

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

**INSTITUTIONAL DEVELOPMENT PROPOSAL  
for  
Sub-component 1.1  
Institutional Development for Participating Institutions**

**Submitted by**



**GOVIND BALLABH PANT ENGINEERING COLLEGE,  
PAURI GARHWAL, UTTARAKHAND-246194**

**March 2017**

## 1. INSTITUTIONAL BASIC INFORMATION

### 1.1. Institutional Identity

<b>Name and Address of the Institution</b>	<b>Govind Ballabh Pant Engineering College, Ghurdauri, Pauri Garhwal, Uttarakhand-246194</b>
<b>Year of Establishment</b>	<b>1989</b>
<b>Is the institution AICTE approved?</b>	<b>YES</b>
<b>Furnish AICTE approval No</b>	<b>F. No. 720-67-209/RC/94 &amp; F. No. Northern/1- 812987908/2016/EOA</b>
<b>Type of Institution</b>	<b>Funded by Uttarakhand Government</b>
<b>Status of Institution</b>	<b>An Autonomous Institution status by UGC</b>
<b>Name and designation of the Head Institution</b>	<b>Dr. Satya Prakash Pandey, Principal</b>

## 1.2 Academic Information:

### Engineering UG and PG programmes offered in Academic year 2016-17:

S. 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	B.Tech. (Civil Engineering)	UG	4	2005	60	270
2	B.Tech. (Computer Science & Engineering)	UG	4	1992	60	261
3	B.Tech. (Electrical Engineering)	UG	4	1997	60	268
4	B.Tech. (Electronics & Communication Engineering)	UG	4	1991	60	256
5	B.Tech. (Mechanical Engineering)	UG	4	1997	60	269
6	B.Tech. (Production Engineering)	UG	4	2005	15	58
7	B.Tech. (BioTechnology)	UG	4	2010	60	69
7	M.Tech. (Digital Signal Processing)	PG	2	2005	10	15
8	M.Tech. (Biotechnology)	PG	2	2005	25	13
9	M.Tech. (Computer Science & Engg.)	PG	2	2010	18	32
10	M.Tech. (Production Engg.)	PG	2	2010	18	29
11	Ph.D (CSE)	Ph.D	5	2013	As per UGC norms	19
12	Ph.D (ECE)	Ph.D	5	2013	As per UGC norms	14
13	Ph.D (ME)	Ph.D	5	2013	As per UGC norms	12
14	Ph.D (Biotech.)	Ph.D	5	2013	As per UGC norms	07
15	Ph.D (EE)	Ph.D	5	2015	As per UGC norms	08
16	Ph.D (CSE)	Ph.D	5	2015	As per UGC norms	Nil
	Total (UG & PG)				446	1540

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

S. No	Title of UG & PG Programmes being offered	Whether eligible for accreditation or not	Whether "Applied for"
1	Electronics & Communication Engineering (ECE)	YES	YES
2	Computer Science & Engineering (CSE)	YES	YES
3	Electrical Engineering (EE)	YES	YES
4	Mechanical Engineering (ME)	YES	YES
5	Civil Engineering (CE)	YES	NO
6	Production Engineering (PE)	YES	NO
7	Biotechnology (BT)	YES	NO
8	M. Tech. (Computer Science & Engineering)	YES	NO
9	M. Tech. (Production Engineering)	YES	NO
10	M.Tech (Digital Signal Processing)	YES	NO
11	M. Tech. Biotechnology (BT)	YES	NO

**Number of UG programmes accredited: (04)**

B.Tech : ECE - Accredited from 19.03.2004 for 3 years  
 CSE -Accredited from 27.07.2006 for 3 years & from 01.07.2014 for 2 years  
 EE - Accredited from 27.07.2006 for 3 years  
 ME- Accredited from 27.07.2006 for 3 years

**1.3 Status of Faculty Associated with Teaching Engineering Students (Regular & Contract) as on 31st 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				Bachelor Degree						
	Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other languages)		Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and English/ other languages)		Engineering Disciplines		Supporting Disciplines (Physics, Chemistry, Maths and 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+10+12)	15=(1-14)	16= (3+5+7+9+11+13)
144	21	01	08	04	21	34	03	04	02	00	01	00	56	88	43

R=Regular, C=Contract

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

### **2.1 Executive Summary**

The Institute was founded in the year 1989 by the then Government of Uttar Pradesh. The academic session was started with two programmes namely B.E. (CSE) and B.E. (ECE) in the year 1991. At present, the Institute offers 7 UG level engineering programmes (B. Tech.) and four post graduate engineering programmes (M. Tech.). Also, two new M.Tech programmes in Renewable Energy and Infrastructure Engineering are going to be started from coming session. From July 2013 the Ph.D programme in different areas of Engg. also has been started. Presently 24 research scholars are pursuing on full time and 32 faculties from different colleges are pursuing on part time basis.

To begin with, the Institute in early years was affiliated to H. N. B Garhwal University, Srinagar. Later on, it has been affiliated to Uttarakhand Technical University, Dehradun after its establishment in 2004. Academic autonomy to the Institute has been granted by the affiliating University from academic session 2010-11 and UGC from 2012-13. The Institute has 169 acre campus at an altitude of 1814 meters and having a quiet, congenial, hilly and pollution free environment with a picturesque view surrounds the campus.

The Institute has participated and successfully implemented the project objectives of TEQIP-I and TEQIP-II (1.2) phase of world bank. The achievements of TEQIP-II project is summarized in **Annexure-1**.

The Institute has 56 faculty members employed, out of which 29 faculty members are Ph.D. degree holders. 21 faculty members have post graduate degree out of which 12 are pursuing Ph. D. in their respective field of engineering. Thus, the Institute is well positioned to create an ambience of education and research. In fact, in the last five years the faculty members have published 105 papers in International Journals, 142 in International Conferences proceedings, 19 books and 02 patents.

From inception to date, the Institute has produced around 3600 engineering students. The placement of the students in 2015-16 is around 56% even with a global meltdown in recruitment.

The vision and mission of the institute:

## **Vision :**

To develop into a systematic leader and pivot for excellence in technical education sector in the state, and catalyzing absorption, innovation, diffusion and transfer of high technology for improved productivity, quality of life and empowerment, thereby affecting regional growth in the State of Uttarakhand.

## **Mission:**

To produce quality manpower equipped with such human and social values required to integrate excellent technical skills, leadership, creativity and innovation for the benefit of mankind, for sustainable development of State of Uttarakhand and to promote research in the emerging discipline.

The Institute has excellent infrastructure with well established laboratories to cater to the prescribed curriculum and promote research. The total number of laboratories for all the departments put together is 51. ECE and EE have 18 laboratories, CS and ME have 10 each, BT and CE 5 each and ASHD 3. In addition, there is one central workshop consisting of six shops. There is a well equipped library with 48000 books which includes syllabus text books and reference books for UG & PG students. Moreover, digital library (NPTEL) and 354 e-books are also available.

The institution has already prepared a Strategic Plan based on SWOT analysis and is ready to implement the provisions of the project. The deliverables form part of the Strategic Plan along with detailed resource planning and sources of obtaining the resources. The institution realizes the significance of faculty and staff training and qualification up gradation for the positive growth of the institution and its' employees. Therefore, the institution is committed to prepare and present the faculty and staff training plan based on the SWOT analysis, carefully analyzed training need analysis (TNA) and the Strategic Plan.

Within the framework of the Sub-Component 1.1: Institutional Development for Participating Institutions, the institution plans to undertake following activities:

- Establish new state of art laboratory and modernize the existing laboratory which can fulfill the requirements of both UG, PG and Ph.D programs
- Special support to weak students, focusing on ensuring equity among all categories of students
- Improvement of percentage of students from traditionally disadvantaged groups in total enrolment (SC/ST/Women)
- Increase in transition rate of undergraduate engineering from first year to second year
- Providing state of the art teaching learning processes and ambiance for improved

learning outcomes

- Start new PG programmes and expanding/strengthening existing PG programmes ,Improving employability of students through strong Training and Placement and close linkages with industry
- Transforming faculty from primarily teaching to research development and innovation
- Expanding research culture among UG, PG and PhD students and improvement in percentage of externally funded research & consultancy projects
- Enhancing linkages with industry
- Up grading quality of faculty and staff through extensive trainings in content, pedagogy and management capacity building and qualification up gradation
- Introducing reforms (academic and non academic)
- Improving quality of student output through focusing on strong fundamental knowledge of Science & Mathematics, helping weak students, providing value addition and soft skills training
- Encouraging innovations and self employment through entrepreneurship development and creation of incubation cell
- Increasing in percentage points of NBA accredited Undergraduate and postgraduate programmes
- Extension of UGC Autonomy status
- Faculty recruitment by regular or contract faculty as per AICTE/Govt. norms
- Satisfaction Survey of students, staff and faculty

## **2.2. Action Plan with time lines for**

### **(a) Improving the learning outcomes of the students**

#### **1. Faculty training:**

For improving teaching learning and research competence of the faculty members TNA was carried out based on SWOT analysis. The TNA not only takes into account the personal developmental needs of an individual but also strategic plan, SWOT Analysis, previous trainings, senior/peer group feedback, student feedback and other improvements that institution foresee in future such as exercising autonomy effectively and efficiently. Each member of the faculty has analyzed their current knowledge and skills and the desired knowledge and skills for effective performance of their jobs as well as their future work

profile. Under TEQIP-II project number of subject domain trainings/STCs/Papers presented by the faculty/Staff members are summarized in **Annexure-2**.

Every faculty member is to be encouraged to upgrade his qualification from masters to doctorate degree and from doctorate to post doctorate. Faculty members can take the advantage of in-house Ph.D programs.

For specialized training such as advances in subject domain and research methodology various government organizations, institutes and professional societies may be contacted and in order to obtain their training calendar and synchronizing the training according to a schedule designed in such a manner that institutional activities particularly the teaching learning and training process does not clash.

The Continuing Education Programmes (CEPs) must be at least one week. The participants should preferably be representatives of industries; faculty from other AICTE recognized Engineering institutions and a few faculty of the host institution. The Continuing Education Programmes should be conducted preferably in cutting edge technologies

Besides national/ international seminars, workshops, conferences, the trainings/ development plan also includes short/long term pedagogical trainings, MCEPs (Management Capacity Enhancement Programmes), qualification enhancement and in-house training Programmes. Participation in these gives a good exposure to faculty on the developments in different areas. The faculty participating in these will be encouraged to visit near-by institutions and laboratories of their interest.

