

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME  
(TEQIP)  
PHASE-III**

**INSTITUTIONAL DEVELOPMENT PROPOSAL**

**for**

**Sub-Component 1.1**

**Institutional Development for Participating Institutions**

**Submitted  
By**



**GOVERNMENT COLLEGE OF ENGINEERING, KEONJHAR**

*(A Constituent College of BPUT, Odisha)*

*At: Jamunalia, P.O.: Old Town, Dist., Keonjhar, Pin: 758002 (Odisha)*

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# 1. INSTITUTIONAL BASIC INFORMATION

## 1.1 Institutional Identity

- **Name of the Institution** : GOVERNMENT COLLEGE OF ENGINEERING, KEONJHAR  
At: Jamunalia, Po: Old Town,  
Dist.: Keonjhar, Pin: 758002 (Odisha)
- **Is the Institution AICTE approved?:** Yes
- **Furnish AICTE approval No.** : F. No. Eastern/1-2811913305/2016/EOA  
Dt. 25-04-2016
- **Type of Institution** : Govt. funded
- **Status of Institution** : Constituent College of BPUT
- Name of Head of the Institution** : Prof. Trilochan Sahu, Principal  
(Full time appointee)

## 1.2 Academic Information:

- **Engineering programmes offered in Academic year 2016-17**

SL No	Title of programmes	Level (UG, PG, PhD)	Duration (Years)	Year of starting	AICTE Sanctioned Annual Intake	Total student strength in all years of study
1	Mining Engineering	UG	4	1995	30 Intake increased to 60 in the year 2015 by State Govt.	192
2	Electrical Engineering	UG	4	1997	60	255
3	Mechanical Engineering	UG	4	1997	60	255
4	Mineral Engineering	UG	4	2008	20 Intake increased to 60 in the year 2015 by State Govt.	108
5	Metallurgical Engineering	UG	4	2009	20 Intake increased to 60 in the year 2015 by State Govt.	168

6	Civil Engineering	UG	4	2015	60 New branch introduced by State Govt.	122
7	Computer Science & Engineering	UG	4	2015	60 New branch introduced by State Govt.	110

• **NBA Accreditation Status of UG and PG programmes as on 31<sup>st</sup> December 2016:**

Total no of programmes eligible for accreditation (at least one batch pass out): 05

No. of programmes accredited: NIL

No. of programmes applied for accreditation: NIL

• **Status of Faculty Associated with Teaching Engineering Students (Regular/ Contract) as on 31<sup>st</sup> December, 2016:**

No of sanctioned Regular Posts	Present Status : Number in position by Highest Qualification												Total Number of regular Faculty in position	Total Vacancies	Total Number of Contract Faculty in position
	Doctoral Degree				Masters Degree				Bachelors Degree						
	Engineering Disciplines		Supporting Disciplines(Physics, Chemistry, Maths & English/ Other Languages)		Engineering Disciplines		Supporting Disciplines(Physics, Chemistry, Maths & English/ Other Languages)		Engineering Disciplines		Supporting Disciplines(Physics, Chemistry, Maths & English/ Other Languages)				
	R	C	R	C	R	C	R	C	R	C	R	C			
1	2	3	4	5	6	7	8	9	10	11	12	13	14=( 2 +4+6 +8+1 0+11 )	15= (1- 14)	16= (3+5+ 7+9 +11+ 13)
63	02	-	-	01	13	19	-	18	-	10	-	-	15	48	48

