TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)

PHASE-III

INSTITUTIONAL DEVELOPMENT PROPOSAL

Sub-component 1.1

Government College of Engineering & Technology
Bikaner-334004
Rajasthan

1. INSTITUTIONAL BASIC INFORMATION

1.1 Institutional Identity

- Name and address of the Institution : **Government College of Engineering & Technology Bikaner Karni Industrial Area Pugal Road Bikaner-334004**
- Year of establishment : **2007**
- Is the Institution AICTE approved? : **Yes**

Furnish AICTE approval No. : **06/01/RJ/ENGG/2007/65**

- Type of Institution : **Govt. Funded**
- Status of Institution : **Non-autonomous**
- Name and Designation of : **Dr. Sanjay Kumar Bansal**

Head of the Institution (Full time appointee): **Principal/Director**

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.	**Ceramic Engineering**	**UG**	**4**	**2007**	**60**	**240**
2.	**Civil Engineering**	**UG**	**4**	**2007**	**60**	**240**
3.	**Computer Sc. & Engineering**	**UG**	**4**	**2007**	**120**	**480**
4.	**Electronics & Communication Engineering**	**UG**	**4**	**2007**	**60**	**240**
5.	**Mechanical Engineering**	**UG**	**4**	**2008**	**60**	**240**
6.	**Electrical Engineering**	**UG**	**4**	**2011**	**60**	**240**

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

Total no of programmes eligible for accreditation (at least one batch pass out): **06**
No. of programmes accredited: **Nil**
No. of programmes applied for accreditation: **05**

- **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				Master's 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)
117	04	00	15	01	35	15	02	03	01	09	00	00	57	60	28

R=Regular, C=Contract

2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)
(Implementation period: April 2017- March 2020)

2.1 Executive Summary of the IDP

2.1.1 Introduction

Government College of Engineering & Technology was established in 2007 in Society Act under Ministry of Technical Education, Govt. of Rajasthan with the initial intake of 240 students with 60 in each branch, i.e. Electronics & Communication Engineering, Computer Science & Engineering, Ceramic Engineering, and Civil Engineering. Later in 2008, College added Mechanical Engineering & also doubled the intake in Computer Science Engineering and in Academic Year 2011, Electrical Engineering has also been started with intake of 60 students. The college is running with the aim to equip students with the latest engineering skills and knowledge to successfully meet the challenges posed by globalization and to provide comprehensive engineering education and necessary technical skills by developing a professional outlook in every walk of life. College has 1, 74,015sqm (43.00 Acre) land out of which the total constructed area is 24910 sqm (5.76 Acre).

The college is having its own Consultancy Cell, Entrepreneurship Development Cell, Examination Cell, Placement Cell and Monitoring system for Academic Audit and Evaluation. It is having an established mechanism for obtaining students feedback, organizing remedial classes, redressing the staff and student's grievances and conduct of industrial training. Also, the college has successfully conducted RMCAAT (A State level MCA entrance test from 2010 to 2014).

Institution has been selected in TEQIP-II under sub-component 1.1 in II cycle institution in lagging state category in engineering education. Under the umbrella of TEQIP-II the college have develop itself in manifold and still progressing is going at exponential level. Other than the development of the laboratories of the different departments some of the achievements gain under TEQIP –II at central level are:

- Campus wide networking.
- Twelve Smart classrooms are prepared.
- Whole campus is Wi-Fi.
- Whole campus is under CCTV Surveillance for security and safety of stakeholders.
- RO system for purification of saline water.
- Silent DG set for power backup.

- Development of a Computer Centre.
- 100Mbps leased line connection.

Following major initiative/reforms have been taken place during TEQIP-II

a. Under TEQIP –II Faculty enrichment have also been done at remarkable level.