The summary of 3 years training plan and the broad areas of training are as follows:

**Action plan for faculty training:**

Sr.No	Area of Training	2016-17 Base line*	2017-18	2018-19	2019-20
1.	Qualification up gradation	12	05	06	05
2.	Subject up gradation and research competence	82	90	110	130
3.	Pedagogy Training	40 %	60 %	75 %	100 %
4.	National/International conference	142	160	175	200
5.	Workshops & Seminars	15	30	45	65
6.	Management Enhancement Capacity Programmes	12	14	16	24



## 2. Staff Training (Technical & Administrative staff):

The technical staff in laboratories and workshop needs to be trained in their functional areas including operation and routine maintenance of both the existing and new equipments. In order to train the technical staff a feedback was taken from the students and lab In-charges. The following thrust areas have been indentified:

### Technical Staff:

- Operation and maintenance of equipment
- Maintenance of research related laboratory and workshop
- Personality development, Communication Skills
- Software based skill development
- Up-gradation in computer knowledge
- Qualification up-gradation

### Administrative staff:

- Modern office management
- Software and automation (examination)
- Maintenance of records and procedures
- Attitude and Mindset change, personality development
- Communication Skills
- Budget and financial management
- Library management

**Three years action plan for technical and administrative staff is given below:**

Sr.No	Area of Training	2016-17 Base line	2017-18	2018-19	2019-20
1.	Personality Development , Motivation	06	15	20	25
2.	Laboratory development	02	05	07	16
3.	Management Information system	01	02	03	04
4.	Examination System automation	01	03	03	04
5.	Network maintenance	01	02	02	03
6.	Library Management	02	04	04	05
7.	Budgeting and financial management	02	03	04	05
8.	Up gradation in computer knowledge	05	10	15	20
9.	Qualification up-gradation		02	04	06

The training need analysis of different departments are as follows.

**Computer Science & Engineering Department  
(Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)**

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr. H. S. Bhadauria	Image Processing	Soft Computing Techniques	Wireless Sensor Network	Cryptography & Network Security	Matlab	Medical Imaging
2	Dr. S. K. Verma	Embedded System	Real Time System	ARM Processor	WSN	Parallel Computing	Parallel Processing
3	Mr. Ramesh Kumar	Computer Graphics	Artificial Intelligence	Soft Computing Techniques	Data Mining	Cloud Computing	NLP
4	Mr. V. M. Thakkar	Network Security	Image Processing	Fault Tolerance System	Data Mining & warehousing	Android OS	Soft Computing
5	Dr. Annapurna Singh	Algorithms	Operating System	Ad-hoc Network	Computer Network	Database Management System	Clouding Computing
6	Dr. Bhumika Gupta	Image Processing	Computer Graphics	Artificial Intelligence	Soft Computing Techniques	Data Mining	Clouding Computing
7	Mr. Papendra Kumar	Medical Image Processing	MATLAB	Computer Networks	Microprocessor	Mobile Computing	Ad-hoc networks
8	Mr. Vivek Kumar Tamta	Ad-hoc networks	VANETS	Cloud Computing	Automata	Artificial Intelligence	Python Lang.
9	Mr. Abhishek Gupta	Cloud Computing Simulations	Grid Computing Simulations	Hadoop	Advanced Java	Android	Php & Python
10	Mr. Ashwani Saini	Image Processing	Soft Computing	Networking	Adv. Database	Android	Network Security
11	Mr. Jogendra Kumar	Ad-hoc networks	Sensor Network	Routing Protocols	Networking	Routing Algorithms	MANETs

**Electronics & Communication Engineering Department  
(Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)**

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr Y Singh	Electronic circuits	Advance semiconductor device	IC Technology	Electronics device design	Electronics device simulation	Fabrication of electronic devices
2	Dr. S K Soni	Digital communication	Wireless Communication	Wireless Simulation techniques	Advance comm. techniques	Secure communication	Communication Networks
3	Dr. S. Naithani	Digital communication	Fiber optical communication	Laser comm. techniques	Advance comm. techniques	Data Communication networks	Electronic Switching systems
4	Mr. M. K. Agarwal	IC Technology	Digital Electronics	DSP architecture	Singal processing	Electronic circuits	Electronics device design
5	Mr. R B Yadav	Image Processing	Biomedical Signal Processing	DSP filter design	DSP architecture	Wavelet theory	Image compression
6	Mr. Balraj Singh	Electronic circuits	Electronics device design	Advance semiconductor device	IC Technology	Fabrication of electronic devices	Micoelectronics
7	Mr. Vinay Mohan	Satellite communication	Data Communication	Electronic circuits	Antenna and wave propagation	Digital Electronics	Radar systems
8	Mr. Ajay Kumar	Measurement and Instrumentation	DSP filter design	Microstrip Antenna Design	Secure communication	Radar and navigation	DSP architecture
9	Mr Sandeep Kumar	EM field theory	Microwave	Antenna and wave propagation	Micoelectronics	Electronics device design	Electronics device simulation

10	Mr A R Verma	Image compression	DSP filter design	Image Processing	Biomedical Signal Processing	Electronics device simulation	Singal processing
11	Mr. T. Joshi	Advance Microprocessors	Computer networks	Fiber optical communication	Advance semiconductor device	Microcontroller systems	Control systems

### Mechanical Engineering Department (Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr. Ashutosh Gupta	Modelling and simulation	Advanced manufacturing system	Material characterization	Advances in measurement and control	New trends in optimization techniques	Unconventional machining process
2	Dr. Lalta Prasad	Composite materials/ material characterization / thermal subject studies	Composite materials/ material characterization / thermal subject studies	Composite materials/ material characterization / thermal subject studies	Composite materials/ material characterization / thermal subject studies	Composite materials/ material characterization / thermal subject studies	Composite materials/ material characterization / thermal subject studies
3	Dr. V. K. Patel	Advanced manufacturing, Advanced materials	Advanced manufacturing, Advanced materials	Advanced manufacturing, Advanced materials	Advanced manufacturing, Advanced materials	Advanced manufacturing, Advanced materials	Advanced manufacturing, Advanced materials
4	Mr. Hemant Kumar	Advanced manufacturing	Advanced materials	Mechanization of welding	Tribology	Casting, powder metallurgy	Advanced manufacturing
5	Mr. Nitin Kumar	Pursuing Ph.D at IITD	Modelling and simulation	CFD	Thermal Engg.	Numerical methods	FEM
6	Mr. Amit Joshi	Pursuing Ph.D at IITR	Fatigue and fracture	Material characterization , SEM-TEM	FEM, Material Science	Advanced manufacturing Techniques	Computational methods in Mechanical and materials engg.
7	Mr. P. K. Pant	Pursuing Ph.D at IITD	Pursuing Ph.D at IITD	Pursuing Ph.D at IITD	Modelling and simulation	CFD	Thermal Engg.
8	Mr. S. S. Samant	Pursuing Ph.D at IITR	Pursuing Ph.D at IITR	Pursuing Ph.D at IITR	Material characterization , SEM-TEM, Fatigue and fracture	FEM, Material Science	Advanced manufacturing Techniques, Computational methods in Mechanical and materials engg.
9	Mr. Piyush Srivastava	Solid Works	Wire-EDM	TIG-MIG	Laser Beam Machining	Electron Beam Machining	Plasma Arc Machining
10	Mr. Manoj Kumar Pathak	Modelling and simulation, Pedagogy, Energy Conservation, Thermal field, NBA	CFD, Numerical methods, FEM, coating technology, composite materials, pedagogy, NBA	Modelling and simulation, Pedagogy, Energy Conservation, Thermal field, NBA	CFD, Numerical methods, FEM, coating technology, composite materials, pedagogy, NBA	Modelling and simulation, Pedagogy, Energy Conservation, Thermal field, NBA	CFD, Numerical methods, FEM, coating technology, composite materials, pedagogy, NBA
11	Mr. Chandraver Singh	Material characterization	Advanced manufacturing	Rapid prototyping	Tribology	Microstructure (SEM and TEM)	Advanced Machining
12	Mr. Amit Joshi-II	Material characterization	Tribology	Simulation and design	Optimization techniques	Advanced manufacturing	MEMS
13	Mr. Sumit Rana	CAM and Robotics	Industrial management	Advanced Machining	Mechanical vibration applications	Fluid machinery equipment and applications	Casting, powder metallurgy
14	Mr. Lokesh Nair	Advanced Machining	Powder metallurgy	Composites	Nano materials	Tribology	Simulation and optimization
15	Mr. Yogesh Barthwal	Advanced Machining	Energy resources	Power plant applications	Industrial tribology	Powder metallurgy	Metal casting
16	Mr. Bhanu Pratap	Advanced manufacturing and advanced materials	CAD/CAM	Industrial management	Casting, powder metallurgy	Nano materials	Tribology
17	Mr. Vivek Bahuguna	Material Characterization	H.V.A.C.	IC engine	Advanced manufacturing technology	MEMS	Casting, powder metallurgy

### Civil Engineering Department (Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr. MPS Chauhan	Design, Construction and Maintenance of Airfield	Planning Design and Construction of Rural Roads	Traffic management and safety	Geotechnical and landslides investigation for highway projects	Pavement evaluation techniques and their applications for Maintenance and Rehabilitation	Environmental impact assessment studies for roads
2	Mr. H. L YADAV	Design, Construction and Maintenance of water and wastewater treatment plant	Planning Design and Construction of Rural Roads	Effective Management of Hazardous Waste including E Waste - Co-processing and Co incineration - Hazardous Waste	.Air and water quality monitoring programme.  Municipal Waste Management - Bio Composting. Landfill Gas Management & Control, Waste to Energy and Implementation.	Design, Construction and Maintenance of water and wastewater treatment plant	Environmental impact assessment studies for industries.
3	Mr. Bhishm Singh Khati	Pursuing Ph.D at IITR	Pursuing Ph.D at IITR	Pursuing Ph.D at IITR	Response of Laterally Loaded Piles Near sloping Ground	Finite Difference Methods & Plaxis 3D Applications in Civil Engineering	Liquefaction Hazards for Seismic Microzonation
4	Mr. Dilip Kumar Jha	Pursuing Ph.D at IITG	Management of water resource structure	Hydropower generation and management	Climate change modeling	Hydrological analysis and snow modeling	Reservoir operation policy and optimization
5	Mr. Sandeep Kumar Dubey	Tall Buildings Design Workshop	Ground improvement techniques	Landslides and stability of slopes	Soil-structure interaction	Bridge Design, Fabrication & Testing	Earth retaining structures
6	Mrs. Rajni	Quality Control of Concrete	Material Testing in Civil Engineering	Recycling Materials in Highway Construction	Remote Sensing GIS & GPS Application in Engineering	Repair & Maintenance of Buildings	Mapping by Total Station
7	Mr. Arpan Herbert	Water Resource Management	Environment Awareness and Management	Air Pollution Control	Remote Sensing GIS & GPS Application in Engineering	Sustainable Environmental Management	Solid Waste Management
8	Mr. Sanjay Chauhan	Design and Construction of Steel Structures	Construction of Flexible Pavement	Laboratory Practices in Civil Engineering	Construction and Maintenance of Roads	Bearing Capacity Estimation for Foundations	Material Testing in Civil Engineering

### Biotechnology Department (Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr Mamta Baunthiyal	Nanotechnology/ Proteomics	Plant Biotechnology	Bioinformatics	Microbial biotechnology	Genomics	Analytical Techniques
2	Dr. Arun Bhatt	Nanotechnology/ Tissue culture	IPR/ Microbial Technology	Genomics	Genetic Engineering	Bioinformatics	Proteomics
3	Dr. Ajeet Singh	Nanotechnology	Genomics	Proteomics	Bioinformatics	Plant Biotechnology	Animal Biotechnology