## **2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)**

### **2.1 Executive Summary**

The institute was started in the year 1995 as Orissa School of Mining Engineering (Degree Stream), Keonjhar with B.Tech. in Mining Engineering. In the year 2006, Government of Odisha declared the institute as a constituent college of Biju Patnaik University of Technology, Rourkela under self-finance scheme to develop it as a centre of excellence in the field of Mining & Mineral engineering. It was declared as a full fledged government engineering college from the academic year 2011-2012 as per Government Notification No: 148 Dt: 04.01.2011. Subsequently the name of the institute was changed to Government College of Engineering, Keonjhar in the year 2012 as per Government Notification IV-TTI-58/2012/1987/ETET, Dt: 27.06.2012. While GCE, Keonjhar is justifiably proud of its strengths and achievements, there are many challenges it may have to face because of the rapid economic and technological developments currently occurring both at the national and international level. Having analysed its current status, its internal strengths and weaknesses and the threats and opportunities presented to it by its environment, it has decided to embark upon a vast and ambitious programme of institutional development and looks forward to receiving financial assistance under TEQIP-III for implementation of the programme to improve the learning outcomes and employability of its graduates. This is proposed to be achieved by

- Improvements in teaching, training and learning facilities
- Faculty and staff development for improved competence
- Starting new PG programmes
- Enhancement of interaction with industries
- Implementation of institutional reforms
- Academic support for weak students

## 2.2 Action plan for

### a) Improving the Learning Outcomes of the Students

#### 1. Faculty Training

Sl. No.	Description	Plan of Work
1.	Up gradation of subject knowledge and research competence of faculty members by outstation deputation to institutions of repute (India/abroad).	The faculty members shall be encouraged to apply for research exchange programs of different institutes/universities of repute in India and abroad for developing their subject knowledge expertise which shall be under institute's sponsorship.
2	Deputation of faculty members for participation in seminars, conferences, workshops etc. (within India or abroad).	The faculty members would be encouraged to attend seminars, conferences and workshops by providing them institution sponsorship for TA/DA and Registration Fees so that they would be able to publish research papers in their field of expertise.
3	Sponsoring of faculty members for qualification up gradation.	The faculty members would be sent for Higher Studies under QIP as well as institute sponsorship to different Universities of Grade A stature. By the end of the project period 50% of the faculty strength would be PhD awarded. (During the study leave of faculty members Contractual faculties would be engaged to makeup the loss).
4	Pedagogical training to faculties.	NITTR and similar institutes shall be invited to conduct pedagogical trainings regularly.
5	Faculty incentive for consultancy and R & D activities.	Faculty members would be encouraged to carry out consultancy and R&D projects by providing seed money if needed and would be awarded a share of the profit.

## 2. Staff training (Technical & Administrative staff)

Based on Training Needs Analysis, the technical staff such as Teaching Assistants, Instructors and Mechanics etc. will be provided training at suitable training centres in the areas of qualification up-gradation, operation and maintenance of advanced laboratory equipments, advanced learning in their relevant occupational areas, mind-set and attitudinal change etc. Similarly, the administrative and finance staff will be trained in the areas of qualification up gradation, quality management, planning and implementation, management capacity development, budgeting and financial management, human resource management, mind-set change, personality development, motivation etc.

These personnel will be deputed on such training programmes on rotation basis during summer vacation and semester breaks based on periodic assessment of needs.

## 3. Increasing capacity of UG, PG and PhD Education

The institute is presently imparting only Under Graduate Courses and planning to introduce new Post Graduate Programmes in the following disciplines.

Sl. No.	Discipline	Addition of PG Programmes
1	Mining	Opencast Mining, Mine Environmental Engineering
2	Electrical	Power System, Power Electronics and Drives
3	Mechanical	Mechanical System, Production Engineering, Thermal Engineering

## 4. Investing in smart classrooms & Campus Wi-Fi

At least, two class rooms per discipline are to be converted to smart class rooms. At present, two Academic blocks are fully LAN connected. Academic Block-III, Central Workshop, two hostels are not provided with internet facility. Moreover, one more Academic Block, one hostel, are coming up shortly. An amount of rupees 1.5 Crore may be required for making the campus Wi-Fi.