S.No.	Participation in different faculty related activities	No. of faculty Members benefitted
1	International Conference	88
2	National Conference	195
3	Short Term Program/Faculty Development Program	258
4	Workshop	57
5	Management Capacity Enhancement Program	7
	TOTAL	**606**

b. Administrative Autonomy: Reconstitution of Institute's BOG as per TEQIP-II Guidelines.

c. Financial Autonomy: Financial power has been delegated as per project guidelines.

d. Academic Autonomy: To obtain academic autonomy from UGC New Delhi, as per procedure college has applied to affiliated university i.e. RTU, Kota for forwarding to UGC New Delhi. As per the guidelines framed by RTU Kota the institute has to complete 10 years of establishment for academic autonomy which would be completed in 2017.

e. Four Funds: To sustain the TEQIP-II activities even after completion of the project, four funds were created and 0.5% of the recurring expenditure of the institution has deposited in the each fund.

f. NBA Accreditation: Applied for NBA Accreditation for the following five eligible courses, the e-SAR is submitted and visit is due.

1. Civil Engineering 2. Electronics and Communication Engineering 3. Mechanical Engineering 4. Computer Science and Engineering and 5. Ceramic Engineering

2.1.2 The Major Activities which will cover under the TEQIP-III Project are given below:

- Strengthening of institutional infrastructure to produce high quality engineers for better employability.
- Introduction of new PG Programs in each department after NBA accreditation so that demand- driven research & development and innovation can be fulfilled.
- Training of faculty for effective teaching.
- Training of staff for improved competence.
- Enhancing institutional and system management effectiveness.
- Establishing linkages with industries.
- Empowering community through technological support.
- To establish the state of the art laboratories with the help of industries and through research, consultancy activities.
- Institute will exercise autonomy as accreditation for all eligible branches is executed.
- The Institution will provide extra GATE classes, personality development and career guidance for improving the academic performance of SC/ST/OBC/academically weak students through innovative methods. This GATE exam will support the pass out students for maintain the quality of the technical education as an exit exam.

The following team will carry out the TEQIP-III activities/implementation in the institute:

- Director of the Institute is the project Leader.
- There are TEQIP Nodal Officers looking after Procurement, Finance, Academic, Monitoring and Evaluation and MIS officer working under TEQIP Coordinator.

2.2 Provide an action plan with timelines for

(a) Improving the learning outcomes of the students

1. **Faculty training (qualification upgradation, subject upgradation & research competence, Pedagogical training, participation in conferences, seminars/workshops etc.)**
2. **Staff training (Technical & Administrative staff)**

Enhancing faculty and staff competence would receive focused attention under the project. The faculty development is closely linked to the overall goals of the institution and institutional proposal and coordinated with the proposed investment in equipment, learning resources and facilities. Faculty development needs to be carried out through the activities like qualification up gradation, subject knowledge and research competence up gradation, participation in seminars, conferences, workshops and pedagogical training. In order to identify the specific training needs of the various staff, Training Need Analysis (TNA) was conducted with all support staff, technical staff, administrative staff, faculty members, heads of departments and Director. Aligning with the institution's mission and vision, objectives and priorities, the training needs are listed for the various categories. Some of these programmes can be conducted in the institution as in-house programmes. And for the other programmes, the staffs are to be sent to reputed training organizations. The Training Need Analysis resulted in the identification of the following major domains for the different category of staff and faculty.

The table shows the action plan for three years of the program.

Category of Staff	Event	01/04/17 to 30/06/17	01-07-2017 to 30/09/17	01/10/17 to 31/12/17	01/01/18 to 31/03/2018	01/04/18 to 30/06/18	01/07/18 to 30/09/218	01/10/18 to 31/12/18	01/01/19 to 31/03/2019	01/04/19 to 30/06/19	01-07-2019 to 30/09/19	01/10/19 to 31/12/19	01/01/20 to 31/03/2020
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	7th Quarter	8th Quarter	9th Quarter	10th Quarter	11th Quarter	12th Quarter
Class IV	Skill Upgradation												
	Attitude and behaviour Training												
Technical Staff	Technical Skill Upgradation												
	Soft skill and behavioral skill. Communication and language skills. Team building, stress management Time management												
Administrative Staff	Accounting and use of Tally Software												
	Soft skill and behavioral skill. Communication and language skills. Team building, stress management Time management												
	Enterprise Management System												
	Autonomous system rules and regulations												
	Report writing and documentation												
Faculty	Sponsoring for Higher Qualification												
	Short and long term FDPs in specific fields												
	Computer programming skills												
	Use and Application of general statistical tools, like MATLAB/PHYTHON												
	Teaching Pedagogy training												
	Student Counseling and mentorship program												
	Research methodology and technical report writing												
	Soft Skills: stress and time management. Foreign language level												
	Funded Research Proposal preparation												
	Hand holding for attitude correction												
	Leadership training for senior faculty												
	Academic, Administrative training in autonomy												
	Humanities, social sciences and ethics training												