4	Dr. Pavan Agrawal	Plant Biotechnology	Nanotechnology	Fermentation Technology	Animal biotechnology	Proteomics	Genomics
5	Mr. Sumit Rai	Bioinformatics	Biosensor	Nanotechnology	Microbial Technology	Pharmaceuticals Biotechnology	Biosensor
6	Mrs Shwta Ranghar	Fermentation Technology	Nanotechnology	Bioinformatics	Molecular techniques/ Advance Microbial Techniques	Plant and animal tissue engineering	Bioprocess simulation techniques
7	Mr. Rahul Arya	Bioanalytical techniques	Plant Biotechnology	Bioprocess engineering	Biochemical engineering	Nanotechnology	Biosensor
8	Mr. Amit Khandelwal	Nanotechnology	Tissue engineering	Molecular Biology	Industrial Microbiology	Plant Biotechnology	Bioinformatics

### Electrical Engineering Department (Training at NITTR/NIT/IIT/CU/SAU/CSIR/ICAR)

Sl. No	Name of faculty	January, 2017- June 2017	July, 2017- December, 2017	January, 2018- June 2018	July, 2018- December 2018	January, 2019- June 2019	July, 2019- December 2019
1	Dr.V.M.Mishra	Advances in Electrical Machines	Advances in Power Electronics & Drives	Pedagogy	Power Quality	Management capacity	Power System Analys
2	Dr.Manoj Kumar Panda	Advances in Soft computing techniques	Pedagogy	Fuzzy Control	Smart Grid Technology	Management capacity	Renewable Energy
3	Dr.Yatindra Kumar	Signal Processing	Biomedical Signal and Image Processing,	Pedagogy	Cognitive psychology	Machine Learning	Biomedical Signal and Image Processing,
4	Mr.Shishir Sarkar	Energy Management	Management capacity	Advances in Power Electronics & Drives	Advances in Power Electronics & Drives	Electric Derives	Advances in Power Electronics & Drives
5	Mr.Satyaveer Singh Rawat	Power & Energy Systems	Renewable Energy	Pedagogy	Smart Grid Technology	Management capacity	Power & Energy Systems
6	Dr.Bhola Jha	Advances in Soft computing techniques	Advances in Fuzzy Logic systems	Pedagogy	Smart Grid Technology	Power & Control	Management capacity
7	Mr.sachin Negi	Wireless Sensor Area Network for process automation using ZigBee	Virtual Instrumentation Biomedical Instrumentation	Microprocessors & Microcontrollers	Management capacity	Biomedical Signal and Image Processing,	Pedagogy
8	Mr.Sachin Kumar	High Voltage Engineering	Power System	Smart Grid Technology	Power & Control	Pedagogy	Management capacity
9	Mrs.lotika Oinam	Electrical Machines and Drives	Smart Grid Technology	Pedagogy	Power & Control	Management capacity	Renewable Energy
10	Atul Katiyar	Power & Energy Systems	Renewable Energy	Pedagogy	Smart Grid Technology	Management capacity	Power & Energy Systems
11	Mr.Nitish Rawat	High Voltage Engineering	Power System	Smart Grid Technology	Power & Control	Pedagogy	Advances in Fuzzy Logic systems

The college has also organized numbers of conferences/STCs/short term programs with Industry under TEQIP-II project period and is summarized in **Annexure - 3**.

### 3. Increasing capacity of UG, PG and PhD education (increasing enrollment and starting new UG, PG and PhD programmes)

#### (i) UG Programmes:

The institute is presently having 07 disciplines with intake of 60 seats in all branches except PE which is having 15 seats. The institute is planning to increase the intake nor PE to 60 seats from 2018-2019 after faculty recruitment in PE department is done.

#### (ii) PG Programmes:

At present the institute offers 04 M. Tech programmes namely (1) Computer Science in the department of CSE, (2) Production Engineering in the department of ME (3) Digital Signal Processing in department of ECE (4) Biotechnology in department of BT and proposes to start 2 new PG programmes in 2017-18 in the areas of (1) Renewable energy in the department of EE (2) Infrastructure Engg. in the Department of Civil Engg. Presently the Institute is providing the teaching assistantship to non GATE students from TEQIP funds as well as GATE qualified students from AICTE.

#### (iii) PhD Programmes:

The Institute has already started Ph.D. programmes in different departments from July 2013. Total 60 numbers of students including faculty members of this college and other colleges in Uttarakhand and India have been enrolled. The college follows the Ph.D ordinance of the UTU Dehradun. Three Ph.D Thesis has been submitted for evaluation to UTU Dehradun. The teaching assistantship to full time research scholars is provided through TEQIP fund. To carry out quality research work and meeting out the daily expenses, funds are provided to individual departments in the form of raw materials, chemicals & sample testing from R&D component of TEQIP-II.

#### The status & action plan for Ph. D. Programmes:

Sr. No	Department	Year	Status
1	Electronics & Communication Engineering	2013-2014	Existing
2	Mechanical Engineering	2013-2014	Existing
3	Computer Science & Engineering	2013-2014	Existing
4	Biotechnology	2013-2014	Existing
5	Computer Science & Applications	2013-2014	Existing
6	Electrical Engineering	2015-2016	Existing

7	Civil Engineering	2015-2016	Existing
8	Applied Science (Physics)	2017-2018	New
9	Applied Science (Mathematics)	2017-2018	New
10	Applied Science (Chemistry)	2017-2018	New

Under TEQIP-II project period to strengthen PG & Ph.D programs the existing laboratories have been modernized. The list of important equipments and software that has been procured is summarized in **Annexure-4**. The college has to strengthen the existing laboratories and new laboratories are to be established with the state of the art equipments to fulfill the requirements of students of all programs and to enhance the research facilities. The departments have submitted the procurement plan for the TEQIP-III phase which are mentioned here briefly.

Sl. No.	Name of the Departments	Name of major new equipments/strengthening existing laboratory equipments to be procure	Total approximate cost (Rs. In lacs)
1	EED	Solar PV emulator, Fuel Cell, Wind Turbine Emulator, Advance control system lab. Robotic Arms, Quad Copter, Advance Power system lab. Advance instrumentation lab. NI base Biomedical Signal processing equipments, Computer systems, Digital storage Oscilloscopes	80.0
2	ECED	Microprocessor kit 8086/87, Microwave bench setup, Advance comm. Setups, Advance DSP kit setups, Matlab software, Electronics simulator, Wireless comm. Amplifier, Computer systems, Server system & Digital storage Oscilloscopes	75.0
3	MED	Computerised UTM, High Precision Electronic Weighing machine Range-0.001 gm to 1 kg LCD display, Twin jet polisher, 6 components force and moment measurements with 8 channel charge amplifier with 6 components summing calculator, ANSYS academic research mechanical & CFD, Precision Tower 685W/825W Chassis work station, Precision Tower 685W Chassis & Computer systems	75.0
4	CED	Software: TRANSYT 14, ARCADY 7, PIC ADY 5, OSC ADY 5, Matlab, Hardware: Ground Penetration Radar, Weather Station, Watershed Modelling system (WMS), Arch GIC, Atomic Absorption Spectrophotometer, Geo-Studio, Shake table with accelerometers and Data logging system with strain Gauge Indicator, Midas Civil & Plate Load Test for Building and Highway	80.0
5	CSED	Computers, Servers, Hardware firewall, Network Software, Data mining Software, Hardware/Microprocessor Kits, Anti-Plagiarism Software (Turnitin), Biomedical Signal & Image processing Kits	75.0
6	BT	Lyophilizer) max.capacity 3 liters, Electronic Weighing Balance (0.042/0.120 Kg), Fully automated Fluorescence stereomicroscope, HPLC, BOD Refrigerated Incubator, Benchtop Incubator Shaker, High-Temperature Model with optional refrigeration, Ultrasonic Homogenizer sonicator, Upright ultralow temperature freezer -80, High	60.0

	speed refrigerated centrifuge, Autoclave-Size 500x750mm litre 187-R, oxygen cylinder, digital photo colorimeter, soxhlet..borosil 3840030 capacity 2000 ml flask size 5000ml, Auto pipettes (6 set) (0.1–2.5 µL, 0.5–10 µL, 2–20 µL, 10–100 µL, 20–200 µL, 100–1,000 µL), Double distillation unit, Dell Precision Tower 5810 Workstation, Hp Color Laser jet pro M177w, Hp Color 1020 plus monochrome laser printer X2, Microprocessor controlled pH meter.	
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#### 4. Investing in Smart class rooms, campus WI-FI, e- library:

##### Improvement in teaching and learning aids like smart class rooms, WI-FI

Presently the college is having the “white board marker” and “chalk & duster” method of teaching in most of the class rooms that has persisted for many years and is now acquiring inferior results when compared with the more modern and revolutionary teaching methods that are available for use in schools today. Classrooms should be modernized to have Smart Boards and Computers linked to LCD Projectors with screen, which would hold greater attention of the students than mere lecturing. Guest lecturers or class lectures organized through VSAT, Video Conferencing and Audio-Conferencing can also be considered depending upon need and feasibility. The institute has 04 smart class rooms at present and plans to update all the classrooms with modern facilities.

##### The action plan for Smart class rooms:

Sr No	Department	Year 2016-17 base line	2017-18	2018-19	2019-20
1	Electronics & Communication Engineering	01	01	01	01
2	Mechanical Engineering	01	01	01	01
3	Computer Science & Engineering	01	01	01	01
4	Civil Engineering	00	02	01	01
5	Biotechnology	01	01	01	01
6	Electrical Engineering	00	02	01	01
7	Applied Science	00	01	01	01

##### E-library:

A digital library is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or



institutions, or with academic institutions. The college will expand the digital library facility up to large extent for the use of faculty and students.

### 5. Improving the academic performance of SC/ST/OBC academically weak students:

The college plans to take a variety of measures for the slow learners and weak students at the entry level. It is planned to assess the competency level of students and accordingly decide the cause of action for all four years of study (keeping a record how many weak students are helped that belonged to disadvantage groups i.e. SC/ST/OBC/Women). After the first class test as well as by conducting the diagnostic tests of physics, chemistry, mathematics & English, weak students will be identified and remedial classes for improving the academic performance of the weak students will be conducted. Equity action plan to improve learning outcomes for students with special attention to socially and economically unprivileged groups is given below:

#### Action Plan:

S.No.	Items	Action Plan	Frequency	Monitoring Indicators
1.	Identification of academically weak students	Diagnostic tests	At the beginning of each semester	
2.	Improving performance in academics	Extra classes Remedial classes	Throughout the course During evenings, holidays and vacations	Improvement in transition rate
3.	Enhancing communication and presentation skills	Language labs Workshops with experts and professional institutes English speaking classes	Throughout the course	Improvement in placement
4.	Back exams	Make-up tests Back exams	After class tests and end semester exams	
5.	Improving effectiveness of teachers	Updating domain knowledge Training in pedagogy Positive behavior trainings Faculty appraisal	Yearly	Number of trainings completed
6.	Peer learning groups of	Joint study	Continuous	

	students	Group discussions	process	
7.	Appointing student mentors Faculty advisors	One student mentor for 10 junior students  One faculty advisor for 10 students	Continuous process	

## 6. Instituting academic and non-academic reforms including programme flexibility

Curricula revision is one of the most important parts of the academic reforms so that it can meet the market requirement and help the students to get placed easily. Academic reforms also include improved student performance evaluation which should be done continuously. Weak students in particular should be given every opportunity to improve. Performance appraisal of faculty by students should also be done in order to improve teaching skills of faculty. At the same time the initiatives taken by the faculty towards consultancy and R&D activities should be encouraged. However, the institute should also work towards filling up the vacancies and generation, retention and utilization of revenue generated through different activities under the non-academic reforms. Also, the UGC academic autonomy should be renewed in time.

