

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME  
(TEQIP)**

**PHASE-III**

**INSTITUTIONAL DEVELOPMENT PROPOSAL  
for  
Sub-component 1.1**

**Institutional Development for Participating Institutions**

**INDIRA GANDHI ENGINEERING COLLEGE SAGAR (MP)**

## 1. INSTITUTIONAL BASIC INFORMATION

### 1.1 Institutional Identity

- Name and address of the Institution : INDIRA GANDHI ENGINEERING COLLEGE SAGAR (MP)  
JABALPUR ROAD, BAHERIA SAGAR (MP)  
PIN 470021
- Year of establishment : 1981
- Is the Institution AICTE approved? : YES  
Furnish AICTE approval No. :
- Type of Institution : Govt. aided
- Status of Institution : University Engineering Constituent Institution
- Name and Designation of Head of the Institution (Full time appointee) : Dr. D. R. Dubey  
In charge Principal and Professor of Civil Engineering.

### 1.2 Academic Information:

- Engineering UG 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	BE (Civil Engg)	UG	4	1981	24	200
2	BE (Mechanical Engg)	UG	4	1981	49	250
3	BE (Electrical Engg)	UG	4	1981	49	250
4	BE (Electronics and Comm. Engg)	UG	4	1981	49	250
5	BE ( Information Tech)	UG	4	1981	40	250

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

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

No. of programmes accredited: **NIL**

No. of programmes applied for accreditation: **one**

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

No. of Sanctioned Regular Posts														Present Status : Number in Position												Total Number of regular faculty in Position	Total Vacancies	Total Number of contract faculty in Position
														by Highest Qualification														
														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	R	C		15=(1-14)	16=(3+5+7+9+11+13)												
1	2	3	4	5	6	7	8	9	10	11	12	13																
63	6	0	5	0	13	0	0	0	1	0	0	0	25	38	0													

R=Regular, C=Contract

## 2. INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP) (Implementation period : April 2018- March 2023)

**2.1 Executive Summary of the IDP** Education for empowerment is a major thrust area in the current climate. IGEC, Sagar in its institutional development proposal for the next five years focuses on improving the academic success of the students, increasing learning outcomes and thus, employability. It is envisaged to make the institute more effective through strengthening of existing infrastructure and improvising quality of human resource. Introduction of more job oriented degree courses will attract young people particularly the sections of the public who find it difficult to access higher level engineering education. Use of information technology in various academic and administrative activities will optimise the institutional operating efficiency. The Strategic Development Plan of the Institute for 2018-2023 sets out realistic strategic proposals and goals to be implemented and achieved over the next five years, with the spirit of its core values of

- **Equity**
- **Innovation**
- **Transparency**
- **Efficiency and Team work.**

The SWOT methodology is used to draw up the strategic plan based on a process of discussion and involved all stakeholders including the teaching and support staff, industry personnel and existing and pass-out students and their parents.

The structure of the strategic plan is based on external and internal analyses of:

- The contextual scenario which directly or indirectly affects technical education;

- The operating scenario within which we interact with the immediate surrounding environment of educational supply and demand;
- The internal scenario of the institute and its organisational units.
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Based on the analysis carried out, an institutional strategy was formulated for the institute keeping in view its vision, mission and values. Strategic goals in terms of education, human resources & organisation and infrastructure are developed. An action plan was formulated keeping in view the Rashtriya Uchchatar Shiksha Abhiyan (RUSA) framework. Training need analyses was conducted as a strategic tool for identifying areas for effective human resource development and thus synergises various resources.

### **An action plan with timelines for :**

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

1. Faculty training (qualification up gradation, subject up gradation & research competence, Pedagogical training, participation in conferences, seminars/workshops etc.)

To carry out Training Need Analysis of the institute six different questionnaires were developed.

<b>Q. No.</b>	<b>Target group</b>	<b>Objective</b>
1	Heads of administrative and all academic departments of college	To assess general information related to infrastructure available in the college, status of post filled/ vacant, qualification of faculty and other staff etc.
2	All faculty and staff members of college	To identify the training needs of faculty and other staff in opinion of their immediate senior
3	Senior faculty and staff members of college	To identify the training needs of faculty and other staff in opinion of their immediate junior
4	All faculty and staff members of college	To identify training needs of employees of all cadres in opinion of their colleagues
5	Existing/ pass out students, parents, industry personnel, concerned with all disciplines	To collected information related to satisfaction level and expectations of students, industry persons and other stakeholders about various services provided by the institute
6	All faculty and staff members of college	To capture one's own perception of his/ her training needs

The information collected through such questionnaires is summarized under following categories.

