit system for both UG and PG

**6. Participation of the department in the courses offered by other departments**

Sl. No.	Programme	Courses offered by other departments
1	B. Tech.	Computer Science Engineering
2		Electrical Engineering
3		Civil Engineering
4		Mechanical Engineering

**7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**8. Details of courses/ programmes discontinued (if any) with reasons : NIL**

**9. Number of Teaching posts**

Designation	Sanctioned	Filed
Professors	1	0
Associate Professors	2	2
Assistant Professors	10	8

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of
1.	Prof.Sushree S. Pradhan	M Tech PhD (Cont.)	Associate Professor & HOD	Image Processing	12
2.	Prof.Soumyashree Samantray	M Tech	Associate Professor	Wireless communication	8
3.	Prof.Arundhoti Senapati	M Tech	Assistant Professor	Image Processing	8
4.	Prof.Santanu Ku. Sahoo	M Tech	Assistant Professor	Image Processing	6
5.	Prof.Aditya Ranjan Dandapat	M Tech	Assistant Professor	Communication System Engg	5
6.	Prof. Saswati Madhusmita	M Tech*	Assistant Professor	VLSI Design	5
7.	Prof.Tanushree Panda	M Tech	Assistant Professor	Communication System Engg	8
8.	Prof.Tapas Sahu	M Tech	Assistant Professor	Communication System Engg	7

9.	Prof.Sumit Raj Mahana	M Tech	Assistant Professor	Image Processing	3
10.	Prof.Dilip Ku. Panda	M Tech*	Assistant Professor	Biomedical Instrumentation	5

**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)**

UG : B Tech. - 1 : 15

PG : M Tech. - 1 : 18

**14. Number of academic support staff (technical) and administrative staff; sanctioned and filled**

	Sanctioned	Filled
Academic support staff (Technical)	3	3
Administrative staff	0	0

**15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.**

M Tech = 10

**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: (Last four years)**

a) Publication in Journals : Nil

b) Publication in Conferences: 02

**20. Areas of consultancy and income generated: NIL**

**21. Faculty as members in**

National committees: 4

International Committees : 3

Editorial Boards : NIL

**22. Student projects**

i) Percentage of students who have done in-house projects including

inter departmental / programme. 100% students have done in-house projects.

ii) 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**

a) Faculty: NIL

b) Students:

<b>2015-16</b>	
<b>Merit prize</b>	
1. Harish Soren	1 <sup>st</sup>
2. Sibani Priyadarshini	2 <sup>nd</sup>
3. Bishnupriya Lenka	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Pragyan Paramita Das	
<b>2014-15</b>	
<b>Merit prize</b>	
1. Prerana Nayak	1 <sup>st</sup>
2. Swarnalata Nayak	2 <sup>nd</sup>
3. Upasana Panda	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Ramakrushna Sahoo	
<b>2013-14</b>	
<b>Merit prize</b>	

1. Ashutosh Biswal	1 <sup>st</sup>
2. Mihir Kumar Panda	2 <sup>nd</sup>
3. Ipsita Choudhaury	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Subrat Kumar Bhanja	

**24. List of eminent academicians and scientists / visitors to the department**

Sl. No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
1.	2013-14	Dr. B K Das	Director	ITR-DRDO, Chandipur	Seminar
2.	2014-15	Prof.(Dr).Uma Ranjan Jena	Professor	VSSUT, Burla	Seminar
3.	2015-16	Prof.(Dr).Uma Ranjan Jena	Professor	VSSUT, Burla	Workshop
4.	2015-16	Dr. Chittaranjan Ojha	Scientist -A	PXE- DRDO, Chandipur	Seminar
5.	2016-17	Dr. S Kumar	Scientist -A	PXE- DRDO, Chandipur	Workshop

**25 a) National Workshops / Conferences Conducted: NIL**

**b) International Workshops/Conferences Conducted: NIL**

**26. Student profile programme/course wise:**

Year	Name of the Course / program	Selected (Number Admitted including Lateral Entry)	Enrolled		Pass %
			Male	Female	
2015-16	B Tech	26	18	8	100
2014-15		64	45	19	100
2013-14		46	34	12	100
2012-13		59	46	13	100
2015-16	M Tech	8	8	0	RA*

2014-15		2	2	0	100
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\* Result Awaited

- Admissions are through OJEE/PGAT counseling of Odisha State Govt.

## 27. Diversity of Students

Year of Admission	Name of the Course	% students from the same State	% of students from other States	% of students from abroad
2016-17	<b>B.Tech (ETC)</b>	100	0	0
2015-16		99	1	0
2014-15		99	1	0
2013-14		98	2	0
2016-17	<b>M.Tech (ECE)</b>	100	0	0
2015-16		100	0	0
2014-15		100	0	0
2013-14		50	50	0

- ## 28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Name of the Competitive examination	No. of students qualified			
	2012-13	2013-14	2014-15	2015-16
GATE	2	1	1	2
Civil services	0	0	0	0
Defense services	0	0	0	1
SLET	0	0	0	0
NET	0	0	0	0
GRE	0	0	0	0
Public Sectors	0	2	1	0

## 29. Student progression.

Student progression		Against % enrolled
UG to PG		15%
PG to M.Phil.		0
PG to Ph.D.		NIL
Ph.D. to Post-Doctoral		NIL
Employed	• Campus selection	80%
	• Other than campus recruitment	5%
Entrepreneurship / Self-employment		Nil

**30. Details of Infrastructural facilities**

- a) **Library : Available.**
- b) **Internet facilities for Staff & Students**
  - ❖ 10 Mbps leased line
- c) **Class rooms with ICT facility : NIL**
- d) **Laboratories : 04**

Sl. No.	Name of the laboratory	Area sq.m	Quality of Instruments	Lab Manual
1	Basic Electronics Lab	100	Good , Working	Available
2	Analog/ Digital Electronics Lab	100	Good , Working	Available
3	Measurement Lab	100	Good , Working	Available
4	Microprocessor Lab	100	Good , Working	Available
5	Communication Lab	100	Good , Working	Available
6	DSP/VLSI Lab	Shared	Good , Working	Available
7	Project Lab	60	Good , Working	Available

**31. Number of students receiving financial assistance from college, University, Government or other agencies**

Agency	No. of students received financial assistance				
	2012-13	2013-14	2014-15	2015-16	2016-17
College					In-Process
University					In-Process
Government					In-Process
Other agencies					In-Process

**32. Details on student enrichment programmes (special lectures/ workshops / Seminar) with external experts**

- Workshop on Front End Digital System Design using VHDL in 2014-15
- Basic MatLab in 2014-15
- Recent Advances in Science & Technology in 2015-16
- Workshop on P-Spice in 2016-17
- Emerging Trend In Signal and Image Processing (Planned to be conducted in January 2017)
- Seminar on Wireless /Mobile Communication (Planned to be conducted in December 2016)
- Recent Advances In Communication & Computing Technologies (Planned to be

conducted in February 2017)

### **33. Teaching Methods Adopted to improve student learning**

- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
- Special training sessions are provided to motivate students for papers presentations in seminars.
- Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.
- Continuous evaluation of students by means of class tests & surprise test, Quiz Test

### **34. Participation in Institutional Social Responsibility (ISR) and Extension activities.**

The college has NSS wing to organize programs related to Environment Enrichment and Conservation, Health & Nutrition , aimed at creating an awareness for improvement of the status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Recreations. The students are encouraged to participate in the events. The list is provided in section 3.6.1

### **35. SWOC analysis of the department and Future plans**

#### **Strengths:**

- Committed, dedicated and qualified faculty.
- Modern laboratories and equipment.
- Value adding additional programmes.
- Good participation of staff/students in Technical/Non technical events

#### **Weaknesses:**

- Lack of research and development activity.
- Lack of Conferences and Symposium.
- Lack of funding for project from govt. Agency.