### The action plan is as follows:

S. No.	Reforms	Plan		
		2017-18	2018-19	2019-20
1.	Board of studies (BOS)	In all departments		
2.	Academic Council	√	√	√
3.	Performance appraisal of faculty by students	For all the faculty in all subjects	For all the faculty in all subjects	For all the faculty in all subjects
4.	Revenue generation	Students tuition fees R&D projects Consultancy projects Organizing workshops/trainings for industries Sharing the facilities of institute by industries	same	same

5.	Faculty incentives	Share in consultancy  Rewards in the form of additional increments with due approval of BOG	same	same
6.	Exercising the autonomy	The college has academic autonomy up to 2017-2018, it will be renewed in due time.		
7.	Establishment of funds	Sustainability fund will be established	Maintained	Maintained
8.	Filling up vacancies	The screening of applications w.r.t. the last advertisement is under process.  Appointing contractual faculty as per NPIU guidelines	-	All vacancies will be filled.

## 2.2 (b) Improving Employability of students

### 7. Increasing interaction with industry

The institution realizes that to increase employability of our graduates, some of the key issues that need to be addressed are as follows:

- a) Fill the gap between industrial needs and present curricula by participation of industry experts in various committees of the Institute like BOS, Academic Council and Governing council.
- b) III cell exit in the college need to promote links between institute and industry.
- c) Collaborative interdisciplinary research for offering solutions to the local problems.
- d) Utilizing institutional resources for industrial manpower training.
- e) Conducting short time training programmes in collaboration with industries.
- f) Student's internship in industry.
- g) Joint R & D activities.
- h) Consultancy projects from industries.
- i) The college has a MOU with one industry (Advance Technology Chandigarh) and more such types of MOU has to be signed.

Therefore, the action plan of the Institute is given below:

**Action Plan: (a). Action Plan for Improving Employability of Graduates by increasing interaction with industry**

Sr No	Activity	2017-18	2018-19	2019-20
a	Offering Industry friendly curriculum	Curriculum revision through BOS, AC		
	Offering Industry friendly curriculum through exercising the autonomy,	Extension of autonomy	-	-
	Offer courses in flexibility with credit system	Curriculum revision through BOS, AC		
	Train faculty in pedagogy	60%	90%	100%
	Offer 2 new PG programmes	-	Renewable Energy Infrastructure Engg.	Instrumentation Engg.
	Increased electives			
	Value addition courses and professional soft skills			
	Introduce finishing school concepts	End of each academic session	End of each academic session	End of each academic session
b	Especial emphasis on student industrial training and live projects	i)six visits ( a maximum of 30 students in each batch) to different industries in vicinity and Industrial hubs such as Bangalore, Hyderabad, Chennai, Pune , Gurgaon etc.	Same as in 2017-18	Same as in 2017-18
		ii)Visit of maximum 10 students to IITs , NITs and the Institutes which are running live projects	Same as in 2017-18	Same as in 2017-18
c	Faculty and staff training in the industries	03 faculties and staff in each semester for one week	03 faculties and staff in each semester for one week	03 faculties and staff in each semester for one week
d	Form strong proactive relationship with industry	i)MOUs ii)Joint projects iii)Consultancy	i)MOUs ii)Joint projects iii)Consultancy	i)MOUs ii)Joint projects iii)Consultancy
	Strengthen T& P Cell	i)Interacting with industries and alumni ii)Inviting the HRs and management personnel in the institute iii)Sending meritorious students to different industries		
	III Cell activities	III cell is already exist and need to be	III cell is already exist	III cell is already exist and need to

		strengthened and the active links with industries need to be promoted.	and need to be strengthened and the active links with industries need to be promoted.	be strengthened and the active links with industries need to be promoted.
	Stronger linkage with Alumni	i) Alumni association exists  ii) One Alumni meet at the institute and the other in Industrial hubs need to be organized in each year.  iii) Inviting alumni for expert lecture/finishing school	(i) One Alumni meet at the institute and the other in Industrial hubs needs to be organized in each year.  ii) Inviting alumni for expert lecture/finishing school	(i) One Alumni meet at the institute and the other in Industrial hubs needs to be organized in each year.  iii) Inviting alumni for expert lecture/finishing school
	Proactive initiatives to develop entrepreneurs through incubation centers	Inviting at least 2 entrepreneurs/experts for lectures on EDP in each semester	Inviting at least 2 entrepreneurs/experts for lectures on EDP in each semester	Inviting at least 2 entrepreneurs/experts for lectures on EDP in each semester

## 8. Student career counseling and placement

There are certain points on which the students must concentrate as far as career counseling is concerned. They are as:

- a. First and foremost the students should be taught how to prepare a better and appealing resume and encouraged to prepare for the interview? These types of skills are different from classroom teaching.
- b. Students should be encouraged to meet the firms, attend mock interview, interact with business professionals so that they can build the confidence.
- c. Internship should be encouraged among students.
- d. Students must be exposed to take responsibility of seeking maximum number of job opportunities so that they have maximum chances of success.
- e. Students must be given an conducive work culture so that they can develop better relationship with employers and learn how to take leverage out of it through networking since early stage of student life.
- f. Students must take responsibility for their professional development. From second year itself students should be encouraged to work on their shortcomings so that they have better chances to become front liners during interview.

**Action plan:**

Sr No	Activity	2017-18	2018-19	2019-20
a	Increased electives	Based on the availability of faculty more electives can be floated.	Based on the availability of faculty more electives can be floated.	Based on the availability of faculty more electives can be floated.
	Value addition courses and professional soft skills	Soft skills improvement classes will be organized in each semester in the weekends.	Soft skills improvement classes will be organized in each semester in the weekends.	Soft skills improvement classes will be organized in each semester in the weekends.
	Support weak students Introduce finishing school concepts	At the end of each academic session.	At the end of each academic session.	At the end of each academic session.
b	Espesial emphasis on student industrial training and live projects	i) six visits ( a maximum of 30 students in each batch) to different industries in vicinity and Industrial hubs such as Bangalore, Hyderabad, Chennai, Pune , Gurgaon etc. ii) Visit of maximum 10 students to IITs , NITs and the Institutes which are running live projects	Same as in 2017-18  Same as in 2017-18	Same as in 2017-18  Same as in 2017-18
c	Form strong proactive relationship with industry	i) MOUs ii) Joint projects iii) Consultancy	i) MOUs ii) Joint projects iii) Consultancy	i) MOUs ii) Joint projects iii) Consultancy
	Strengthen T& P Cell	i) Interacting with industries and alumni ii) Inviting the HRs and management personnel in the institute iii) Sending meritorious students to different industries	industries and alumni ii) Inviting the HRs and management personnel in the institute iii) Sending meritorious students to different industries	industries and alumni ii) Inviting the HRs and management personnel in the institute iii) Sending meritorious students to different industries
	To develop stronger linkage with Industry Expert & career counselors	Inviting minimum four industry experts for interaction with students  Inviting career counselors Quarterly from third year	Inviting minimum four industry experts for interaction with students  Inviting career counselors Quarterly from third year	Inviting minimum four industry experts for interaction with students  Inviting career counselors Quarterly from third year
	Initiatives to develop	Inviting	Inviting	Inviting

entrepreneurs	entrepreneurs/experts for lectures/workshops on EDP	entrepreneurs/experts for lectures/workshops on EDP	entrepreneurs/experts for lectures/workshops on EDP
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## 2.2 (c) Increasing faculty productivity and motivation

### 9. Sponsored research, consultancy and other revenue generating activities

To create the research environment in the institute sponsored research projects and consultancy projects should be encouraged. Faculty members should be encouraged to attend the trainings and conferences organized by reputed academic institutes and industries and also in-house workshops/Trainings and conference should be organized. Collaboration with industries and other institutes will also help to create research environment. Some kind of recognition and rewards may also encourage the faculty to pursue research and to get consultancy projects

## 2.3 Provide an action plan with timelines for

### 1. Obtaining Autonomous Institution Status from UGC

- (i) GBPEC, Pauri Garhwal is an autonomous institute and fully funded by government of Uttarakhand. The institute is administered by an Autonomous Society named as “Govind Ballabh Pant Engineering college Society” which is registered under Societies Registration Act. The memorandum of association, society rules, bye-laws and employees conduct rules are duly approved by the State government. The institute enjoys freedom with regard to internal administration and functioning.
- (ii) The institution has been granted academic autonomy by the State Government as per the procedure set by UGC with support from the State Government and Uttarakhand Technical University and we are exercising it since the session 2012-13.
- (iii) The types of autonomy and the extent to its compliance are briefly indicated below:

<p><b>Managerial Autonomy</b> - Governing Council will:</p> <ul style="list-style-type: none"> <li>• Form committees, sub committees/ Academic advisory committee/Academic Council</li> <li>• Sanction budget</li> <li>• Empower principal in preparation, spending of budget to achieve institutional objectives</li> <li>• Re-appropriate funds under certain circumstances out of allocated budget</li> <li>• Evolve proper set of rules and regulations</li> <li>• Delegate the financial powers to various levels of functionaries (Principal, HODs, faculty)</li> </ul>
<p><b>Administrative Autonomy</b></p> <ul style="list-style-type: none"> <li>• Principal will report all important actions taken to Governing Council regarding:</li> <li>• CEP, consultancy, staff development, seminar, conferences etc.</li> <li>• On recommendation of HOD approve deputation of faculty for seminar, conferences, trainings</li> <li>• Principal can delegate some of his powers to Deans, HODs and Professors</li> </ul>
<p><b>Financial Autonomy</b></p> <ul style="list-style-type: none"> <li>• Power of central Purchase Committee ( CPC) having Principal as a chairman is up to Rs 10.00 lakhs for single purchase, whereas for purchases above 10 lakhs a govt. nominee in the CPC is mandatory</li> <li>• Power of Departmental Purchase Committee is up to Rs 50000 for single purchase – approved by</li> </ul>

<p>Principal</p> <ul style="list-style-type: none"> <li>• All expenditure above Rs 50 lakhs need to be prior approved by Governing Council</li> <li>• Re-appropriation up to 10% of the budget heads may be done by the Principal with concurrence from Finance Committee</li> <li>• Re-appropriation of above 10% should be approved by Governing Council via Finance Committee</li> </ul>
<p><b>Academic Autonomy</b></p> <ul style="list-style-type: none"> <li>• Admission of students based on merit as per State Policy through JEE main counseling, and reservation</li> <li>• Determine own curricula, course content, curricula implementation and methods of training</li> <li>• Develop credit based curriculum</li> <li>• Permit credit exemption for previous attainments</li> <li>• Introduce flexibility in the curriculum with choice of electives</li> <li>• Evolve new methods of summative evaluation and their frequency, conducting examinations and declaring results</li> <li>• Develop new methods of formative and internal evaluation as per advice from experts</li> <li>• Add value addition courses as per market demand</li> <li>• Develop an effective system for faculty evaluation by students.</li> <li>• Start new courses, new programs and re-orient and restructure or delete existing programmes</li> <li>• Introduce innovations in teaching/learning processes through controlled experimentation</li> <li>• Freedom to run Continuing Education, distance learning and e-learning and skill enhancement programs as per market needs</li> <li>• Enter into collaborative arrangements with outside bodies /experts for curricula development, employment oriented value addition courses, new teaching learning methodologies and innovations</li> <li>• Develop faculty training needs assessment scheme in line with academic requirements and institutional objectives</li> <li>• Power to depute faculty for academic advancement</li> <li>• Inviting Experts including industry for special lectures</li> <li>• Power to depute mentors for guidance of research and industrial training</li> </ul>