- **WORK RELATED PROBLEMS**
  - Technical
  - Environmental

- Behavioral
- Motivational
- **NATURE OF REPEATEDLY OBSERVED WORK RELATED PROBLEMS**
- **MAJOR TRAINING NEEDS**
- **TRAINING NEEDS IF GIVEN OPPORTUNITY AT HIGHER LEVEL**

Finally above analysis was further converted in to training needs of the institution.  
**MAJOR TRAINING NEEDS**

**Faculties:**

<b>WORK RELATED PROBLEMS</b>			<b>MAJOR TRAINING NEEDS</b>
Environmental	Behavioral	Motivational	
Space related problems due to increase in student intake	Communication problems Mutual trust and Attitude Co-ordination	Lack of incentives Lack of appreciation and encouragement	<b>ACADEMIC</b> Industrial training Trainings and interactions with subject experts Industrial projects Research projects and paper presentations Refresher courses every year Developing learning resource material Workshop organisation <b>ADMINISTRATIVE</b> Administrative and financial management Project Management Record management Office procedure MIS and e-governance <b>COMPUTER APPLICATIONS</b> Competencies in operating computers, working with basic software's like MS Office(word, excel, power point) Advanced trainings in Computer applications and subject related software's Trainings for development of Projects and presentations. <b>INTERPERSONAL SKILLS</b> Training for developing inter personal skills Trust and Positive attitude Spoken English Quality consciousness Time and stress management Professional ethics and respect for individuals IPR- awareness and implications
Decreased ratio of sanctioned posts to student due to increase in student intake	Commitment Tolerance and patience		
Additional charges other than academic duties			

1. Staff training (Technical & Administrative staff)

**Supporting technical Staff**

WORK RELATED PROBLEMS			MAJOR TRAINING NEEDS
Environmental	Behavioral	Motivational	
Engaged in other duties Increased workload on available staff	Communication problems Attitude Co-ordination Comprehension and interpretation of instructions Commitment	Lack of incentives Lack of field exposure - Lack of appreciation and encouragement Lack of career advancement opportunities	<p><b><u>ACADEMIC</u></b> Industrial training Hands on experience in the field Trainings and interactions with subject experts Applied projects with industry involving junior staff and students Basic maintenance and upkeep of labs Refresher courses every year</p> <p><b><u>COMPUTER APPLICATIONS</u></b> Competencies in operating computers, working with basic software's like MS Office(word, excel, power point) Trainings in subject related soft wares MIS Computer typing General Computer maintenance</p> <p><b><u>INTERPERSONAL SKILLS</u></b> Training in developing written and verbal communication Training for developing inter personal skills Trust and Positive attitude Spoken English Quality consciousness Professional ethics and respect for individuals IPR- awareness and implications</p>
Engaged in other duties  Increased workload on available staff	Communication problems Attitude Co-ordination Commitment	Lack of incentives Lack of appreciation and encouragement	<p><b><u>COMPUTER APPLICATIONS</u></b> Competencies in operating computers, working with basic software like MS Office(word, excel, power point) MIS Computer typing General Computer maintenance</p> <p><b><u>INTERPERSONAL SKILLS</u></b> Training for developing inter personal skills Trust and Positive attitude Spoken English</p>
	Communication problems Attitude	Lack of incentives Lack of appreciation and encouragement	General upkeep of equipment's Health and hygiene Stress management Interpersonal communication

## Administrative staff

WORK RELATED PROBLEMS			MAJOR TRAINING NEEDS
Environmental	Behavioral	Motivational	
Engaged in other duties  Increased workload on available staff	Communication problems Attitude Co-ordination Commitment	Lack of incentives Lack of appreciation and encouragement	<b>COMPUTER APPLICATIONS</b> Competencies in operating computers, working with basic software's like MS Office(word, excel, power point) MIS Computer typing General Computer maintenance <b>INTERPERSONAL SKILLS</b> Training for developing inter personal skills Trust and Positive attitude Spoken English

## Class IV employees

WORK RELATED PROBLEMS			MAJOR TRAINING NEEDS
Environmental	Behavioral	Motivational	
	Communication problems Attitude	Lack of incentives Lack of appreciation and encouragement	General upkeep of equipment's Health and hygiene Stress management Interpersonal communication