#### **Opportunities:**

- Growing demands for various courses
- Growing demand for Technically qualified people
- New Technology Developments
- Research opportunities in specialized and niche areas
- Collaborations with industry.
- Collaborations with industries of repute and institutes of higher learning (national & international)

**Challenges:**

- Competition from new entrants at local, national & international level
- Changes in Technology
- Decline in the overall quality of student intake
- Recession in global and local market.

**Future Plan**

- Plan for collaboration with Institutes of national prominence.
- To conduct more workshop and seminars for students enrichment.
- Encouraging students for innovative research projects.
- To impart high quality technical training for more employability.
- To make the department a recognized research centre.
- To have MOUs for collaborative research, continuous training and placement for the students with Universities and Industries of repute.

## EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the department** : Mechanical Engineering

2. **Year of Establishment** : 1998

3. **Names of Programmes / Courses offered** : UG, PG

UG : B. Tech (Mechanical Engineering)

PG : M. Tech (Mechanical System Design)

4. **Names of Interdisciplinary courses and the departments/units involved:**

Year	Names of Interdisciplinary Courses	Dept Involved
1 <sup>st</sup>	Applied Mathematics-I	BSHM
	Applied Mathematics-II	BSHM
	Applied Chemistry/Applied Physics	BSHM
	Basics of Civil Engineering	CE
	Basic Electronics and Electrical Engg	ETC & EE
	Environmental Studies & Health Care Engineering	BSHM
	Professional Ethics	BSHM
	English Communication Skill	BSHM

2 <sup>nd</sup>	Engineering Economics and Coasting	BSHM
	Organizational Behavior	BSHM
3 <sup>rd</sup>	Internet and Web Technology	CSE
4 <sup>th</sup>	Entrepreneurship Development	BSHM
	Marketing Management	BSHM

**5. Annual/ semester/choice based credit system (programme wise)**

Semester based credit system for both UG and PG

**6. Participation of the department in the courses offered by other departments**

Sl.No.	Programme	Courses offered by other departments
1	B.Tech.	Electrical Engineering
2		ETC/AEIE
3		Computer Science Engineering
4		Civil Engineering

**7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**8. Details of courses/programmes discontinued (if any) with reasons : NIL**

**9. Number of Teaching posts**

Designation	Sanctioned	Filled
Professors	2	0
Associate Professors	4	2
Assistant Professors	18	15

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of experience
1.	Prof Natabara Mohapatra	M Tech , MBA&MM	Associate Professor & HOD	Thermal Engg	8
2.	Prof Vivekananda Sinha	M Tech	Associate Professor	Thermal Engg	10

3.	Rajib Kumar Rana	M Tech	Asst Professor	Mechanical System Design	5
4.	Bikash Ch. Bhuyan	M Tech	Asst Professor	Mechanical System Design	3
5.	Kasturi Ashe	M Tech	Asst Professor	Mechanical System Design	7
6.	Bikash Behera	M Tech	Asst Professor	Mechanical System Design	3
7.	Jayanta Ku. Pradhan	M Tech	Asst Professor	Mechanical System Design	8
8.	Deepak Ranjan Sahoo	M Tech	Asst Professor	Mechanical System Design	7
9.	Lokbir Pradhan	M Tech	Asst Professor	Mechanical System Design	8
10.	Debashree D. Behera	M Tech	Asst Professor	Mechanical System Design	7
11.	Prabhudutta Dey	M Tech*	Asst Professor	Mechanical System Design	4
12.	Soumya Ranjan Kar	M Tech*	Asst Professor	Mechanical System Design	5
13.	Rabindra Nath Nayak	M Tech*	Asst Professor	Mechanical System Design	3
14.	Paban Kumar Tofan Singh	M Tech*	Asst Professor	Mechanical System Design	1
15.	Pradeep Kumar Dey	M Tech*	Asst Professor	Mechanical System Design	3 months
16.	Chinmay Behera	B Tech	Asst Professor	Thermal Engg	4
17.	Debasish Panda	B. Tech	Asst Professor	Thermal Engg	3

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)

UG : B. Tech. - 1 : 20

PG : M. Tech. - 1 : 18

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

	Sanctioned	Filled
Academic support staff (Technical)	4	4
Administrative staff	0	0

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

M Tech = 15

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: (Last four years)

a) Publication in Journals : 01

Sl. No	Name of the Participant	Paper Title	Journal Name.	Vol. No	Date	Peer Reviewed
1	Prof Natabara Mohapatra	Numerical Investigation of Partially premixed methane flame at various equivalence ratios	IJARSE	4-1	30 <sup>th</sup> August 2015	Yes

b) Publication in Conferences: Nil

20. Areas of consultancy and income generated: NIL

21. Faculty as members in

National committees: 06

International Committees : 04

Editorial Boards : NIL

22. Student projects

i) Percentage of students who have done in-house projects including inter departmental / programme: 100% students have done in-house projects.

ii) 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**

a) Faculty: NIL

b) Students:

**24. List of eminent academicians and scientists / visitors to the department**

Sl. No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
	2013-14				
	2014-15				
	2015-16	Dr. Rati Ranjan Das	Professor	CET, BBSR	Seminar
	2016-17	Dr. Rati Ranjan Das	Professor	CET, BBSR	Seminar

**25 a) National Workshops / Conferences Conducted**

Date	Title of the Programme	Sponsoring Agency	No of Speakers	No. of Participants
14/09/2013	National Workshop on Recent Trends in Engineering Materials (RTEM-2013)	Trustee, Satyasai Group of Institutions	6	79

b) International Workshops/Conferences Conducted : NIL

**26. Student profile programme/course wise:**

Year	Name of the Course /	Applications received	Selected (Number Admitted including Lateral	Enrolled		Pass %
				Male	Female	

	program		Entry)			
2015-16	B Tech (ME)	*	101	80	31	72
2014-15		*	144	98	46	75
2013-14		*	145	83	52	78
2015-16	M Tech (MSD)	*	18	11	7	100
2014-15		*	08	08	6	94

\* Admissions are through OJEE/PGAT counseling of Odisha State Govt.