**Out of the above described forms of autonomy, the college has only academic autonomy until now.**

**(iv) Composition of Governing Council is as follows:**

Sl.No	Member	Designation
1.	Eminent Academician/Industrialist to be nominated by the State Govt.	Chairman
2.	Principal Secretary/Secretary, Technical Education Department or his nominee not below the rank of Additional Secretary	Member (Govt. Nominee)
3.	Principal /Secretary Finance Department or his nominee not below the rank of joint Secretary	Member (Govt. Nominee)
4.	Director Technical Education, Utrakhand	Member
5.	Two faculty of the Institute to be nominated by the Director for one year by rotation in order of seniority	Member
6.	UGC Nominee	Member
7.	University Nominee	Member
8.	Two eminent person from technical education to be nominated by the	Member



	Director in consultation with the State Govt.	
9.	One eminent industrialist to be nominated by the Director in consultation with the State Govt.	Member
10.	Principal of the College	Member Secretary

(v) The college is already focusing on the following:

- G. B. Pant Engineering College has already been granted academic autonomy; therefore various processes and procedures are being devised to make autonomous status functional for the institution.
- The Governing Council has been re-constituted and their powers and responsibilities have been defined.
- The Board of Studies and Academic Council have been constituted.
- Autonomy is always associated with accountability. The institution has put in place very efficient and effective monitoring and accountability mechanism along with delegation of authority. This is especially relevant since the Institute is holding examinations internally. The system of evaluating the students is based on very sound, transparent and effective mechanism where students do not feel threatened or feel cheated of unfair or substandard grading. There is a full-fledged Examination Cell with Examination Controller and supporting staff.
- The Institute will ensure that post autonomy institutional reputation should further enhance and not dwindle for which the institution is required to maintain quality, be agile to industry requirements, produce quality students, offer best need best curricula and take all measure to remain the forward looking and demand responsive.
- All faculty and staff are being made aware for the requirement of extension of academic autonomy.
- The Governing Council is assisted by several institutional committees such as Finance Committee, Administrative Committee etc with participation of faculty and staff.
- Seminars and workshops are organized time to time to create awareness about autonomy among faculty and staff. The institution will provide training to the faculty members in curricula development, revision and evaluation, paper setting etc.

### Composition of Board of Studies:

1.	Head of Department concerned	Chairman
2.	At least one Professor from each cadre of teaching (Asst. Prof./ Asso. Prof. / Professor)	Members
3.	One or two academic / subject experts	Members
4.	One Industrial expert	Member
5.	University Nominee	Member

6.	Dean Academics or its nominee	Member
7.	Two senior student representatives	Members

### Composition of Academic Council:

1.	Principal	Chairman
2.	All Heads of Department	Members
3.	Three teachers of the Institute representing different cadres of teaching staff by rotation on the basis of seniority	Members
4.	Not less than two experts from outside the college representing Academics / Industry. to be nominated by Governing Body (Board of Governors in this case)	Members
5.	Nominee of the affiliating University	Member
6.	Dean Students Welfare	Member
7	Dean Academics	Member Secretary

## 2. Improving the NBA Accreditation status:

### From the inception:

Number of UG programmes accredited: (04)

B.Tech : ECE - Accredited from 19.03.2004 for 3 years

CSE -Accredited from 27.07.2006 for 3 years & from 01.07.2014 for 2 years

EE - Accredited from 27.07.2006 for 3 years

ME- Accredited from 27.07.2006 for 3 years

### Current Status:

S. No	Title of UG & PG Programmes being offered	Whether eligible for accreditation or not	Whether accredited as on Feb. 2017	Whether "Applied for"
1	B. Tech Electronics & Communication Engineering (ECE)	YES	NO	YES
2	B. Tech Computer Science & Engineering (CSE)	YES	NO	YES
3	B. Tech Electrical Engineering (EE)	YES	NO	YES
4	B. Tech Mechanical Engineering (ME)	YES	NO	YES
5	B. Tech Civil Engineering (CE)	YES	NO	NO
6	B. Tech Production Engineering (PE)	YES	NO	NO
7	B. Tech Biotechnology (BT)	YES	NO	NO
8	M. Tech. (Computer Science & Engineering)	YES	NO	NO
9	M. Tech. (Production Engineering)	YES	NO	NO
10	M.Tech (Digital Signal Processing)	YES	NO	NO
11	M. Tech. Biotechnology (BT)	YES	NO	NO

## **i. UG Programmes**

The college is offering seven UG, and four of the programmes are in “applied for” status for NBA accreditation. The college need to take few measures for accreditation.

With the institution exercising autonomy it will be ensured that the curricula designed is flexible, modular and meets the demands of the industry. For this the help of subject experts and industry specialists will be taken. Efforts will be made among other things to inculcate among students skills and capacities to enable them gain knowledge to design and conduct experiments, use modern engineering tools and software and equip to handle industry problems, communicate effectively in both oral and written forms, show understanding of impact of engineering solutions on society and also become aware of contemporary issues and last but not least imbue confidence for continuous learning and self development to meet the needs of emerging technology.

Though all the regular faculty holds post graduate or Ph.D. degree and a few are pursuing Ph. D., more faculty will be encouraged to upgrade their qualifications. Also, trainings for Faculty and Staff will be systematic and regular. As a result of faculty enhancement, improved facilities and by following the market driven curriculum better training and student learning outcomes are expected to strengthen accreditation claim of the courses offered by the Institute. The institution will also ensure increased number of publications, participation in conferences and seminars, consultancies and research activities by faculty.

## **ii. PG Programmes**

At present the institute offers 04 M. Tech programmes namely (1) Computer Science in the department of CSE, (2) Production Engineering in the department of ME (3) Digital Signal Processing in department of ECE (4) Biotechnology in department of BT and proposes to start 2 new PG programmes in 2017-18 in the areas of (1) Renewable energy in the department of EE (2) Infrastructure Engg. in the Department of Civil Engg.. Once the applied UG programs are accredited, the PG programs of the same departments will be applied.

## **iii. Infrastructure, laboratory facilities**

The current infrastructure available with the institution is adequate for current as well as additional programmes proposed. Therefore, no additional major civil works would be required for the departments. However minor civil works will be carried out inside the department to improve the class rooms and laboratory facilities as and when required. The campus is well connected with campus wide networking. A dedicated and functional maintenance cell for rectifying immediate problems which works around the clock on 24x7 basis exists. The institutional campus is located in midst of hills and therefore, remains cool and congenial throughout the year. The maintenance of institutional premises which includes gardening, guarding and cleaning is done by dedicated staff from local community or sub-contracted.

Presently all laboratories required as per curriculum are in place, fully functional and well maintained through internal arrangements / maintenance contracts. The institution does not face any problem in upkeep of the laboratories. For new laboratories to be set up, the institution has already worked out a systematic plan of equipment procurement and a committee is functional for procurement of goods.

#### iv. R&D and consultancy Projects

The college faculty members have two patents to their credit. Efforts are being made to increase the nos. by motivating them to file for it. The Civil Engg. dept. has good no. of consultancies and efforts are being made to motivate other department faculties to get the same. The institute aims for transforming faculty from primarily teaching to research oriented, and inculcating the research culture among PG and UG students. Key outcome parameters have been developed for publications in refereed national and international journals, patents and obtaining sponsored research from industry. For this purpose, funds will be allocated for training faculty in research methodology, attaching/linking with research organizations, seeking assistance and guidance of Mentors based on the research areas etc.

#### Action Plan: (d) Accreditation of UG & PG Programmes

Sr. No	Activity	2016-17	2017-18	2018-19	2019-20
a	UG Programmes Accreditation				
	Electronics & Communication Engineering (ECE)	Applied for & SAR upload	Expert Visit		
	Computer Science & Engineering (CSE)	Applied for & SAR upload	----do---		
	Electrical Engineering (EE)	Applied for & SAR upload	----do---		
	Mechanical Engineering (ME)	Applied for & SAR upload	----do---		
	Civil Engineering (CE)		Applied for & SAR upload	Expert Visit	
	Production Engineering (PE)		----do---	----do---	
	<b>Biotechnology (BT)</b>		----do---	----do---	
b	<b>PG Programmes</b>				
	Computer Science and Engineering		----do---	----do---	
	Production Engineering		----do---	----do---	
	Digital Signal Processing		----do---	----do---	
	Biotechnology				
c	Ensuring availability of qualified teaching faculty	← →			
d	Ensuring Teacher Student Ratio as per AICTE Norms	← →			
e	R&D and consultancy Projects	← →			

## 2.4 Describe the following in brief:

- 1. Is any enhanced assistance/mentoring that the Institution is looking forward from its ATU:**  
No
- 2. Does your BOG need strengthening: if yes, then how?**  
N/A
- 3. Is there an ERP/MIS system existing, if yes, then any improvement, modification suggested:**  
Separate budget is allocated by the Govt. to procure and install the ERP/MIS software. The college has identified the requirements by conducting meetings from different stake holders. The tender has already floated, very soon it will be install and functional.
- 4. Is there any mechanism i.e. special classes being conducted in the institution for improving the GATE score:**  
The college has already planned special evening classes for third year & final year students from this session.

## 2.5 Provide a twining plan

The college is interested for a twining agreement with I. I. T. Roorkee with the following objectives.

(a) Knowledge transfer in the subject domain in the areas as mentioned below.

- Smart Grid Technology (EED)
- Renewable energy (EED)
- Biomedical Signal & Image Processing (EED)
- Robotics (MED)
- Advance Manufacturing Systems (MED)
- MEMS (MED)
- Advance Optimization Techniques (Mathematics)
- Composite Materials (MED/Metallurgy)
- Wireless Sensor Networks (CSED)
- Parallel Computing (CSED)
- Fabrication of Electronic devices (ECED)
- Microelectronics (ECED)
- Wireless communication (ECED)
- Digital signal Processing (ECED)
- Nanotechnology (Center for Nanotechnology)
- Bioinformatics (BT)
- Infrastructure Engineering (CE)

(b) Pedagogical Training for faculty members in the respective departments

© Management capacity enhancement training for senior faculty and administrators

(d) Provision for pursuing part-time Ph.D to the faculty members: Faculty members can be deputed to complete the course work requirements for PhD programs.

(e) Laboratory resource sharing for the Ph.D students and faculty members of the college.

## 2.6 Is there any difficulty in recruitment and selection of high-quality faculty? If yes, what the reasons and action plan to solve the issue?