## IDENTIFIED TRAINING AREAS

Training area	Freq.	Training area	Freq.
Office procedure	3	Advance Training for CAD-CAM	3
Record management	3	Training for CNC machines	3
Project Management	3	GPS / GIS techniques	3
Use of Computer	3	Earthquake prediction and related construction techniques	3
Guidance, counselling and monitoring	3	Latest versions of AutoCAD and 3DS MAX	3
Problem solving and decision making	3	Microprocessor and Micro controller	3
Effective Time management	3	Antenna	3
Managing People at work	3	Cloud computing	3
Working in a team	3	Dot net technologies	3
Laboratory Management	3	Computer network management	3
Library Management	3	Effective Use of Multimedia	3
MIS and e-governance	3	Advance Teaching Methodology	3
Maintenance of Equipment	3	Artificial Intelligent and Experts and	3
Induction Training Phase-I and Phase-II	3	Cyber Security	3
CONTENT UPDATING IN EMERGING AREAS	3	Research and Development / Conference, Workshop Organization	3
Circuit Simulation using Multimedia sim/CKT Maker	3	Providing Testing, Consultancy services and their marketing	3
MAT LAB Basic and Advance Programming	3	Continuous Student Evaluation (e-media design of self-evaluation )	3
ORCAD (P-spice Based Simulation)	3	Managing and Developing Credit based programmes	3

## 2.2 An action plan with timelines for :

- (b) Improving the learning outcomes of the students
  2. Faculty training (qualification upgradation, subject upgradation & research competence, Pedagogical training, participation in conferences, seminars/workshops etc.)
  3. Staff training (Technical & Administrative staff)
  4. Increasing capacity of UG, PG and PhD education (increasing enrollment and starting new UG, PG and PhD programs)
  5. 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.
  6. 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
  7. Instituting academic and non-academic reforms including programme flexibility (Is there any need to revise the curriculum? When it was last revised?)
- (c) Improving employability of the students
  8. Increasing interaction with industry (What are the industries located in the vicinity? What role of industry is perceived for the institute?)
  9. Student career counseling and placement
- (d) Increasing faculty productivity and motivation
  10. sponsored research, consultancy and other revenue generating activities

## 2.3 Action plan with timelines for

1. Obtaining autonomous institution status from UGC

**Autonomous status shall be sought after obtaining NBA accreditation for all its UG programs Then after a few PG programs shall be opened. Accreditation shall also be sought for these newly opened PG programs. Then Placements of the pass outs shall be ensured by improving quality of the pass out students. This process may take some 10 years time before our Institution becomes eligible for autonomous as per UGC norms.**

2. Improving the NBA accreditation status

**The teacher student ratio and the shortcomings in the Library shall be addressed first. Government is very keen to fill all the vacant positions of teachers and supporting staff. Principals post shall also be filled up by appointing a full-fledged principal. This may take a few years time as recruitment process is very slow. The infrastructure is coming up very fast as two new buildings of Mechanical and Electrical department shall be completed by dec 2017. After fulfilling all the norms of the NBA it is hoped that all the courses shall be accredited in three to four years of time with the current pace.**

## 2.4 Describe the following in brief:

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

**Our Affiliating Technical University (ATU) is Rajiv Gandhi Tech. University Bhopal which has more than 200 Engineering colleges under its umbrella. It can definitely assist us with regard to digital library and automation of our students section and office working**

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

**Yes ..Our BOG members are mostly Government personnel. Meetings are held at Bhopal most of the time which is some 180 Km away from here resulting in difficulties and very few meetings. Something should be done to hold frequent meetings at Sagar only. It may require some radical changes.**

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



**Yes.. There is an MIS system run and maintained by Directorate of Tech Education. The exchange of information through this system is very quick**

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

**No.Not yet at present. But it shall be done in near future when teachers strength improves.**

- 2.4 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).

**We shall talk to MANIT at Bhopal for assistance and we hope they shall cooperate for mutual benefits.**

- 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.. They are problem areas in finding and retaining quality faculty. The teacher student ratio currently is dismal. The Government has great plans to fill all the vacant positions of faculty and the Principals post in a few years.**

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

**The Project is sustainable after the different areas of weakness are strengthened. The IDP is a long term plan and the Institute shall resort to actions in accordance with the IDP. The Institute has already built a corpus fund to fulfil its objectives outlined in the IDP.**

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

**The Heads of the Departments of different departments collectively decided the IDP through a series of meetings.**