27. Diversity of Students

Year of Admission	Name of the Course	% students from the same State	% of students from other States	% of students from abroad
2012-13	B. Tech (ME)	100	0	0
2013-14		100	0	0
2014-15		100	0	0
2015-16		100	0	0
2016-17		100	0	0
2013-14	M. Tech (MSD)	100	0	0
2014-15		100	0	0
2015-16		100	0	0
2016-17		100	0	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Name of the Competitive examination	No. of students qualified			
	2012-13	2013-14	2014-15	2015-16
GATE	3	2	2	1
Civil services	0	0	0	0
Defense services	0	1	1	0
SLET	0			
NET	0			
GRE	0			
Public Sectors	2	1	0	0

29. Student progression.

SI No.	Name Of Equipments And Machines	Quantity
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Student progression		Against % enrolled
UG to PG		5%
PG to M.Phil.		0
PG to Ph.D.		0
Ph.D. to Post-Doctoral		0
Employed	• Campus selection	80
	• Other than campus recruitment	10
Entrepreneurship / Self-employment		0

**30. Details of Infrastructural facilities**

- a) **Library** : Available
- b) **Internet facilities for Staff & Students**
  - ❖ 10 Mbps broad band leased line
- c) **Class rooms with ICT facility** : 01
- d) **Laboratories** : 04

<b>Machine Shop/Workshop</b>		
1	Lathe Machine	4
2	Drilling Machine	5
3	Grinding Machine	3
4	Milling Machine	1
5	Arc Welding Machine	1
<b>Basic Mechanical Engineering Lab</b>		
1.	Cochran Boiler Model	1
2.	Babcock & Wilcox Boiler	1
3.	Lancashire Boiler	1
4.	Locomotive Boiler	1
5.	Cut Sectioned Model Of 2s Petrol Engine	1
6.	Cut Sectioned Model Of 4s Petrol Engine	1
7.	Cut Sectioned Model Of 2s Diesel Engine	1
8.	Cut Sectioned Model Of 4s Diesel Engine	1
9.	M. I. Of Flywhwheel Apparatus	1
10.	Demonstration Model Of Refrigerator	1
11.	Model Of Pelton Turbine	1
<b>Fluid Mechanics And Hydraulic Machines Lab</b>		
1.	Bernoullis Theorem Apparatus	1
2.	Impact Of Jet Apparatus	1
3.	Metacentric Height Apparatus	1
4.	Orifice Meter Apparatus	1
5.	Centrifugal Pump Test Rig	2

6.	Reciprocating Tes Rig	1
7.	Francis Turbine Test Rig	1
8.	Calibratation Of Bourdon Tube Pressure Gauge Apparatus	1
<b>Machine Dynamics &amp; Heat Power Lab</b>		
1.	Gyroscope Apparatus	2
2.	Whirling Of Shaft Apparatus	1
3.	Cam Analysis Apparatus	1
4.	Epicyclic Gear Train Test Rig	1
5.	Journal Bearing Test Rig	1
6.	Morse Test Rig	1
7.	Single Cylinder Diesel Engine Test Rig	1
8.	Lubrication System Of Automobile	1
9.	Fuel Supply System Of Automobile	1
10.	Solex Carburettor (Cut Sectioned) Model	1
<b>Heat Transfer Lab</b>		
1.	Stefan-Boltzman Apparatus	1
2.	Heat Transfer Through Forced Convection Apparatus	1
3.	Heat Transfer Through Free Convection Apparatus	1
4.	Mechanical Heat Pump Test Rig Emissivity Measurement Apparatus	1
5.	Composite Wall Apparatus	1
6.	Muffle Furnance	1
<b>Refrigeration &amp; Air Conditioning/Mmc Lab</b>		

1.	Hydraulic Trainer Kit	1
2.	Pneumatic Trainer Kit	1
3.	Vapour Absorption Type Refrigeration Test Rig	1
4.	Vapour Compression Type Refrigeration Test Rig	1
5.	Load Measurement Using Lvdt	1
6.	Calibration Of Load Cell Kit	1
<b>Production And Material Testing Lab</b>		
1.	Izod Impact Testing Machine	1
2.	Brinell/Rockwell Hardness Tester	1
3.	Fatigue Testing Machine	1

**31. Number of students receiving financial assistance from college, University, Government or other agencies**

Agency	No. of students received financial assistance				
	2012-13	2013-14	2014-15	2015-16	2016-17
College					In-Process
University					In-Process
Government					In-Process
Other agencies					In-Process

**32. Details on student enrichment programmes (special lectures/ workshops / Seminar) with external experts**

- ✓ National Workshop on Recent Trends in Engineering Materials (RTEM-2013) in 2013-14
- ✓ Seminar on Recent Advances in Alternative Fuels in 2014-15
- ✓ Workshop on CAD in 2015-16
- ✓ Workshop on advanced in planning & quality control in manufacturing & service organization (planned to be conducted in January 2017 )
- ✓ Workshop on robotics & its application ( planned to be conducted in February 2017 )

### **33. Teaching Methods Adopted to improve student learning**

- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
- Special training sessions are provided to motivate students for papers presentations in seminars.
- Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.

### **34. Participation in Institutional Social Responsibility (ISR) and Extension activities.**

The college has NSS wing to organize programs related to Environment Enrichment and Conservation, Health & Nutrition , aimed at creating an awareness for improvement of the status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Receptions. The students are encouraged to participate in the events. The list is provided in section 3.6.1

### **35. SWOC analysis of the department and Future plans**

#### **Strengths**

- Committed, dedicated and educated faculty
- Well equipped labs
- Consistently students getting placements
- Regular interaction of faculty with industry
- Quality projects being undertaken by students

#### **Weakness**

- Current Recession in the Industry & market discourage students for admission into Engineering courses
- Poor communication skills for students due to rural back ground
- Lack of funding from Govt. agencies to carryout R & D project

#### **Opportunities-**

- The students are doing their projects inside the campus with the guidance of guides.
- The projects are done by the students with the recourses and energy available in the institute.
- Growing demands for various courses
- Growing demand for Technically qualified people

#### **Challenges**

- Lack of employment opportunities for students
- To make all the students expertise in practical fields.
- Rapid changes in technology leading to ever increasing gap between academics and industrial requirements

#### **Future Plans:**

- To attract meritorious students
- To attract senior faculty members
- To establish a full-fledged Entrepreneurship Development Cell this will enable to improve the skills of students to start their own organizations.
- To implement innovative teaching methods to involve the students for their bright future to make every student expert Industry engineer.

1. **Name of the department** : Electrical Engineering

2. **Year of Establishment** : 2009

3. **Names of Programmes / Courses offered** : UG

UG : B Tech (Electrical Engineering)

4. **Names of Interdisciplinary courses and the departments/units involved:**

<b>Year</b>	<b>Names of Interdisciplinary Courses</b>	<b>Dept Involved</b>
1 <sup>st</sup>	Applied Mathematics-I	BSHM
	Applied Mathematics-II	BSHM
	Applied Chemistry/Applied Physics	BSHM
	Basics of Mechanical Engineering	ME
	Basics of Civil Engineering	CE
	Environmental Studies & Health Care Engineering	BSHM
	Basic Electronics and Electrical Engg	ETC
	Professional Ethics	BSHM
	English Communication Skill	BSHM
2 <sup>nd</sup>	Analog Electronics Circuit	ETC
	Engineering Economics and Coasting	BSHM
	Organizational Behavior	BSHM
	Digital Electronics Circuit	ETC
3 <sup>rd</sup>	Environmental Engineering and Safety	BSHM
	Optimization in Engineering	BSHM
	Database Management System	CSE
	Java Programming	CSE
	Microprocessor and Microcontroller	ETC
	Operating System	CSE