GBPEC Pauri is continuously facing the difficulty in recruiting the faculty, so hiring the high quality faculty is another challenge and as such the recruitment of quality faculty at senior level is a major problem. One of the prime reasons is due to the remote location due to which senior positions are vacant. Another reason is due to the number of court cases and govt. clearance. Therefore the college has to depend upon the contractual faculty members. Fresh Ph.D holders are more interested to join in Private Universities due to attractive salary package. Mostly, city-based institutions are in a far better situation to address their faculty needs than those in smaller towns. This is because cities have the advantage of good schools and healthcare, issues which Indian parents of this generation care much about. The remote location of our institute also influences the choices made by potential faculty.

At present college has advertised for the senior positions. It is expected to conduct the interview before 31<sup>st</sup> March.

### Action plan:

S.No.	Action to be taken	
1.	Wide publicity	<ul style="list-style-type: none"> <li>• Through reputed national news papers</li> <li>• Through website</li> <li>• Through social media like face book etc</li> </ul>
2.	Increasing enrolment for M.Tech and Ph.d programmes	Given in 2.2.(a) sub section 3
3.	Organizing In-house National and International conferences and workshops inviting students of reputed institutes to increase the visibility of the Institute	
4.	Encouraging the research culture among our M.Tech and Ph.D students	
5.	Providing more facilities to retain the faculty	<ul style="list-style-type: none"> <li>• Working on the possibility of campus school for the education of kids</li> <li>• Recreation facilities</li> <li>• Upgradation of medical facilities</li> </ul>
6.	Appointing contractual faculty for project duration i.e. TEQIP III (up to 2020) as per MHRD norms.	

## 2.7 Give an action plan for ensuring that the project activities would be sustained after the end of the project:

The college has established Four Funds in 2009-2010 as per NPIU guidelines. The current balance in each funds are as follows.

1. Corpus Fund - Rs. 6.21 laks
2. Faculty Development Fund - Rs. 8.87 laks
3. Equipment Replacement Fund - Rs. 6.46 laks
4. Maintenance Fund - Rs. 6.38 laks

The college will additionally create and contribute to the Sustainability fund (8% of the IRG of the institution) for TEQIP-III .After completion of the project, the accumulated funds will be used as seed money and revolving funds and will be maintained for the purpose they have been created. The Governing Council will monitor appropriate use of these funds and also, the sources of furthering accumulating funds in these

five categories for future use by the institution. The various internal committees will keep an account and usage information and same will be reported to the Governing Council in its quarterly meetings. Since the State Government is represented in the Governing Council, the State Government will be kept informed on accumulation and utilization of above funds.

## 2.8 Participation of Departments/faculty/Students in the Preparation of the IDP

- Presentation was made to all the stake holders of the college regarding the objectives of TEQIP-III.
- Meetings were held with HODs, faculty and students to get the necessary feedbacks.
- The preparation for participation in the TEQIP III programme was initiated by the institution with the PIP of TEQIP-II
- The biggest motivation that faculty of GBPEC, Pauri enjoys is that their efforts lead to the upliftment of the institution, and up scaling of PG education and high attention to research, development and innovation.
- The college has modified the course curriculum two times after obtaining academic autonomy from UGC from 2012-2013
- All stakeholders including Management, Principal, HODs, Faculty, Staff, Students, Alumni, Parents and Employers have participated in SWOT Analysis and preparation of IDP Plan.
- All employees of the institution and all categories of staff have given their inputs to the kind of training they have undergone and they desire to undergo as per TNA.
- The Principal, HODs and faculty have collectively developed the institutional Strategic Plan based on which the IDP has been prepared by the same team of Principal, HODs, faculty and students. A number of staff members have also contributed to generating the IDP and bringing it to this shape.

### Annexure-1: Qualitative achievements in TEQIP-II

Sl. No.	Name of Indicators	Pre-TEQIP Period (2010-2011)	Current Status
1.	Academic Autonomy status granted by UGC	No	Yes, w.ef. academic year 2012-2013
2.	NBA accreditation of UG/PG Programs	04 UG programs were accredited till 2009.	04 UG programs are applied for
3.	Commencement of Ph.D Programs	NIL	07 depts are running Ph.D programs. Currently 22 full time (TEQIP fellowships of Rs. 20,000.00 per month) and 22 part time candidates are pursuing Ph.D.
4.	Commencement of new PG programs	04	Currently 65 M. Tech Students are getting TEQIP fellowships of Rs. 10,000.00 per month.
5.	No. of M.Tech. assistantship awarded (Through TEQIP)	Nil	65

Sl. No.	Name of Indicators	Pre-TEQIP Period (2010-2011)	Current Status
6.	No. of P.hD assistantship awarded	Nil	22
7.	Publications of research papers in international refereed journals	30	112
8.	Publications of research papers in reputed international conference proceedings	64	152
9.	No of Books Published	14	22
10.	No. of Patents awarded/Applied For	Nil	02 ( 01 in Mobile computing and 01 in Wireless sensor Networks)
11.	Industrial consultancy assignments	Nil	73, in Civil Engg.
12.	Placement of UG Students	34%	62%
13.	Students Transition rate ( Promoted from 1 <sup>st</sup> year to 2 <sup>nd</sup> year without any fail)	60%	82%
14.	Value addition courses in UG and PG Programs	Nil	16
15.	Expert Lectures from Industry	04	24
16.	Expert Lectures from Academia	10	65
17.	Short term courses organized with Industry	Nil	05
18.	MOU signed with Industry	NIL	01
19.	No. of Short term courses attended by faculty members in subject domain in reputed academic institutes	10	84
20.	No. of faculty members attended Pedagogical trainings	Nil	42
21.	No. of Short term courses organized by the college	01	07
22.	No. of conferences organized by the college	Nil	03
23.	No. of students attended Industrial Training	Nil	166
24.	No. of students benefitted by remedial teaching	NIL	112
25.	No of students benefitted in soft skills training program	NIL	567
26.	No. of Laboratories modernized to strengthen the research work of students and faculty	NIL	16



Sl. No.	Name of Indicators	Pre-TEQIP Period (2010-2011)	Current Status
27.	No. of UG, PG and Ph.D projects funded	Nil	69

**Annexure-2**  
**Faculty and staff participation in Subject domain trainings/Management Capacity trainings/Pedagogy /presented paper in International conference under TEQIP-II Project**

S.No	Name of faculty	Dept	Training Type	Topic	Date	Amount Spent (Rs.)	Venue
1.	Sh. Balraj Singh	ECED	Subject domain	Advanced VLSI Design	16.09.2012 to 30.09.12	27133.00	Birla Institute of Technology, Ranchi
2.	Dr. Ajeet Singh	BT	Management Capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	21038.00	I.I.T. Mumbai
3.	Sh. M.K. Agarwal	ECED	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	18628.00	I.I.T. Mumbai
4.	Dr. M.P.S. Chauhan	CED	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	20315.00	I.I.T. Mumbai
5.	Dr. R.B. Patel	CSED	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	19303.00	I.I.T. Mumbai
6.	Dr. K.K.S. Mer	MED	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	13742.00	I.I.T. Mumbai
7.	Sh. Hemant Kumar	MED	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	20466.00	I.I.T. Mumbai
8.	Prof. H.Goel	ASHD	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	21089.00	I.I.T. Mumbai
9.	Dr. Mamta Bauthiyal	BT	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	27586.00	I.I.T. Mumbai
10.	Dr. Priti Dimri	CSAD	Management capacity	Strategies for Organization's Growth	21.01.2013 to 25.01.2013	27106.00	I.I.T. Mumbai
11.	Sh. H.L. Yadav	CED	Subject domain	Wed Based hydrological software	12.03.2013 to 15.03.2013	1224.00	NIH, Roorkee
12.	Sh. Dilip kumar Jha	CED	Subject domain	Wed Based hydrological software	12.03.2013 to 15.03.2013	1224.00	NIH, Roorkee
13.	Sh. Ajeet Singh Negi	ASHD	Subject domain	How t pursue research in management	25.04.2013 to 27.04.2013	15120.00	I.I.T. Mumbai
14.	Sh. B.S. Khati	CED	Subject domain	Wed Based hydrological software	12.03.2013 to 15.03.2013	12240.00	NIH, Roorkee
15.	Dr. A.K. Gautam	ECED	Pedagogical	effective teaching through case study methodology	22.03.2013 to 24.03.2013	12000.00	I.I.T. Delhi
16.	Dr. Lalta Prasad	MED	Pedagogical	effective teaching through case study methodology	22.03.2013 to 24.03.2013	12000.00	I.I.T. Delhi
17.	Sh. Dilip kumar Jha	CED	Subject domain	STADD-PRO	2.04.2013 to 12.04.2013	40304.00	Indo-German Tool Room Patna
18.	Sh. B.S. Khati	CED	Subject domain	India water Week 2012	08.04.2013 to 12.04.2013	22920.00	IIT-Delhi
19.	Sh. Amit Joshi	MED	workshop	Metallurgical,	29.03.2013	26618.00	ICMMME, Goa

				Manufacturing and Mechanical Engg.	to 03.04.2013		
20.	Sh. Hemant Kumar	MED	Subject domain	advance in auto motive technology	06.05.2013 to 09.05.2013	47224.00	IIT Indore
21.	Sh. Piyush Srivastav	WS	Subject domain	Pro-E	08.04.2013 to 27.04.2013	54594.00	Indo german tool room, Gwalior
22.	Dr. K.K.S. Mer	MED	Capacity Management	effective leadership and teamwork	23.05.2013 to 24.05.2013	24472.00	I.I.T. Kharagpur
23.	Sh. Ajeet Singh Negi	ASHD	Capacity Management	effective leadership and teamwork	23.05.2013 to 24.05.2013	26571.00	I.I.T. Kharagpur
24.	Sh. Sanjay Kumar Samant	MED	Subject domain	Numerical simulaton using FEM	24.12.2012 to 28.12.2012	10000.00	I.I.T. Roorkee
25.	Dr. Priti Dimri	CSAD	Capacity Management	effective leadership and teamwork	25.05.2013 to 29.05.2013	46193.00	I.I.T. Kharagpur
26.	Sh. B.S. Khati	CED	Capacity Management	effective leadership and teamwork	25.05.2013 to 29.05.2013	43583.00	I.I.T. Kharagpur
27.	Dr. M.P.S. Chauhan	CED	workshop	Ground Improvement Techniques for Difficult Ground Conditions	15.04.2013 to 16.04.2013	4541.00	IIT, Roorkee
28.	Dr. Mamta Bauthiyal	BT	Subject domain	Biotechniques for pollution control and resource recovery	01.07.2013 to 05.07.2013	26719.00	I.I.T. Guwahati
29.	Sh. Dilip kumar Jha	CED	Subject domain	Computational fluid dynamics	02.07.2013 to 06.07.2013	20087.00	N.I.T. Allahabad
30.	Sh. V.M. Mishra	EED	Subject domain	Real time implementation of power electronics techonologies	24.06.2013 to 28.06.2013	13913.00	MNIT Jaipur
31.	Sh. Amit Joshi	MED	Subject domain	Fatigue and fracture of advanced materials	20.07.2013 to 23.07.2013	14740.00	I.I.T. Roorkee
32.	Sh. Sanjay Kumar Samant	MED	Subject domain	Fatigue and frature of advanced materials	20.07.2013 to 23.07.2013	14740.00	I.I.T. Roorkee
33.	Sh. Sachin Kumar	EED	Subject domain	Real time implementation of power electronics technologies	24.06.2013 to 28.06.2013	8678.00	MNIT Jaipur
34.	Sh. Hemant Kumar	MED	Subject domain	Fatigue and frature of advanced materials	20.07.2013 to 23.07.2013	14740.00	I.I.T. Roorkee
35.	Sh. S.K. Verma	CSED	Subject domain	advanced embedded system and microelectronics	15.07.2013 to 19.07.2013	11394.00	MNNIT Allahabad
36.	Sh. Amit Joshi	MED	workshop	Applied machines	04.10.2013 to 07.10.2013	13113.00	I.I.T. Kanpur
37.	Sh. Piyush Srivastav	WS	workshop	CNC Training	7.10.2013 to 13.10.2013	39609.00	NTSC Okhla Delhi
38.	CSED (GBPEC) organized (40 participants)	CSED	In House (STC)	Information technology & its impact on the society (no of participate 40, no of expert 22)	26.08.2013 to 30.08.2013	51668.00	G.B.P.E.C
39.	CED, BT & ASHD (GBPEC) organized 48 participants	CED	in house (STC)	Eco Technology for sustainable development (no of participants - external expert 15, internal 48, students 47)	10.10.2013 to 14.10.2013	77059.00	GBPEC
40.	Sh. Dilip kumar Jha	CED	workshop	research methodology	21.10.2013 to 25.10.2013	20194.00	NIT Jaipur
41.	Sh. B.S. Khati	CED	Subject domain	Application of Matlab in Engineering	16.09.2013 to	20933.00	MNIT Jaipur