## 5. Improving the Academic Performance of SC/ST/OBC/Academically Weak Students

The focus shall be made by the Institute to improve the academic performance of SC/ST/OBC/academically weak students through innovative methods such as remedial teaching in professional subjects and soft skills development. The institution shall constitute a Finishing School with a senior faculty as coordinator. The key activities of the Finishing School shall be:



- a) Conducting remedial teaching throughout academic sessions for improving transition rate and pass rate of students,
- b) Conducting specialized soft skills and professional skills development training during semester breaks and vacations (preferably starting from 5th Semester onwards) for increasing employability,
- c) Conducting high intensity training (of at least 4 weeks duration) for development of soft and professional skills in the students that graduate but fail to secure any employment

## 6. Instituting Academic and Non-academic Reforms

The University has revised the curriculum for UG as well as PG programs recently at par with the recent technological advancements. Some non-academic reforms are to be initiated by the University for Better Learning Outcomes of the students.

### Action Plan for Implementation of Academic & Non Academic Reforms

Sl. No.	Activities	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
1	Detailed pre action review																										
2	Creating Central & Departmental Faculties as per IDP																										
3	BOG formation																										
4	Achieving various Autonomy																										
5	Filling all vacancies																										
6	Faculty & Staff Training																										
7	Students perform evaluation																										
8	Increased Learning outcomes & Employability																										
9	Industry Institute Interaction																										
10	Increasing Research & development																										
11	Consultancy & Revenue Generation																										
12	Results of Reforms																										

## (b) Improving employability of the students

The Training and Placement Cell of GCE, Keonjhar is the nodal point of contact for companies seeking to establish a fruitful relationship with GCE, Keonjhar. Success comes through hard work. Believing on this the T&P CELL is engaged doing various activities to set placement records. Such as:

### 7. Constant Interaction with Industry

- Formation of Industry Institute committee
- Organizing Industrial Visit & seminars
- Sending students to Industrial summer internships, summer projects etc

### 8. Student Career Counselling and Placement

- Formation of T&P team representatives including students.
- Imparting soft skill and technical skill development training.
- Conducting internal & external placement training & mock evaluations.
- Conducting External training programmes on Aptitude & on line exams.
- Organizing corporate talks, motivational talks etc.
- Conducting online tests (technical & non-technical).
- Inviting potential recruiters through proper channel.
- Organizing pool campus drives for all Govt. Engineering Colleges as a HOST.
- Encourage students to participate in off campus drives.
- Increasing the Alumni interaction
- Collaboration with consultancies
- Maintaining win-win approach among the T&P CELL, students & the recruiters for Effective results.

### Action Plan for Improving Employability of Graduates

Sl. No.	Activities	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
1	Review & Detailed plan for Teaching Aids & Modernising Class Rooms			■																						
2	Improving Learning Process																									
3	Increased exposure through Modern Labs																									
4	Skill Development labs & programmes																									
5	Language &																									





such that the faculties from its constituent colleges can derive the benefit. Further, the University may conduct international conferences; invite eminent professors from reputed Universities abroad to improve research ability of the faculties of its constituent colleges.

## **2. Strengthening of BoG**

The BOG is to be strengthened by giving it more freedom in terms of decision making.

## **3. Improvement in ERP/MIS System**

Our institute is presently using library automation system and teaching-learning system for faculty-student interaction. We are planning further to automate the following processes and activities of our institute for complete automation and resource planning.

- Student Information System
- Fee Management
- Time-Table Management
- Document Management
- Attendance Record Management
- Internal Exam Management
- Inventory Management
- HR Management
- Hostel Management
- Placement Management

## **4. Mechanism i.e. special classes for improving the GATE score**

The faculty members are conducting coaching classes for final year students. Several Mock tests are being conducted to improve the GATE result. Experts from reputed coaching institutes are to be hired and the coaching for GATE is to be provided from second year onwards for better result in score.

### **2.5 Twinning Plan with a High Performing Institute**

The nearby high performing TEQIP institute is to be approached for an agreement as per guide lines of Twinning Plan with the objective of capacity building, knowledge transfer and developing long term strategic partnerships.

### **2.6 Recruitment and Selection of High-Quality Faculty**

The University has a stringent procedure for high-quality faculty selection. However, the institute can be given freedom to recruit high quality faculty or higher experts in the subjects.