	Computer Network and Data Communication	CSE
4 <sup>th</sup>	Entrepreneurship Development	BSHM
	Satellite Communication System	ETC
	Digital Image Processing	ETC

**5. Annual/ semester/choice based credit system (programme wise)**

Semester based credit system

**6. Participation of the department in the courses offered by other departments**

Sl.No.	Programme	Courses offered by other departments
1	B.Tech.	ETC/AEIE
2		Computer Science Engineering
3		Civil Engineering
4		Mechanical Engineering

**7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**8. Details of courses/ programmes discontinued (if any) with reasons : NIL**

**9. Number of Teaching posts**

Designation	Sanctioned	Filled
Professors	1	0
Associate Professors	2	2
Assistant Professors	21	13

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of experience
1.	Mihir Ku. Patra	M. Tech	Associate Professor & HOD	Power Electronics and Drives	16 (8y Ind.)
2.	Monalisha Das	M. Tech	Associate Professor	Power System Engg	8
3.	Souravraj Mahana	M. Tech	Assistant Professor	Energy System and Management	6
4.	Ashok Ku. Sahoo	M. Tech	Assistant Professor	Power System Engg	2

5.	Jyotismita Mishra	M. Tech	Assistant Professor	Power System Engg	8
6.	Ghanashyam Mohanta	M. Tech	Assistant Professor	Power System Engg	6
7.	Jayaguru Das	M. Tech	Assistant Professor	Power System Engg	8 (2yr Ind.)
8.	Soumya Ranjan Kar	M. Tech	Assistant Professor	Power System Engg	
9.	Rutuparnna Dash	M. Tech*	Assistant Professor	Power System Engg	
10.	Antarikshya Mohanty	M. Tech*	Assistant Professor	Power System Engg	
11.	Sourav Prakash Sahoo	M. Tech*	Assistant Professor	Power System Engg	
12.	Vishakha Narayan	M. Tech*	Assistant Professor	Power System Engg	
13.	Apurba Dey	M. Tech*	Assistant Professor	Power System Engg	
14.	Subhasmita Sahu	B Tech	Assistant Professor	Power System Engg	
15.	Snehasish Behera	B Tech	Assistant Professor		1

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)

UG : B Tech. 1 : 20

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

	Sanctioned	Filled
Academic support staff (Technical)	4	4
Administrative staff	0	0

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

M Tech = 15

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: (Last four years)**

a) **Publication in Journals : NIL**

b) **Publication in Conferences**

Technological Aspect of Innovations for Sustainable Development of Energy Resources. By R. Dash. *In:* Proceedings of the UGC sponsored National Seminar “Management Practices for Sustainable Development-2014” (MPSD-14), FMU, Balasore, March 23-24, 2014, pp. 53-62.

**20. Areas of consultancy and income generated: NIL**

**21. Faculty as members in**

**National committees: NIL**

**International Committees : NIL**

**Editorial Boards : NIL**

**22. Student projects**

i) Percentage of students who have done in-house projects including inter departmental / programme. 100% students have done in-house projects.

ii) 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**

a) **Faculty: NIL**

b) **Students:**

- ❖ Ajib Parida 2<sup>nd</sup> year EE 2<sup>nd</sup> Prize in High Jump
- ❖ Abani Kumar Behera 4<sup>th</sup> year EE 3<sup>rd</sup> Prize in 200m race
- ❖ Satyajit Panda 4<sup>th</sup> year EE, 2<sup>nd</sup> Prize in Javelin throw
- ❖ S. K Abdul Sazid 4<sup>th</sup> Yr EE 1<sup>st</sup> Prize in shortfoot
- ❖ Swadhin Alok Dangua 3<sup>rd</sup> Yr EE 2<sup>nd</sup> Prize in discuss throw
- ❖ Kartik Ghadai 4<sup>th</sup> Yr. EE 2<sup>nd</sup> Prize in Relay Race

**24. List of eminent academicians and scientists / visitors to the department**

Sl. No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
	2013-14				

	2014-15				
	2015-16				
	2016-17				

25 a) National Workshops / Conferences Conducted: NIL

b) International Workshops/Conferences Conducted : NIL

26. Student profile programme/course wise:

Year	Name of the Course / program	Selected (Number Admitted including Lateral Entry)	Enrolled		Pass %
			Male	Female	
2009-13	B Tech				
2010-14					
2011-15					
2012-16					

\* Admissions are through OJEE/PGAT counseling of Odisha State Govt.

27. Diversity of Students

Year of Admission	Name of the Course	% students from the same State	% of students from other States	% of students from abroad
2012-13	B.Tech			
2013-14				
2014-15				
2015-16				
2016-17				

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Name of the Competitive examination	No. of students qualified			
	2012-13	2013-14	2014-15	2015-16
GATE				
Civil services				
Defense services				

SLET				
NET				
GRE				
Public Sectors				

**29. Student progression.**

Student progression		Against % enrolled
UG to PG		
PG to M.Phil.		
PG to Ph.D.		
Ph.D. to Post-Doctoral		
Employed	• Campus selection	
	• Other than campus recruitment	
Entrepreneurship / Self-employment		

**30. Details of Infrastructural facilities**

**a) Library: Available**

**b) Internet facilities for Staff & Students**

❖ 10 Mbps broad band leased line

**c) Class rooms with ICT facility : NIL**

**d) Laboratories : 04**

Sl. No.	Name of the laboratory	Area sq.m	Quality of Instruments	Lab Manual
1	Basic Electrical Engg. Lab	100	Good , Working	Available
2	Network Theory Lab	100	Good , Working	Available
3	Electrical Machine Lab	100	Good , Working	Available
4	Control & Instrumentation Lab	100	Good , Working	Available
5	Power Electronics Lab	100	Good , Working	Available
6	Measurement Lab	100	Good , Working	Available
7	Electrical Drives Lab	100	Good , Working	Available
8	Power System Lab	100	Good , Working	Available
9	M/C Design & Simulation Lab	100	Good , Working	Available
10	Project Lab	60		

**31. Number of students receiving financial assistance from college, University, Government or other agencies**

Agency	No. of students received financial assistance				
	2012-13	2013-14	2014-15	2015-16	2016-17
College					In-Process
University					In-Process
Government					In-Process

Other agencies					In-Process
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**32. Details on student enrichment programmes (special lectures/workshops / Seminar) with external experts**

- Workshop on Experiments of Power Electronics in 2014-15
- Workshop on Soft computing and its application in Engineering 2014-15
- Seminar on Power quality monitoring analysis & remedial measures in 2015-16
- Seminar on Renewable Energy Systems in 2016-17
- Seminar on Modern Trend in operation of power system (planned to be conducted in December 2017 )
- Seminar on Application of FACTS in Power System (planned to be conducted in January 2017 )
- Seminar on Green productivity for sustainable energy environment (planned to be conducted in March 2017 )

**33. Teaching Methods Adopted to improve student learning**

- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
- Special training sessions are provided to motivate students for papers presentations in seminars.
- Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.