					20.09.2013		
42.	Sh. H.L. Yadav	CED	workshop	indo german tool room	02.07.2013 to 15.07.2013	23654.00	MSME, Patna
43.	Dr. Ajeet Singh	BT	Capacity management	management capacity enhancement programme	10.06.2013 to 14.06.2013	2700.00	IIM (Noida Campus) Lucknow
44.	Prof. A. K. Swami (Principal)		Capacity management	leadership development programme for heads of technical institute	02.12.2013 to 06.12.2013	185000.00	IIM lucknow Noida Campus
45.	Sh. S.K. Verma	CSED	Capacity management	Management capacity enhancement programme	23.09.2013 to 27.09.2013	8290.00	IIM Lucknow Noida Campus
46.	Sh. Sachin Kumar	EED	Subject domain	digital signal processing & Matlab	27.10.2013 to 31.10.2013	867.00	IIT Roorkee
47.	Sh. Sachin Negi	EED	Subject domain	digital signal processing & Matlab	27.10.2013 to 31.10.2013	5120.00	IIT Roorkee
48.	Ramesh Kumar Aruna Rani S. K. Verma V. M. Thakkar Preeti Dimri S. K. Dinkar	CSED & C SAD	Subject domain	Training on advance computer networks	02.12.2013 to 06.12.2013	404527.00	IIT Roorkee
49.	Mr. B.S. Khati	Civil Dept	Subject domain	Seismic Design of reinforced and confined masonry buildings	17.02.2014 to 21.02.2014	36464.00	IIT Gandhinagar
50.	Dr. R.B. Patel	CSED	Subject domain	Mobile and distibuted computing system and model	06.01.2014 to 10.01.2014	4960.00	IIT Roorkee
51.	Dr. Bhola Jha	EED	Subject domain	challenges in rural electrification	21.01.2014 to 22.01.2014	3364.00	College of Technology Pantnagar
52.	Mr. V.M. Thakkar	CSED	Workshop	2nd world summit on accreditation WOS-2014	08.03.2014 to 10.03.2014	1800.00	New Delhi
53.	Mr. Sachin negi	EED	Training	Advance in computing and communication engg.	23.12.2013 to 27.12.13	17548.00	BTKIT, Dwarhat
54.	Mr. B.K. Dobriyal	MED	Training	CNC programming and operation	30.12.2013 to 04.01.2014	24626.00	Okhla industrial estate new delhi
55.	Dr. Mamta Baunthiyal	Biotech Dept	management Capacity	management capacity enhancement for administration	12.01.2014 to 18.01.2014	11036.00	IIM Lucknow Noida campus
56.	Dr. Ajeet Singh	Biotech Dept	Subject domain	Energy sources	06.01.2014 to 10.01.2014	5480.00	IIT Roorkee
57.	Dr. Ajeet Singh	Biotech Dept	Workshop	2nd world submitt on accreditation WOS-2014	08.03.2014 to 10.03.2014	14090.00	New Delhi
58.	Mr. Ashutosh Gupta	MED	Subject domain	Energy sources	06.01.2014 to 10.01.2014	5280.00	IIT Roorkee
59.	Mr. Hemant Kumar	MED	Subject domain	Energy sources	06.01.2014 to 10.01.2014	5480.00	IIT Roorkee
60.	Dr. H. S. Bhadauria	CSED	Subject domain	Energy sources	06.01.2014 to 10.01.2014	4800.00	IIT Roorkee
61.	Mr. S.K. Dinkar	CSED	Subject domain	soft computing in image processing	26.11.2013 to 30.11.2013	5480.00	IIT Roorkee
62.	Mr. V.M. Mishra	EED	Subject domain	Smart grid technology and application	10.03.2014 to 14.03.2014	45490.00	CPRI Banglore
63.	Mr. V.M. Mishra	EED	Subject domain	Role of power electronics in modern electrical system	23.12.2013 to 27.12.2013	31820.00	MNIT Jaipur
64.	Mr. V.M. Mishra	EED	management Capacity	management capacity enhancement for	23.09.2013 to	9370.00	IIM Lucknow Noida campus

				administration	27.09.2013		
65.	Dr. M.K. Panda	EED	Subject domain	Smart grid technology and application	10.03.2014 to 14.03.2014	41068.00	CPRI Bangalore
66.	Mr. Sachin Kumar	EED	Workshop	Challenges in rural electrification	21.01.2014 to 22.01.2014	3364.00	College of Technology Pantnagar
67.	Mr. Piyush Srivastava	WS	Subject domain	UNI graphics	24.01.2014 to 10.02.2014	51933.00	IGTR, Gwalior
68.	Dr. Bhola Jha	EED	Subject domain	Smart grid technology and application	10.03.2014 to 14.03.2014	40581.00	CPRI Bangalore
69.	Mrs. Bhumika Gupta	CSED	Subject domain	soft computing in image processing	26.11.2013 to 30.11.2013	4800.00	IIT Roorkee
70.	Mrs. Bhumika Gupta	CSED	Subject domain	Mobile and distributed computing system and model	06.01.2014 to 10.01.2014	500.00	IIT Roorkee
71.	Mr. H.L. Yadav	CED	Subject domain	water sector training and capacity building	16.09.2013 to 20.09.2013	9810.00	Delhi technical university
72.	Dr. Lalita Prasad	MED	Subject domain	Energy sources	06.01.2014	250.00	IIT Roorkee
73.	Mr. S.K. Dinkar	CSED	Subject domain	Advance in computer network	02.12.2013 to 06.12.2013	5480.00	IIT Roorkee
74.	Mr. Yatindra Kumar	EED	Subject domain	soft computing in image processing	26.11.2013 to 30.11.2013	700.00	IIT Roorkee
75.	Mr. Yatindra Kumar	EED	Subject domain	digital signal processing	27.10.2013 to 31.10.2013	5480.00	IIT Roorkee
76.	Dr. K.K.S. Mer	MED	Subject domain	Numerical method in Engg. & science	01.01.2014 to 05.01.2014	10546.00	NIT Surat
77.	DR. H. Goel	ASHD	Subject domain	recent advance in weed management	14.01.2014 to 23.01.2014	25226.00	DWSR Jabalpur
78.	Dr. K.K.S. Mer	MED	management Capacity	management capacity enhancement for administration	10.03.2014 to 14.03.2014	12270.00	IIM Lucknow Noida campus
79.	Mr. Piyush Srivastava	WS	Seminar	NPESC	24.04.2014 to 26.04.2014	18965.00	Kamla Nehru Institute of Technology sultanpur
80.	Dr. Priti Dimri	DCS	In House (STC) III Cell	Advancements in cloud computing	27.5.14 to 31.5.14	45862.00	GBPEC
81.	Mr.V.M Mishra	EEC	In House conference (R@ D)	Recent Trends in electrical engineering	22.5.14 to 23.5.14	114896.00	GBPEC
82.	Mr. B.S Khati	CED	Subject domain	Geotechnical and Landslide Investigation for Highway Projects	25.8.14 to 29.8.14	20252.00	NHAI Delhi
83.	Dr.Bhola Jha	EED	Organized In-house subject domain STC	Smart Grid Technologies	22.9.14 to 26.9.14	45526.00	GBPEC
84.	Dr.K.K.K Mer	MED	Organized International conference	Recent Advance In Mechanical Engineering	26.9.14 to 27.9.14	95890.00	GBPEC
85.	Mr.V.M Mishra	EEC	Organized In House STC	Smart Grid Technologies	22.9.14 to 26.9.14	114896.00	GBPEC
86.	Dr.B.S Negi	ASHD	International conference	English –From Classes to masses	21.8.14 to 23.8.14	10119.00	Jaipur
87.	Dr.Bhola Jha	EEC	National conference	Contemporary control	20.11.14 to 21.11.14	27015.00	Vishakhapatanam
88.	Dr.Bhola Jha	EEC	Subject domain	Energy Resources	8.11.14 to 12.11.14	652.00	IIT Roorkee
89.	Mr.Sachin Negi	EEC	Subject domain	Labview	7.7.14 to 11.7.14	52708.00	Pune
90.	Mr.Sachin Negi	EEC	International conferences	Soft computing Techniques for	7.8.14 to 8.8.14	13104.00	Bhimtal