### **2.7 Action plan for ensuring the sustainability of project activities after the end of the Project**

As per the guidelines for implementation of reforms, 4 Nos. of funds, i.e.,

- (i) Corpus Fund
- (ii) Faculty Development Fund,
- (iii) Equipment Replacement Fund
- (iv) Maintenance Fund

will be created under separate bank accounts. These funds will be utilised to ensure sustainability of the reform process beyond the project period. These funds will be enriched by transferring 8% of IRG to the mentioned accounts annually.

## **2.8 Participation of departments/faculty/students in the IDP preparation**

A complete strategic planning exercise was carried out in the institute involving faculty, staff and students to arrive at the SWOT analysis and the strategic plan. A committee was formed consisting of faculty members from various departments under the institutional TEQIP unit (Annexure - I) to draft institutional development proposal taking into account the above findings and the guidelines of TEQIP. The project was later discussed and approved in the meeting of the central TEQIP committee under the chairmanship of the Principal of the Institute.

### Declaration by the Head of the Institute

I hereby declare that all the information provided in this Project Proposal submitted under Technical Education Quality Improvement Programme (TEQIP-III) are factually correct to the best of my knowledge and belief.

  
Principal

Government College of Engineering

Keonjhar  
Principal  
Govt. College of Engineering,  
Keonjhar

**INSTITUTIONAL TEQIP UNIT**

**Central Committee**

Chairman – Prof. Trilochan Sahu, Principal

Project Coordinator – Er. Soumya Ranjan Mallick, HOD, Mining Engineering

Members :

Head, Dept. of Civil Engg.

Head, Dept. of Electrical Engg.

Head, Dept. of Mechanical Engg.

Head, Dept. of Computer Science & Engg.

Head, Dept. of Metallurgical & Materials Engg.

Head, Dept. of Mining Engineering

Head, Dept. of Mineral Engineering

Head, Dept. of Basic Science & Humanities

Warden of Hostels

Accounts Officer

**Committee for Preparation of Project Proposal**

Er. Soumya Ranjan Mallick, HOD Mining Engineering and TEQIP Coordinator

Dr. R. C. Mohapatra, HOD Mechanical Engineering

Dr. R. K. Mohapatra, HOD Basic Science & Humanity

One faculty member each from the Depts. of Civil, Electrical, Mineral, Mechanical, Mining, Metallurgical & Materials Engg., Computer Science & Engg., Basic Sc. & Hum. nominated by the respective Heads of Depts.

**Committee for Academic Activities**

Nodal Officer – Dr. R. C. Mohapatra

Members: One faculty member each from the Depts. of Civil, Electrical, Mineral, Mechanical, Mining, Metallurgical & Materials Engg., Computer Science & Engg., Basic Sc. & Hum. nominated by the respective Heads of Depts.



### **Committee for Civil Works Including Environment Management**

Nodal Officer – Er. Alok Patel

Members - Er. Umakanta Behera

Er. Ramesh Chandra Khamari

### **Committee for Procurement**

Nodal Officer – Er. Adiraj Behera

Members: One faculty member each from the Depts. of Civil, Electrical, Mineral, Mechanical, Mining, Metallurgical & Materials Engg., Computer Science & Engg., Basic Sc. & Hum. nominated by the respective Heads of Depts.

### **Committee for Financial Aspects**

Nodal Officer – Sri S. K. Panda

Members: One faculty member each from the Depts. of Civil, Electrical, Mineral, Mechanical, Mining, Metallurgical & Materials Engg., Computer Science & Engg., Basic Sc. & Hum. nominated by the respective Heads of Depts.

### **Committee for Equity Assurance Plan**

Nodal Officer – Er. Umakanta Behera

Members: One faculty member each from the Depts. of Civil, Electrical, Mineral, Mechanical, Mining, Metallurgical & Materials Engg., Computer Science & Engg., Basic Sc. & Hum. nominated by the respective Heads of Depts.