**34. Participation in Institutional Social Responsibility (ISR) and Extension activities.**

The college has NSS wing to organize programs related to Environment Enrichment and Conservation, Health & Nutrition , aimed at creating an awareness for improvement of the status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Recreations. The students are encouraged to participate in the events. The list is provided in section 3.6.1

### **35. SWOC analysis of the department and Future plans**

#### **Strength**

- Dedicated and Energetic faculty
- Excellent teaching methodology
- Corporate culture
- Enhance quality of life

#### **Weakness**

- MOUs. and More industry interaction programs are required
- Lacking in patents
- Research & development activity to be improved

#### **Opportunities**

- Strong knowledge base in all areas of engineering theory and practice.
- Key management skills and techniques.
- Confidence in analyzing and evaluating problems and taking decisions.

#### **Challenge**

- Department is not getting requisite amount of fund from DST, AICTE & UGC for upgrading projects.
- Students from diverse backgrounds
- Recession in global and local market.

#### **Future plan**

- To conduct more workshops and seminars for students enrichment.
- To have MOUs for collaborative research, continuous training and placement for the students with National and International Institutes and Industries of repute.
- To make the department a recognized research centre.
- To conduct more research and development activities and to publish more research papers in peer reviewed International journals.

## EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the department** : Civil Engineering
2. **Year of Establishment** : 2011
3. **Names of Programmes / Courses offered** :  
UG : B.Tech (Civil Engineering)
4. **Names of Interdisciplinary courses and the departments/units involved:**

Year	Names of Interdisciplinary Courses	Dept Involved
1 <sup>st</sup>	Applied Mathematics-I	BSHM
	Applied Chemistry/Applied Physics	BSHM
	Basics of Mechanical Engineering	ME
	Environmental Studies & Health Care Engineering	BSHM
	Basic Electronics and Electrical Engg	ETC & EE
	Professional Ethics	BSHM
	English Communication Skill	BSHM
2 <sup>nd</sup>	Mechanics of Solid	ME
	Engineering Economics and Coasting	BSHM
	Organizational Behavior	BSHM
3 <sup>rd</sup>	Environmental Engineering and Safety	BSHM

	Principle of Management	BSHM
	Optimization in Engineering	BSHM
	Java Programming	CSE
	Computer Organization	CSE
4 <sup>th</sup>	Marketing Management	BSHM

**5. Annual/ semester/choice based credit system (programme wise)**

Semester based credit system for both UG and PG

**6. Participation of the department in the courses offered by other departments**

Sl.No.	Programme	Courses offered by other departments
1	B.Tech.	ETC/AEIE
2		Computer Science Engineering
3		Electrical Engineering
4		Mechanical Engineering

**7. Courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**8. Details of courses/programmes discontinued (if any) with reasons : NIL**

**9. Number of Teaching posts**

Designation	Sanctioned	Filled
Professors	1	0
Associate Professors	2	
Assistant Professors	9	

**10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of experience
1.	Sambit Ku. Sahu	M Tech	HOD	Structural Engineering	5
2.	Leemonlisha Raj	M Tech	Asst. Prof.	Structural Engineering	3
3.	Sharmistha Patra	M Tech*	Asst. Prof.	Structural Engineering	4

4.	Rajat Ku. Jena	M Tech	Asst. Prof.	Structural Engineering	4
5.	Anupoma Sahu	M Tech*	Asst. Prof.	Structural Engineering	2
6.	Munmun Patra	M Tech*	Asst. Prof.	Structural Engineering	4
7.	Sipi Sanam Das	M Tech*	Asst. Prof.	Structural Engineering	4
8.	Tapas Ku. Ghadai	M Tech*	Asst. Prof.	Structural Engineering	3
9.	Sibani Das	M Tech*	Asst. Prof.	Structural Engineering	2
10.	Pratab Chandra Nayak	B Tech	Asst. Prof.	Structural Engineering	3
11.	Raghabananda Satapathy	B Tech	Asst. Prof.	Structural Engineering	3 months

**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)**

UG : B Tech. - 1 : 15

**14. Number of academic support staff (technical) and administrative staff; sanctioned and filled**

	Sanctioned	Filled
Academic support staff (Technical)	3	3
Administrative staff	0	0

**15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.**

M Tech = 9

**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: (Last four years)**

a) Publication in Journals : Nil

b) Publication in Conferences: 1

**20. Areas of consultancy and income generated: NIL**

**21. Faculty as members in****National committees: 02****International Committees : 02****Editorial Boards : NIL****22. Student projects**

i) Percentage of students who have done in-house projects including inter departmental / programme. 100% students have done in-house projects.

ii) 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****a) Faculty: NIL****b) Students:**

<b>2015-16</b>	
<b>Merit prize</b>	
1. Amrut Kumar Manna	1 <sup>st</sup>
2. Sanjita Jena	2 <sup>nd</sup>
3. Pabitra Kumar Satpathy	3 <sup>rd</sup>
<b>For 100% Attendance</b>	
Sanjita Jena	
<b>2014-15</b>	
<b>Merit prize</b>	
1. Chinmaya Mohanty	1 <sup>st</sup>
2. Jagat Jiban Panda	2 <sup>nd</sup>
3. Urmila Dhal	3 <sup>rd</sup>

**For 100% Attendance**

Chinmaya Mohanty

**24. List of eminent academicians and scientists / visitors to the department**

Sl. No	Year	Name of the Academician / Scientist	Designation	Organization	Purpose of Visit
	2013-14				
	2014-15				
	2015-16				
	2016-17				

**25 a) National Workshops / Conferences Conducted: NIL**

**b) International Workshops/Conferences Conducted : NIL**

**26. Student profile programme/course wise:**

Year	Name of the Course / program	Selected (Number Admitted including Lateral Entry)	Enrolled		Pass %
			Male	Female	
2015-16	B. Tech (CE)	69	56	13	98
2014-15		67	51	16	100

*\* Admissions are through OJEE/PGAT counseling of Odisha State Govt.*

**27. Diversity of Students**

Year of Admission	Name of the Course	% students from the same State	% of students from other States	% of students from abroad
2016-17	B Tech	100	0	0
2015-16	(CE)	90	10	0
2014-15		100	0	0

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

Name of the Competitive examination	No. of students qualified	
	2014-15	2015-16
GATE	1	2
Civil services	0	0
Defense services	0	0
SLET	0	0
NET	0	0
GRE	0	0
Public Sectors	0	0

29. Student progression.

Student progression		Against % enrolled
UG to PG		2%
PG to M.Phil.		0
PG to Ph.D.		0
Ph.D. to Post-Doctoral		0
Employed	• Campus selection	75
	• Other than campus recruitment	10
Entrepreneurship / Self-employment		0

30. Details of Infrastructural facilities

a) Library : Available

b) Internet facilities for Staff & Students

❖ 10 Mbps broad band leased line

c) Class rooms with ICT facility : NIL

d) Laboratories : 03

Sl. No.	Name of the laboratory	Area sq.m	Quality of Instruments	Lab Manual
1	Geotechnical Engineering Lab	100	Good , Working	Available
2	Concrete & Structural Engg Lab	100	Good , Working	Available
3	Survey Lab	-	Good , Working	Available
4	Material Testing Lab	100	Good , Working	Available
5	Civil Engineering Drawing Lab	100	Good , Working	Available
6	Transportation Engineering Lab	100	Good , Working	Available
7	Environmental Engineering Lab	100	Good , Working	Available
8	Basic Civil Engineering Lab	100	Good , Working	Available
9	Project Lab	60		

**31. Number of students receiving financial assistance from college, University, Government or other agencies**

Agency	No. of students received financial assistance				
	2012-13	2013-14	2014-15	2015-16	2016-17
College					In-Process
University					In-Process
Government					In-Process
Other agencies					In-Process

**32. Details on student enrichment programmes (special lectures/workshops / Seminar) with external experts**

- ❖ Seminar on land & water management in 2015-16
- ❖ Seminar on Advance in water resource engineering (Planned to be conducted in December 2016)
- ❖ Seminar on alternative Technologies In Rural Areas (Planned to be conducted in January 2017)

**33. Teaching Methods Adopted to improve student learning**

- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
- Special training sessions are provided to motivate students for papers presentations in seminars.
- Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.
- Apart from theory and practical classes tutorial class, remedial class, mentoring classes are included in time table.