				Engineering & Technology			
91.	Mr.Sachin kumar	EEC	International conferences	Soft computing Techniques for Engineering & Technology	7.8.14 to 8.8.14	2320.00	Bhimtal
92.	Mr.Sachin kumar	EEC	Subject domain	Energy Resources	8.11.14 to 12.11.14	652.00	IIT Roorkee
93.	Mr.Vibhuti Dayani	EEC	International conferences	Soft computing Techniques for Engineering & Technology	7.8.14 to 8.8.14	2320.00	Bhimtal
94.	Mr.V.M mishra	EEC	Subject domain	Labview	7.7.14 to 11.7.14	42864.00	Pune
95.	Dr.H.S Bhadaria	CSED	Pedagogy	Computer Science Engg.	14.7.14 to 16.7.14	6140.00	IIT Kanpur
96.	Prof.H.Goel	ASHD	STC	Personality development	12.1.15 to 16.1.15	23358.00	NITTR Chandigarh
97.	Mr.Manoj Kumar Pathak	MED	STC	Energy Resources	8.11.14 to 12.11.14	5432.00	(SPFU)Dehradun
98.	Mr.Chandraveer Singh	MED	STC	Energy Resources	8.11.14 to 12.11.14	312.00	(SPFU)Dehradun
99.	Mr.Siddharth Ghansela	MCA	International conferences	Paper in international conference	28.11.14 to 30.11.14	2500.00	Roorkee
100.	Dr.Pawan kumar Agrawal	BT	workshop	DNA Barcoding and its Application	13.10.14 to 15.10.14	3450.00	Dolphin Institute Dehradun
101.	Mr.M.K Aggrawal	ECE	Management Capacity	Enhancement for Administrators	23.9.14 to 27.9.14	11910.00	IIML-Noida Campus
102.	Dr.Annapurna Singh	CSED	Management Capacity	Team building and leadership for Academic institution	5.1.15 to 9.1.15	2982.00	NITTTR Goa
103.	Dr.H.S Bhaduria	CSED	Management Capacity	Team building and leadership for Academic institution	5.1.15 to 9.1.15	34684.00	NITTTR Goa
104.	Dr.Ajeet singh	BT	Workshop	Faculty and non – teaching staff	29.9.14 to 30.9.14	40550.00	COE,Pune
105.	Dr.Priti Dimri	DCSA	Management Capacity	Management development training	9.6.14 to 14.6.14	10720.00	IIM lucknow (Noida campus)
106.	Dr.MPS Chuhan	CE	Subject domain	Innovative Desing for Ground improvement Techniques for challenging hilly regions	28.2.15 to 1.3.15	5520.00	IIT Roorkee
107.	Mr.Amit joshi	ME	workshop	Failure analysis and life assessment scheduled	14.3.15-15.3.15	5440.00	IIT Roorkee
108.	Mr.Manoj kumar pathak	ME	workshop	Failure analysis and life assessment scheduled	14.3.15-15.3.15	320.00	IIT Roorkee
109.	Mr.Ashutosh gupta	ME	Workshop	Advance in manufacturing systems	14.2.15-15.2.15	5320.00	IIT Roorkee
110.	Mr.Piyush Srivastava	WS	Workshop	FEA Simulation of metal forming	23.2.15 to 24.2.15	13481.00	ITER Bhubneshwar
111.	Mr.B.S.Khati	CE	Subject domain	Finite Element Method	27.4.15 to 1.5.15	33286.00	IIT Bombay
112.	Dr.H.S Bhaduria	CSED	Conference	Computing for sustainable global development	12.3.15 to 14.3.15	11390.00	Delhi
113.	Mr.Ashwini Kumar Saini	CSED	Conference	Advanced Optimization Techniques	18.5.15 to 22.5.15	11974.00	Jaipur
114.	Mr.Abhishek Gupta	CSED	Conference	Advanced Optimization Techniques	18.5.15 to 22.5.15	16953.00	Jaipur
115.	Mr.Sanjay singh Samant	ME	Conference	NCRAME 2014	11.2.15	63000.00	Delhi
116.	Mr. B.S.Negi	ASHD	Conference	Data Analysis for Research & Publication	20.6.15 to 21.6.15	13960.00	IIT Roorkee
117.	Dr.Pawan Kumar Agrwal	BT	Conference	Intellectual Property Right	24.8.15	1790.00	Dehradun
118.	Dr.V.M Mishra	EED	Conference	Sustainable,Affordable	27.2.15 to	5172.00	Pantnagar

					1.3.15		
119.	Mr.Abhishek Gupta	CSED	Conference	A theoretical comparison of job scheduling algorithms	4.9.15 to 5.9.15	5000.00	Dehradun
120.	Dr.Yatindra Kumar	EED	Subject domain	Advance Material and instrumentation in bio medical	9.5.15 to 13.5.15	15488.00	IIIT Allahabad
121.	Dr.M.P.S.Chauhan	CE	Workshop	Rock Engineering	26.9.15 to 27.9.15	6520.00	Roorkee
122.	Mr.Arpan Herbert	CE	Conference	Recent Advancement in civil and environmental	28.11.15 to 29.11.15	5158.00	Bahal
123.	Mr.Dilip Kumar Jha	CE	Conference	Meso Scale Hydrological Modeling for Kedarnath flood	28.11.15 to 29.11.15	9624.00	Bhiwani
124.	Dr.Mamta Bauthiyal	BT	Conference	Anti staphylococcal activity	22.11.15 to 25.11.15	8200.00	Kerala
125.	Dr.A.K.Gautam	ECED	Conference	Electromegnetics	18.12.15 to 21.12.15	39362.00	Gawahati
126.	Mr.Sachin Kumar	EED	International Conference	Advance in Engineering Science and management	8.11.15-10-11-15	6973.00	Agra
127.	Dr.Bhola Jha	EED	Conference	Advance in Engineering Science	8.11.15-10.11.15	6973.00	Agra
128.	Mr.Piyush Srivastava	WS	Subject domain	Catia	4.1.16 to 23.1.16	27007.00	Gwalior
129.	Mr.Satyaveer Singh Rawat	EED	Workshop	INDICON	17.12.15 to 20.12.15	12731.00	New Delhi
130.	Dr.Ajeet Singh	BT	Conference	New Horizons in Biotechnology	22.11.15 to 25.11.15	47950.00	Trivandrum
131.	Mr.Rajesh Kumar paswan	CE	Conference	Removal of heavy metal by using AFC polymer	28.11.15 to 29.11.15	6183.00	Bahal Haryana
132.	Mr.Sumit Kumar rai	BT	Conference	Emerging Discoveries in microbiology	7.12.15 to 10.12.15	9050.00	New Delhi
133.	Dr.Bhola Jha	EED	Conference	Evaluation of voltage unbalance	14.12.15 to 16.12.15	6382.00	SNU Noida
134.	Dr.Pawan Kumar Agrawal	BT	International Conference	Emerging Discoveries in Microbiology	7.12.15 to 10.12.15	8940.00	New Delhi
135.	Mr.Ajeet Singh Negi	ASHD	Conference	Skill Development & Technological Innovation	28.11.15-29.11.2015	3970.00	New Delhi
136.	Mr.Amit Joshi	ME	Workshop	Autokriti-8.0	29.9.16-30.9.2016	8940.00	NIT Kurukshetra
137.	Mr.Chandraveer Singh	ME	Workshop	Autokriti-8.0	29.9.16	11400.00	NIT Kurukshetra
138.	Dr.V.M Mishra	EED	Conference	Advances computing	29.9.16 to 1.10.16	11700.00	Bareilly
139.	Mr.Sachin Kumar	EED	Conference	Advances computing	29.9.16 to 1.10.16	12006.00	Bareilly

### Annexures-3

#### Training/Conferences/Workshops organized by the college under TEQIP-II

SI. No	Name of the Program	Organized by Department	Duration	No. of participants
1	National conference on Recent advances in Mechanical Engineering (NCRAME'13)	Mechanical	28-29 June 2013	40
2	Short term training program on Information Technology and its impact on Society (ITIS'13)	Comp. Sc. & Engg.	26-30 <sup>th</sup> Aug. 2013	45
3	Short term training program on Eco	Biotechnology, Civil Engg. &	10-14 <sup>th</sup> Oct. 2013	95

	Technology for sustainable development	ASHD		
4	Short term training program on “Academic Excellence in Engineering Education” by ESCI	College /ESCI	05-06 <sup>th</sup> May 2014	45
5	National conference on Technological revolution in Electrical Engineering (TREE’14)	Electrical Engg.	05-06 May 2014	48
6	Short term course on Pedagogy for Engineering Faculties by ESCI Hyderabad	College TEQIP Cell/ESCI	4-8 Aug. 2014	40
7	STC on Smart grid Technology	EED	22-26 Sept. 2014	42
8	2 <sup>nd</sup> National conference on Recent advances in Mechanical Engineering (NCRAME’14)	Mechanical	26-27 Sept. 2014	60
9	Workshop on PLC (EE), Embedded wireless (CSE) and Mechanical Measurements(ME)	3rd Year EE, CSE & ME students	21-23 <sup>rd</sup> Feb. 2015	180 (3rd Year EE, CSE & ME students)
10	Workshop on “Nurturing employability for budding Engineers” by ESCI Hyderabad	College TEQIP Cell/ESCI	13-15 <sup>th</sup> March 2015	For all 3 <sup>rd</sup> Year B. Tech students
11	STC on Hadoop and its applications	CSA	21-25 <sup>th</sup> April 2015	70
12	STC on Advanced Manufacturing Technology	MED	8-12 June 2015	25
13	STC on Smart grid Technology & its applications	EED	28 Oct. 2015-1st Nov. 2015	65
14	Industry Workshop on Networking	CSED	30-31 <sup>st</sup> Oct. 2015	65
15	Industry Workshop on Embedded Systems	ECE	22-23 <sup>rd</sup> Nov. 2015	60

#### Annexure-4

#### List of major equipments/Softwares/LRs purchased under TEQIP-II

Sl. No	Name of equipment	Number of units purchased	Total cost of equipment (Rs. In lacs)	Location of the equipment (provide name of the lab/ workshop etc. along with room number)
1.	Plant growth Chamber	1	8.493	Biotech Dept.
2.	Refrigerated Centrifuge	1	5.355	Biotech Dept.

3.	Fermenter	1	20.893	Biotech Dept.
4	PCB Prototype	1	10.867	ECE Deptt.
5.	Qualnet Software	1	10.666	CSED
6.	E Books	325	6	Library
7.	Laptops	6	3.563	TEQIP Cell
8	CNC wire cut EDM	1	23.788	Workshop
9.	Automobile Research Lab	1	26.72	MED
10.	Digital Image analysis lab workstations	20	24.34	CSED
11.	FPGA boards	10	7.34	ECED
12	Gas Chromatograph	1	9.6	Biotech Dept.
13.	Incubator	1	2.3	Biotech Dept.
14.	Microwave Simulator	1	6.33	ECED
15.	Image processing lab software	5	8.84	CSED
16.	2D gel electrophoresis	1	20.366	Biotech Dept.
17.	Multisim Software	10	4.1	CSED
18.	Wireless Communication software	1	6.5	ECED
19.	Computer Furniture	100	4.45	ECED/CSED
20.	SDR Cognitive Radio	2	15.85	ECED
21.	VLSI Design tool	1	8.99	ECED
22.	Electronic device simulator	1	7.85	ECED
23.	Furniture for seminar room	20	4.59	ECED
24.	conference room furniture	1	1.83	ECED
25.	Library steel racks	8	1.04	Library
26.	Spectrophotometer	1	6.91	Biotech Dept.
27.	Gel Documentation System	1	7.94	Biotech Dept.
28.	HP Desktop 800Gi7	115	72.4	CSED/ECED
29.	Wireless Sensor Network Lab	1	9.7	CSED
30.	IBM rational Rose software	1	2.92	CSED



31.	Mathematica software	1	1.3	CSED
32.	RF Microwave Test and measurement system	1	19.5	ECED
32	Universal Testing Machine	1	11.25	MED
33.	FTIR	1	14.4	MED
34.	Thermal Process equipment	1	21.4	MED
35.	vicker Hardness Tester	1	2.92	MED
36.	Muffle Furnace	1	1.58	MED
37.	pin on disk	1	6.49	MED
38.	library books	3400	20.7	Library
39.	Thin client system	10	6	Library
40.	Tissue Culture Lab	1	13	Biotech
41.	Extension of Campus wide Networking	1	20.5	Hostels