Principal and HODs	**Leadership training and team management short and long term FDPs in specific fields (as per annexure)**												
	Student Counseling and mentorship program												
	Advances in higher education methodologies at national and international levels												
	Budgeting, finance and management												
	Stress and time management												
	Project management and system integration												
	Foreign language level one to two												
	Soft Skills: stress and time management. Foreign language level												
	Overview of interdisciplinary technology trends												
	updates on higher education policy at state and national level												
	Strategic planning and quality policies in higher education												
	Technology management and forecasting, Alliance, merger and acquisition and collaborations in educational domain												
Governing body Members	**Overview of interdisciplinary technology trends**												
	Advances in higher education methodologies at national and international levels												
	updates on higher education policy at state and national level												
	HR rules and regulation (State and National)												
	Technology management and forecasting, Alliance, merger and acquisition and collaborations in educational domain												
	Alliance, merger and acquisition and collaborations in educational domain												

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

   College has applied for 3 PG programs in different departments in previous years, but due to the condition put up by AICTE for NBA accreditation, the college is unable to start the PG program. To fulfil the condition of NBA Accreditation, college has already applied for five eligible programs (1.Civil Engg. 2. ECE 3. ME 4. CSE and 5. Ceramic Engineering), the e-SAR is submitted and expert visit is due. College is expecting the NBA visit in due course of time. Once the PG program is started then the college will be in position to start Ph.D programme as per ATU norms. Also the college has planned its forthcoming activities according to NBA requirement so as to get the accreditation and start the new PG and UG programs at the earliest.

4. **Investing in smart classrooms, campus Wi-Fi (24*7 broadband connectivity and Wi-Fi access in all academic and administrative buildings and hostels (with a minimum of 2 MBPS speed for each connection)), e-library etc.**

   Institute will focus to invest for creation of infrastructures for above said facilities to achieve the objective of the project.

5. **Improving the academic performance of SC/ST/OBC/academically weak students through innovative methods, such as remedial and skill development classes, peer assisted learning for increasing the transition rate, non-cognitive skills and pass rate.**

   Being a Govt. Institution, it attracts all section of students of the country. To ensure equal opportunities for academically weak students in the institution, the Institute is committed for arranging additional academic support to academically weak students and SC/ST/OBC students to improve their academic performance. There is a good number of students with poor academic performance in other category also. By proper mentoring and continuous monitoring the academics of such students, the pass rate can be improved significantly.

The table shows the action plan for three years of the program.

Sl. No.	Activity	01/04/17 to 30/06/17	01-07-2017 to 30/09/17	01/10/17 to 31/12/17	01/01/18 to 31/03/18	01/04/18 to 30/06/18	01/07/18 to 30/09/218	01/10/18 to 31/12/18	01/01/19 to 31/03/18	01/04/19 to 30/06/19	01/07/19to 30/09/19	01/10/19 to 31/12/19	01/01/20 to 31/03/2020
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	7th Quarter	8th Quarter	9th Quarter	10th Quarter	11th Quarter	12th Quarter
1	Conduct remedial classes												
	Conduct evaluation of their studies through class tests												
3	Engaging the students by giving assignments												
4	Engaging the students for answering of university pattern questions												
5	Mentoring the most needy students												
6	Arranging External experts for counselling												
7	Conducting Soft skill training												
8	Arranging special coaching classes for improving their analytical, verbal and technical skill sets												

6. Institution academic and non-academic reforms including programme flexibility (Is there any need to revise the curriculum? When it was last revised?)