**34. Participation in Institutional Social Responsibility (ISR) and Extension activities.**

The college has NSS wing to organize programs related to Environment Enrichment and Conservation, Health & Nutrition , aimed at creating an awareness for improvement of the

status of women, Social Service, Production Oriented, Relief & Rehabilitation work during Natural Calamities, Education and Recreations. The students are encouraged to participate in the events. The list is provided in section 3.6.1

### **35. SWOC analysis of the department and Future plans**

#### **Department Strengths:**

- Committed, dedicated and qualified faculty.
- Well equipped laboratories.
- Consistently students getting placements.
- Student centric environment

#### **Department Weaknesses:**

- Few research Publications
- Shortage of qualified Faculty
- Poor communication skills for students due to rural background.
- Need to do more core consultancy projects

#### **Department Opportunities:**

- Utilization of Labs For R&D
- Research oriented consultancy
- Opportunity for students to get placed
- Opportunity for faculty to undertake research
- Opportunity for Students to take up higher education

#### **Department Challenges:**

- Faculty Retention.
- Government policies.
- 100% Placements
- Further improvement in academic results
- To include research aptitude in young faculty

#### **Future Plans**

To establish an Entrepreneurship Development Cell, this would improve the skills of students and enable them to start their own organizations.

## EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the department** : Basic Science and Humanities
2. **Year of Establishment** : 1999
3. **Names of Programmes / Courses offered** : NA
4. **Names of Interdisciplinary courses and the departments/units involved:** NA
5. **Annual/ semester/choice based credit system (programme wise):** NA
6. **Participation of the department in the courses offered by other departments**

Sl.No.	Programme	Courses offered by other departments
1	B Tech.	ETC/AEIE
		Civil Engineering
2		Computer Science Engineering
3		Electrical Engineering
4		Mechanical Engineering

7. **Courses in collaboration with other universities, industries, foreign institutions, etc. :** NIL
8. **Details of courses/programmes discontinued (if any) with reasons :** NIL
9. **Number of Teaching posts**

Designation	Sanctioned	Filled
Professors	2	2
Associate Professors	2	0
Assistant Professors	8	10

10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./ Ph.D. / M. Phil. etc.,)**

Sl. No	Name	Qualification	Designation	Specialization	No. of years of experience
1.	Dr. P K Raj	MA. PhD	Professor & HOD	Economics	35
2.	Dr. Mayadhar Behera	MSc. PhD	Professor	Chemistry	42
3.	Pravat Kumar Swain	MSc. PhD*	Assistant Professor	Chemistry	3
4.	Ladu Kishore Panda	MA	Assistant Professor	English	11

5.	Tapan Kumar Manna	M.Sc	Assistant Professor	Mathematics	8
6.	Bhikari Charan Mallick	M.Sc	Assistant Professor	Mathematics	3
7.	Arpita Nayak	M.Sc	Assistant Professor	Mathematics	2
8.	Shreelekha Mishra	M.Sc	Assistant Professor	Physics	4
9.	Priyadarshani Parida	M.A	Assistant Professor	Linguistic	6
10.	Hari Charan Das	M.A	Assistant Professor	English	2
11.	Madhuchandita Nayak	MBA	Assistant Professor	HR	2
12.	Nishali Mohanty	MBA	Assistant Professor	HR	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) : NA

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled

	Sanctioned	Filled
Academic support staff (Technical)	2	2
Administrative staff	0	0

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

PhD = 2, PG = 10

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: (Last four years)

**Publications:**

1. P. K. Swain, G. Roy Chaudhury and L. B. Sukla. Dissolution Kinetics of Chromite Overburden using Mineral acids. *Korean J. Chem. Eng.*, 2007, 24(6), 932-935. (Springer, Impact Factor: 1.241)

2. **Pravat K. Swain**, Haridwar Singh and Surya P. Tewari. Energetic Ionic Salts Based on Nitrogen-Rich Heterocycles: A prospective study. *Journal of Molecular Liquids*, 151 (2010) 87–96. (Elsevier, Impact Factor: 2.083)  
ScienceDirect TOP25 Hottest articles, Chemistry, January to March 2010.  
ScienceDirect TOP25 Hottest articles, Physics and Astronomy, January to March 2010.
3. **Pravat K. Swain**. Theoretical investigation of 4-amino triazolylpentazole: A breakthrough to nitrogen-rich heterocycles. *Journal of Molecular Liquids*, 157 (2010) 1-5. (Elsevier, Impact Factor: 2.083)
4. **Pravat K. Swain**, L. M. Das and S. N. Naik. Biomass to liquid: A prospective challenge to research and development in 21<sup>st</sup> century. *Renewable and Sustainable Energy Reviews*, 15 (2011) 4917-4933. (Elsevier, Impact Factor: 6.619)
5. **Pravat K. Swain**. [Novel Investigation of 1,5-Diamino-4-methyltetrazolium Perchlorate \[C<sub>2</sub>H<sub>7</sub>N<sub>6</sub>\]<sup>+</sup> \[ClO<sub>4</sub>\]<sup>-</sup>: A Prospective Challenge to Nitrogen-rich Ionic Salts and Health Risk](#), Article first published online: 8 NOV 2013 | DOI: 10.1002/chin.201348234, *ChemInform Abstract*: November 26, 2013, Volume 44, Issue 48. (Wiley)
6. **Pravat K. Swain**. Unusual investigation of polycyclic saturated tetrazine: A breakthrough to 1,2,4,5-tetrazine. *J. Heterocyclic Chem.*, 53(4), (2016) 1324-1331. *Cover Image (page i) (/doi/10.1002/jhet.2759/full)* (Wiley, Impact Factor: 0.873)
7. S. C. Patnaik, **P. K. Swain**, P. K. Mallik, S. K. Sahoo. Wear Characteristics of Aluminium-Graphite Composites Produced by Stir Casting Technique. *Journal of Materials and Metallurgical Engineering ISSN: 2231-3818 (online)*, 4(3), (2014) 13-20. (STM, SJImpact Factor: 3.38)
8. **Pravat K. Swain**. Novel investigation of 1,5-diamino-4-methyl tetrazolium perchlorate [C<sub>2</sub>H<sub>7</sub>N<sub>6</sub>]<sup>+</sup> [ClO<sub>4</sub>]<sup>-</sup>: A prospective challenge to nitrogen-rich ionic salts and health risk, as a book chapter entitled “Advances in Chemistry Research” has been published by James C. Taylor, Nova Science Publishers, Inc. 400 Oser Avenue, Suite 1600, Hauppauge, NY 11788, 2011, pp.297-314.
9. S. Pradhan, S. K. Jena, S. C. Patnaik, **P. K. Swain**, J. Majhi. Wear characteristics of Al-AlN composites produced in-situ by nitrogenation. *IOP Conference Series: Materials Science and Engineering*, 75 (2015) 012034.