(a) **Academic Reforms:**

Presently, the college is affiliated to Rajasthan Technical University, Kota. The syllabus designing, paper setting, conduction of exams and award of degree is done by the affiliating university. The last update curriculum was in 2012-13 which shows the pace of updation of the syllabus is slow and low as per the industry requirement. Under TEQIP-III college will go for the Autonomy after fulfilling the desired requirements under which college will revise the syllabus for UG & PG programs which meet today's challenges and requirements of industry globally. With grant of autonomy under TEQIP, institute will be in position to introduce elective subjects in UG & PG Level as per market demand.

Once the institution gains the autonomy, all the reforms can be implemented.

The plans for implementing academic and non-academic reforms are listed as follows:

i. Introduction of credit based academic programmes.
ii. Generation, retention and utilization of IRG through various activities.
iii. Generation of repository of question banks for each subjects.
iv. Delegation of decision making powers to senior institutional functionaries.
v. Accreditation of UG programmes.
vi. Online method for performance appraisal of faculty by students.
vii. Establishment of Corpus, Faculty Development, Equipment Replacement and Maintenance Funds.

The table shows the action plan regarding academic reform for three years of the program.

Sl. No.	Activity	01/04/17 to 30/06/17 1st Quarter	01-07-2017 to 30/09/17 2nd Quarter	01/10/17 to 31/12/17 3rd Quarter	01/01/18 to 31/03/18 4th Quarter	01/04/18 to 30/06/18 5th Quarter	01/07/18 to 30/09/218 6th Quarter	01/10/18 to 31/12/18 7th Quarter	01/01/19 to 31/03/18 8th Quarter	01/04/19 to 30/06/19 9th Quarter	01/07/19to 30/09/19 10th Quarter	01/10/19 to 31/12/19 11th Quarter	01/01/20 to 31/03/2020 12th Quarter
1	Design development of curricula												
2	Introduction of new laboratory experiments												
3	ICT based e learning												
4	Improved student performance Evaluation												
5	Faculty performance feedback from students												
6	Faculty incentive for CE, Consultancy and R&D												

(b) Improving employability of the students

7. Increasing interaction with industry (What are the industries located in the vicinity? What role of industry is perceived for the institute?)

CET is located at the outer part of the city with extreme environmental conditions of Bikaner region. As far as industries are concern, Bikaner is having only the Ceramic and Woolen industries, that too at small scale. No large scale industry is there in Bikaner or nearby. As college is having the Ceramic engineering branch, for which Bikaner is a good helping hand for placement purpose of ceramic student's. Students of Computer, Electronics and Mechanical field have to approach capital city of Rajasthan or Delhi onwards for their training or off campus placements.

Action Plan for increasing interaction with industry:

CET Bikaner has signed MoU with ACECONE Ceramic Private Limited, ESCI Hyderabad, and ISOL. Efforts will be made for collaboration with more industrial and Institutes of Technical Excellence. An Industry-Institute interaction cell (IIIC) is established for purposeful interaction with industries

The table shows the action plan for three years of the program.

Sl. No.	Activity	01/04/17 to 30/06/17 1st Quarter	01-07-2017 to 30/09/17 2nd Quarter	01/10/17 to 31/12/17 3rd Quarter	01/01/18 to 31/03/18 4th Quarter	01/04/18 to 30/06/18 5th Quarter	01/07/18 to 30/09/218 6th Quarter	01/10/18 to 31/12/18 7th Quarter	01/01/19 to 31/03/18 8th Quarter	01/04/19 to 30/06/19 9th Quarter	01/07/19to 30/09/19 10th Quarter	01/10/19 to 31/12/19 11th Quarter	01/01/20 to 31/03/2020 12th Quarter
1.	Industrial visits												
2.	Signing of MoU with M/s industries and R&D organisations												
3.	Creation of 'Common Experts Group"												
4.	Increase number of industrial student projects												
5.	Joint activities with industry												
6.	Invited talks from Industrial persons												
7.	Undertake collaborative research projects												
8.	Offer consultancy service												

9.	**Introduce free elective subjects in curriculum**												

8. Student career counseling and placement

Provide state-of-the-art engineering equipment facilities in the laboratories to students for familiarising all possible classical and basic experiments. Provide Wi-Fi connectivity digital educational resources for enriching the students' knowledge in information in current state-of the-art. Monitoring and offering remedial classes for supporting the academic performance of weak students. Provide Soft skill training for more students in the institution. Organize programmes for exposing the students about various career options, higher studies, teaching profession, various core industrial establishments and R&D. Provide better computational facility to work on unsolved real world problems and encourage students for publishing of technical articles in leading journals. Encourage students to take part in technical competitions held in other institutions. Introduce more visiting executive programmes, so that the students will get opportunity to interact with the experts coming from outside.

Various activities envisaged for improving employability of graduates are as follows:

i. Procure state-of-the-art equipment's in the laboratories.
ii. Provide advanced computational facilities.
iii. Procuring advanced and classic learning resources including e-learning tools for strengthening the Library.
iv. Conduct remedial classes for academically weak students.
v. Conduct regular soft skill training programmes.
vi. Organise more visiting executive programmes.

The table shows the action plan for three years of the program.

Event	01/04/17 to 30/06/17	01-07-2017 to 30/09/17	01/10/17 to 31/12/17	01/01/18 to 31/03/2018	01/04/18 to 30/06/18	01-07-2018 to 30/09/18	01/10/18 to 31/12/18	01/01/19 to 31/03/2019	01/04/19 to 30/06/19	01-07-2019 to 30/09/19	01/10/19 to 31/12/19	01/01/20 to 31/03/2020
Procurement of machinery and equipment for all labs by 2018												
Setting up of a full fledged central computer facility with high speed internet connectivity by 2018												
Subscribe for national and international journals by 2018												
Organise visiting executive programmes under each department from 2017												
conduct regular remedial classes for the academically weak students from 2017												
Arranging industrial training for students from 2017												
conduct soft skills training programmes from 2017												

(c) Increasing faculty productivity and motivation

9. Sponsored research, consultancy and other revenue generating activities

Our institution is very much focused on every facet of Engineering Education – Teaching, Research and Consultancy. Under TEQIP one of the key priorities will be to develop culture for research and undertaking consultancy assignments in institution. The proposed steps in this direction are:-

1. Modernization of labs with state of art equipment's for high quality/demand driven research & development and publications. Full utilization of the major equipment would be accomplished by increase in research work and consultancy. Institute has identified some areas where research work can be started:
2. Creation of better learning infrastructure such as world class 24X7 operational computer facilities, campus-wide networking, smart class rooms.
3. High speed internet connection of bandwidth 1 Gbps to enable and support e-learning environment.
4. Introduction of new post graduate & doctoral programmes in the institution.
5. Periodic impact evaluation at institute level based on output parameters viz. improved quality of research, increase in research publications, patents, R&D performance, improved student learning (high quality graduates) etc.
6. More efforts will be made by the institution to increase internal revenue generation by way of consultancy, testing/certifications and sponsored research projects etc.
7. Efforts will be made to join/collaborate/associate with other research based organizations.
8. Amount collected through consultancy/training programmes will be remitted in the IRG fund. This fund will be used for the development activities and faculty development.
9. Encourage faculty as well as students to publish research papers.
10. Encourage faculty to undertake consultancy works under Government Departments as well as industries
11. Organize national and international level conferences on state-of-the-art technology.
12. Starting up of collaborative research projects with R&D organisations.
13. Explore funding from various state/national/international agencies for taking up research projects.
14. Create research fund from alumni, charitable organizations, prospective industries and professional societies like IEEE, CSI, ISTE etc for triggering research interest among UG students.

The table shows the action plan for three years of the program.