10. P. K. Mallik, **P. K. Swain**, S. C. Patnaik. Characterisation of suspension precipitated nanocrystalline hydroxyapatite powders. *IOP Conference Series: Materials Science and Engineering*, 115 (2016) 012025.

**International Conference papers:**

1. **P. K. Swain**, G. Roy Chaudhury, L. B. Sukla and V. N. Misra. Leaching of Nickel from Lateritic Nickel Ore using Mineral and Organic acids. Proceedings Volume of *International Conference on Emerging Trends in Mineral Processing & Extractive Metallurgy*, 2005, pp.197-201, Edited by Vibhuti N. Misra (**Director**), S. C. Das and T. Subbaiah. **RRL (CSIR) Bhubaneswar, India**
2. **P. K. Swain**, Haridwar Singh and Surya P. Tewari. 1,5-Diamino-4-Methyl Tetrazolium Perchlorate  $[C_2H_7N_6]^+[ClO_4]^-$ : A New Derivative of 1,5-Diamino-1H-Tetrazole. Proceedings Volume of *Indo-Russian Workshop on High Energy Density Physics for Innovative Technologies and Industry Applications*, 2008, pp.23-24, Edited by Vladimir E. Fortov, Konstantin V. Khishchenko, Pavel R. Levashov, and Samir K. Das. **IIT Pune, India**
3. Lalit Prasad, Subhalaxmi Pradhan, **Pravat Kumar Swain**, S. N. Naik and L. M. Das. Comparative study of biodiesel from Jatropha and Karanja oil in internal combustion engine. Proceeding volume of *Dissemination Seminar on Enhanced Biomass Production and Energy Conversion for use in Water Scare Area of India and Bio-energy: Technology and Business Solutions for the UK and India*, 2010, Paper No-IV.3, p-38. Jointly organised by IITD-Aston University Collaborative –Projects Teams at **IIT Delhi**.
4. **Pravat K. Swain**, L. M. Das and S. N. Naik. Biobutanol: the future fuel. Proceeding volume of *International Workshop on Green Initiative in Energy, Environment and Health*, 2013, PP No-10(33). Jointly organised by Green Chemistry Network Centre (GCNC), University of Delhi, TERI, Gautam Buddha University, Green Chemistry Centre of Excellence, Department of Chemistry, University of York and the Royal Society of Chemistry (RSC), London (North India Section) on December 2-3, 2013 at **Hotel Maidens in Delhi**.
5. **Pravat K. Swain**. Bio-fuels from waste products: A prospective challenge. Proceedings Volume of Poster Presentation on the 5<sup>th</sup> Asia-Oceania Conference on Green and Sustainable Chemistry (AOC-5 GSC 2015), pp no. 119, 2015. Jointly organised by

Green Chemistry Network Centre (GCNC), University of Delhi, The Energy and Resources Institute and the Royal Society of Chemistry (RSC), London (North India Section) on 15-17 January **2015**, **India Habitat Centre, New Delhi**, India

6. Rabiranjana Murmu, **Pravat K. Swain** and Abhijit P. Deshpande. Preparation and Characterization of Sulfonated Polyether Ether Ketone (SPEEK) Membranes for Fuel Cell by using different technique. Proceeding volume of *International Conference on Innovative Applications of Chemistry in Pharmacology & Technology, 2015 (IC-IACPT2015)* PP No-136(177) on February 06-08, **2015**. Organised by Department of Chemistry, **Berhampur University**, Odisha, India.
7. **Pravat K. Swain**. Theoretical Prediction and Synthesis of Nitrogen-Rich Energetic Salts: A Novel Study. *Proceeding volume of International Conference on Frontiers in Materials Science & Technology, 2015 (ICFMT-2015)* P No-76(124) on December 10-12, **2015**. Organised by **National Institute of Science and Technology (NIST)**, Berhampur, Odisha, India.
8. **Pravat K. Swain**. Comprehensive study on nitrogen-rich energetic ionic salts and its application in biomedical research. *Proceeding volume of International Conference on Metals in Genetics, Chemical Biology and Therapeutics, 2016 (ICMG-2016)* P No-124(226) on February 17-20, **2016**. Organised by **Indian Institute of Science (IISc)**, Bangalore, India.
9. **Pravat K. Swain**. Novel Investigation of 1H-Tetrazoles Derivatives: Spectral Characterization and Antibacterial Activities, *Souvenir Volume of International Conference on Biomaterials, Biodiagnostic, Tissue Engineering, Drug Delivery and Regenerative Medicine, (BiTERM-2016)* PA No-103(22) on April 15-17, **2016**. Organised by Centre For Biomedical Engineering, **Indian Institute of Technology Delhi**, India.
10. **Pravat K. Swain**. Utilisation of Agriculture Waste Products for Production of Bio-Fuels: A Novel Study. *Proceeding Volume of International Conference On Nanotechnology, 2016 (ICNANO-2016)* OP No-04(60) On April 21-23, **2016**. Organised By Department Of Nanotechnology, Visvesvaraya Technological University, In Association With Electrochemical Society Of India And Indian Ceramic Society Karnataka Chapter, at

**Bharat Ratna Sir M. Visvesvaraya Birth Place Muddenahalli, Chikkaballapur,**  
Karnataka, India.

- 11. Pravat K. Swain.** Production of Bio-Fuels from Fruit Wastes: A Greener Approach. *Proceeding Volume of International Conference on Science & Technology: Future Challenges and Solutions (STFCS-2016)*, OP No-25(64) on August 8-9, **2016**. Organised by Department of Chemistry, University of Mysore, in Association with JSPS of India (IJAA), University Of Mysore and Dept. of Nanotechnology (VTU), at **University of Mysore, Karnataka, India.**