Event	01/04/17 to 30/06/17	01-07-2017 to 30/09/17	01/10/17 to 31/12/17	01/01/18 to 31/03/2018	01/04/18 to 30/06/18	01-07-2018 to 30/09/18	01/10/18 to 31/12/18	01/01/19 to 31/03/2019	01/04/19 to 30/06/19	01-07-2019 to 30/09/19	01/10/19 to 31/12/19	01/01/20 to 31/03/2020
Setting up of all infrastructure facilities by 2018												
Produce number of research publications by 20% every year												
Undertake consultancy works to increase IRG by 15%												
Organize national/international level conference by 2017												
Undertake collaborative research projects with research organizations by 2018												
Exploring funds from various agencies for undertaking research projects by 2018												
Generation of research funds by 20% every year from 2017												
Providing incentives for consultancies and participation in conferences for research publications												

2.3 Provide an action plan with timelines for

1. **Obtaining autonomous institution status from UGC**

   At present college is affiliated to Rajasthan Technical University, Kota, and Rajasthan. Under TEQIP –II College has already applied for Autonomy, both to the affiliating university and UGC, New Delhi. But as per the circular of the affiliating University, any college who wants the autonomous status has to apply after the 10 years of its establishment. And therefore the college will be eligible to apply for the autonomy in June 2017.

   Another option for the academic autonomy can be that the college becomes the constituent college of the University.

   If autonomy is granted than college have some specific plans in near future.

   i. Introduction of flexible curriculum with choice for electives.
   ii. Effective system for faculty evaluation by students.
   iii. Introduction of continuous evaluation.
   iv. Periodic revision of existing programmes and introduction of new courses

2. **Improving the NBA accreditation status**

   College have applied for all the eligible programs (1.Civil Engg2. ECE 3. ME 4. CSE 5. Ceramic Engineering), for NBA Accreditation and the e-SAR is also submitted. College is expecting the NBA visit in due course of time. Also the college has planned its forthcoming activities according to NBA requirement so as to get the accreditation and start the new PG & UG programs at the earliest

   After the visit of the NBA team, the college will go for self-assessment review if any of the program is not get accredited and will enhance itself in the lacking areas so as to get accreditation.

2.4 Describe the following in brief:

1. **Is any enhanced assistance / mentoring that the institution is looking forward from its ATU?**

   Yes, the Institute is looking forward from its affiliating University, RTU, Kota for assistance and mentoring both. Special focus will be given for accreditation purpose.

2. **Does your BoG need strengthening, if yes, then how?**

   Reconstitution of Institute's BOG as per TEQIP-II Guidelines has already been done, still college is planning to involve more industrialist and academicians so that they can give their valuable inputs in TEQIP and can help in entrepreneurship and placement activity too.

3. **Is there an ERP/MIS system existing, if yes, then any improvement, modification suggested.**

   No, Institute is planning to procure the same under this project.

4. **Is there any mechanism i.e. special classes being conducted in the institution for improving the GATE score?**

   Yes, College has developed in-house mechanism so that maximum students can qualify for the GATE exam. In this mechanism, from the initial level itself the students are involved in the preparation of GATE exam. In each semester students are motivated to learn and exercise the previous years GATE papers along with their subject in parallel to their routine classes of the semester. Apart from these the faulty refer the books to the students which are of high standards which cover the material related to GATE exams. It is important to strengthen the fundamentals through repeated practice. Practice will be adopted with faculty-student collaboration, so that the best students can help more people strengthen their fundamentals in collaboration with faculty.

2.5 Provide a Twinning Plan with a high performing institute with the objective of capacity building knowledge transfer and developing long term strategic partnerships. (Twinning plan will be formalized into Twinning agreement after finalizing the twinning partner).

IIT Bombay will be the twining partner and twining plan will be formalized after due discussion with twining partner.

Institute has also identified one of the current well-performing Govt TEQIP Institutes, COEP, Pune. Institute would like help from IIT Biombay or COE, Pune that Institute faculty will be trained in Laboraties.

2.6 Is there any difficulty in Recruitment and selection of high-quality faculty? If yes, what are the reason & action plan to solve the issue?

Yes, as on date there are many issues regarding the recruitment and selection of high quality faculty. Some of the observations made are as follows:

- **No salary head is given by the state Government due to which the faculty feels instability.**
- Probation period for the newly recruited faculty is two years in which they are offered the fixed salary which is approx. to initial basic pay of the scale. No allowances are given during this period.
- The environmental conditions of Bikaner doesn't attract the quality faculty.
- BOG is competent authority to recruit faculty but due to political reasons selection of good quality faculty in not exercise to some extent.
- **Central Govt./Mentor must intervene state Govt. to give at least salary head, so that Institute can hire best faculty and retain them for long period. Without this support Objectivities of TEQIP can't be achieved.**

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

In the years after the implementation of the project, the following needs will be attended:

- Motivating and Retaining Quality Staff
- General expenses for electricity, water and gas
- Materials for the use of the laboratories and instruments
- Maintenance of the laboratories
- Maintenance of the scientific equipment
- Systematic update and increase of purchased equipment.

The first three items on the list are considered in the budget and will require minor adjustments. With regard to the other items- maintenance and permanent updating of the equipment- the Institution is committed to integrate new technologies and improving the quality of the programs offered, which means that these aspects will be considered in future budgets.

Other than these college will generate the in-house revenue through various training, Consultancy and testing through the modernized Laboratories developed under TEQIP-III. Research based consultancy will boost up the IRG of the Institute.

And above all there will be a separate Fund to sustain the TEQIP-III Activities even after completion of the project, This fund will be created and some percentage of the recurring expenditure (8%) of the institution is deposited in the fund every year.

Institutional Commitments

The Institution is fully committed in implementing this project, its specific objectives and actions and in reaching the expected results. To this purpose, it will provide the necessary human and materials resources, including faculty time and administrative support. When fully implemented and after project closure, the Institution will support the necessary operational costs to assure quality academic services to the students. Being Govt. funded institution we also expect to receive encouragement & helping hand form the State government as provided to us from time to time in past. We are confident that with the right policy environment each one of these streams of activity will be sustained and even expanded beyond the life of the project.

2.8 Describe briefly the participation of departments/faculty/students in the IDP preparation.

At the outset, it should be mentioned that CET took initiative for the involvement of most of the faculty. Towards this, the Principal along with the Heads of the departments met and decided the nodal officers for various activities. The nodal officers along with the principal and the project coordinator visited each and every department and had a one to one discussion with the faculty briefing about the salient features of TEQIP- III. The nodal officers stressed the need to strengthen the Post graduate and Research activities in the Institution. They requested the faculty to participate actively in TEQIP- III, by giving proposals to start new PG Programs, MOUs with Industry, Interaction with the premier Institutes, etc. The proposals for starting new PG Programs received from the concerned HODs were scrutinized based on the available resources and were short listed depending on the merits, demand and possible sustainability of the program. Added to the above, research proposals from the faculty members

were sought. The faculty members were addressed by the Director, Principal & TEQIP Nodal Officers for encouraging more number of faculty members to involve themselves in research activities under TEQIP Phase III and its composition should be maintained as per the guidelines.

- Organizing workshops, symposia with joint participation of the industry.
- Encouraging engineers from industry to visit CET, Bikaner to deliver guest lectures.
- Arranging training for faculty members at industries for at least 2-4 weeks.
- Professional consultancy by the faculty to solve industrial problems.
- Sharing testing facilities between Industry and Institute.
- Joint research programmes and field studies on industrial problems.
- Visit of industry executives and practicing engineers to the institute for an express overseeing research facilities and laboratories, discussions and delivering lectures on industrial practices, trends and experience.
- Memoranda of Understanding between industries and institute to bring the two sectors emotionally and technically closer.
- HRD programmes for practicing engineers by the faculty.
- Visiting faculty /Professor from industry.
- R&D labs sponsored by industries at the institute. Scholarship/fellowship instituted by industries at the institute for students.
- Summer internship for students.
- Workshop on current /latest technology developments in the concerned areas of industries.
- Institute would like to have MoU with IIT Bombay and COE Pune for the said objectivities.
- The Major subjects have been identified where students feel difficulty , broadly they are RVST, MEMS, VLSI design, Electrical Machines, Power System Analysis, Control System, Theory of Computation, Embedded System, Mobile Computing, Digital Image Processing, AI, Vibration, Terbo Machinery, FEM, Quantum Mechanics,Statics probability & Theory, DMS etc.