**National Conference papers:**

- 1. P. K. Swain,** Haridwar Singh and S. P. Tewari. Energetic Ionic Salts Based on Nitrogen-Rich Heterocycles: A Review. Proceedings Volume of Poster Presentation on *National Symposium for Materials Research Scholars-MR 08*, pp. 78, 17-18 May, **2008**. **IIT Bombay, India**
- 2. Pravat K. Swain,** Haridwar Singh and S. P. Tewari. Low-melting Salts of Simple Heterocycles. Proceedings Volume of Poster Presentation on *First National Symposium Trends in Explosive Technology, TEXT-08*, pp. 84, 5-6 November, **2008**. **TBRL Chandigarh, India**
- 3. Pravat K. Swain.** Polycyclic Saturated Tetrazine: A New Derivative of 1, 2, 4, 5-Tetrazine. Proceedings Volume of Poster Presentation on *96<sup>th</sup> Indian Science Congress, ISCA-09*, pp.66, 3-7 January, **2009**. **NEHU Shillong, India**
- 4. Pravat K. Swain** and Haridwar Singh. An Unusual One Step Synthesis of 4-Amino Triazolylpentazole: A Breakthrough to Nitrogen-Rich Heterocycles. Proceedings Volume of Poster Presentation on *Current Trends in Medicinal Chemistry, MEDCHEM-09*, pp. 26, April 2-4, **2009**. **IIT Madras, India**
- 5. Jogendra Majhi, Pravat Kumar Swain** and Sandeep Kumar Sahoo. Oxidation Behaviour of Binary Alloy of MoSi<sub>2</sub>. *National Seminar on Recent Advancement in Material Sciences (RAIMS-2013)*, PP-11(I), 26-27 October, **2013**. **VSSUT, Burla, Sambalpur, Odisha, India**
- 6. Anup Kumar Swain, Hemalata Patra and Pravat Kumar Swain.** Red Mud Neutralization by Carbon Dioxide. *27<sup>th</sup> Annual Conference of Orissa Chemical Society 2013 and National Conference on "Chemistry in the 21<sup>st</sup> Century"*, OP-42, 14-15

December, **2013. MEMS, Balasore**, Odisha, India

7. **Pravat K. Swain**, L. M. Das and S. N. Naik. Bio-butanol: A road for future fuel. Proceedings Volume of *National Conference on Modern Trends in Engineering Solutions (NCMTES-2013)*, OP-43, 21-22 December, **2013. Indira Gandhi Institute of Technology, Sarang**, Odisha, India
8. **Pravat K. Swain**. Unusual investigation of polycyclic saturated tetrazine: A novel computational study. Proceedings Volume of *National Seminar on Materials Chemistry and Catalysis (MCC-VI)*, OL-3, pp no.14, March 26-27 December, **2014. North Orissa University, Sriram Chandra Vihar, Baripada**, Odisha, India
9. Suresh Chandra Patnaik, **Pravat K. Swain**, Prafulla Kumar Mallik, Sandeep Kumar Sahoo. Production of Aluminium-Graphite Composites Using Stir Casting Method and their Mechanical Characterization. Proceedings Volume of *National Seminar on Recent Advancement in Material Sciences (RAIMS-2014)*, OP-9, pp no.40, **2014**. Jointly organised by Department of Chemistry & Production Engineering on 23-24 August, **2014 at VSSUT, Burla**, Sambalpur, Odisha, India
10. Prafulla Kumar Mallik, Suresh Chandra Patnaik, **Pravat K. Swain**. Materials Processing in the Microwave Furnace: A Case Study. Proceedings Volume of *National Seminar on Recent Advancement in Material Sciences (RAIMS-2014)*, OP-7, pp no.26, **2014**. Jointly organised by Department of Chemistry & Production Engineering on 23-24 August, **2014 at VSSUT, Burla**, Sambalpur, Odisha, India
11. C. Jariwala, S. Das, **P. K. Swain**, P A Rayjada, R. Rane, N. Chauhan, P.M. Raole. Influence of Argon gas addition on growth and properties of SnO<sub>2</sub> thin film by Plasma Assisted Thermal Evaporation. *National Seminar on Recent Advancement in Material Sciences (RAIMS-2014)*, PP-12(I), **2014**. Jointly organised by Department of Chemistry & Production Engineering on 23-24 August, **2014 at VSSUT, Burla**, Sambalpur, Odisha, India
12. **Pravat K. Swain**, S. K. Barik. Synthesis and characterization of hydrogels. *National Seminar on Recent Advancement in Chemical Sciences (RECTICS-2014)*, PP-12(I), **2014**, organised by Department of Chemistry on 14-15 November, **2014 at Sambalpur University**, Odisha, India

20. Areas of consultancy and income generated: NIL

21. Faculty as members in

National committees: NIL

International Committees : NIL

Editorial Boards : NIL

22. Student projects: NA

23. Awards / Recognitions received by faculty and students

a) Faculty:

Invited talk:

1. **Pravat K. Swain.** Bio-butanol: A sustainable future fuel: *National Seminar and 16<sup>th</sup> Regional Conference of Orissa Chemical Society 2014 on "Emerging Trends in Chemical Sciences"* on 12-13 April, **2014** at the **Saraswati Vidya Mandir, Neelakantha Nagar, Berhampur** in collaboration with P.G. Department of Chemistry, Berhampur University, Odisha, India
2. **Pravat K. Swain.** Study on novel materials: nitrogen-rich energetic ionic salts and its application: *Student's National Seminar and Advantium-2*, in collaboration with Department of Metallurgical Engineering on 27-28 February, **2016** at **Indira Gandhi Institute of Technology, Sarang**, India.

24. List of eminent academicians and scientists / visitors to the department:

25 a) National Workshops / Conferences Conducted

Date	Title of the Programme	Sponsoring Agency	Name of the Speakers	No. of Participants
29/10/2014	Technical Seminar on Importance of Management Studies in Recent Trends of Technical Education	Trustee, Satyasai Group of Institutions	Dr. Bibhuti Bhusan Mohapatro. Reader in MBA, FMU, Balasore	94

b) International Workshops/Conferences Conducted: NIL

26. Student profile programme/course wise: NA

27. **Diversity of Students : NA**
28. **How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.? : NA**
29. **Student progression : NA**
30. **Details of Infrastructural facilities**
- a) **Library : Available**
- b) **Internet facilities for Staff & Students**
- ❖ 10 Mbps broad band leased line
- c) **Class rooms with ICT facility : NA**
- d) **Laboratories : 03**

Sl. No.	Name of the laboratory
1	Physics Lab
2	Chemistry Lab
3	Language Lab

31. **Number of students receiving financial assistance from college, University, Government or other agencies : NA**
32. **Details on student enrichment programmes (special lectures/ workshops / Seminar) with external experts**
- ❖ Seminar on HR Skills for Manager in 2016-17
- ❖ Seminar on Research Methodology in 2016-17
33. **Teaching Methods Adopted to improve student learning**
- Before commencement of classes each faculty prepares the course file and lab manuals for effective content delivery and time bound course completion. All faculty members use LCD Projectors, Chalk and Talk process, Web Resources , NPTEL Videos, Charts, models for better understanding of students on subject matters.
  - Special training sessions are provided to motivate students for papers presentations in seminars.
  - Students are motivated to access latest online journals, reference materials which will help them to understand the emerging trends in their field of study.

**34. Participation in Institutional Social Responsibility (ISR) and Extension activities. : NIL**

**35. SWOC analysis of the department and Future plans**

**Strength :**

- Committed, dedicated and qualified faculty.
- Well equipped Laboratories
- Excellent teaching methodology
- Work place culture is cordial and competitive Language Lab

**Weakness**

- Research activities to be improved.

**Opportunity**

- Growing demand for talented engineers for IT and ITES
- Scope for developing innovative ideas and technologies
- Opportunity for Students to take up higher education

**Challenges**

- Poor communication skills for students due to rural background.
- Changes in curriculum.
- Decline in the overall quality of students intake

**Future Plan**

- To implement innovative teaching methods to involve the students for their bright future
- Communication skills of the students have to be improved. It is proposed to conduct programmes for improvement of the communication skills of students.



