Annexure-7

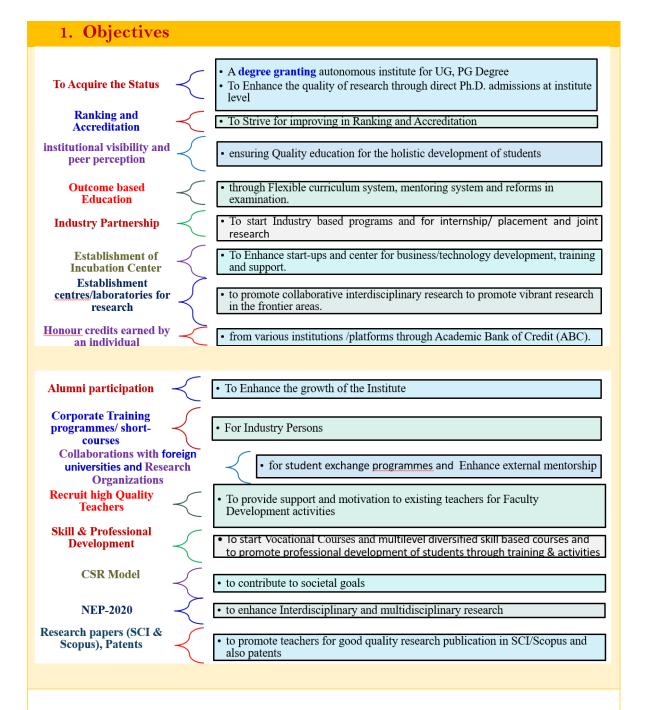
**Strategic Vision Plan and Rolling Implementation Plan** 



Madhav Institute of Technology & Science Gwalior, Madhya Pradesh-474005

# Index

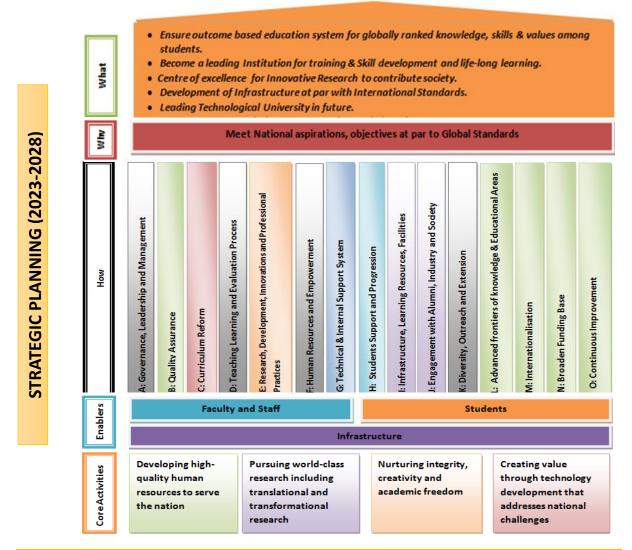
Sr. No.		Title	Page No.
1.		Objectives	03
2.		Goals	03
3.		Strategic Planning	04
4.		Fifteen Years Strategic Vision Plan with Five Year Rolling	
		Implementation Plan	
	(a)	Academic Plan	04-30
	(b)	Research Plan	30-38
	(c)	Infrastructure development Plan	38-43
	(d)	Governance & Administrative Plan	44-58
	(e)	Faculty Recruitment & Human Resources Empowerment Plan	58-61
	(f)	Students Admission Plan	62-69
	(g)	Proposed New Programmes	69-70
	(h)	Campus Information & Communication Technology Plan	70-75
	(i)	Finance Plan	76-78



#### 2.Goals

- Ensure outcome based education system for globally ranked knowledge, skills & values among students.
- Become a leading Institution for Education, Training, Skill development and lifelong learning in emerging areas of Science & Technology.
- Centre of excellence for Innovative Research to contribute Society.
- Development of Infrastructure at par with International Standards.

# 3. Strategic Planning



26. Fifteen Years Strategic Vision Plan with Five Year Rolling Implementation Plan

#### (a) Academic Plan

#### **Academics at Institute**

#### ➤ Flexible Curriculum

The Institute has been granted academic autonomy from RGPV, Bhopal (State Technical University) since 2002 and UGC has also given the autonomous status—from 2017. As a consequence, the curriculum is being revised on regular basis through the Board of Studies (BoS), which is confirmed by the Academic Council. The curriculum development is aligned with the local, regional, national and global needs and revision of curriculum also involves

feedback from various stakeholders. The curriculum is dynamic and the courses are as per the current market and industrial need.

The institute has implemented Flexible Curriculum (as per the AICTE model curriculum) from the academic session 2017-18 onwards and the institute has also concluded its action plan for the effective integration of National Education Policy 2020, with focus on skill development, creativity, innovation and holistic development. The curriculum offers the provision of Minor Specialization and Honors by additionally earning 20 credits through SWAYAM/NPTEL platform based courses. These courses are approved by the respective BoS and offered to the students who are opting degree with honours or minor specialization. Moreover, the arrangement of Departmental Elective and Open Category courses through SWAYAM/NPTEL platform with credit transfer is in place and under this arrangement, the total number of 20,123 Credits have already been transferred to the transcript of students. To ensure the holistic development of students, Novel Engaging Courses (with the arrangement of four credits in the overall UG programme) in diversified areas have been included in the curriculum such as - Environment protection, Bhagwad Gita- An Introduction. The curriculum also recognizes attainments in the co-curricular activities through credits under its "Professional Development" component.

Further, to ensure that the students have the required domain knowledge, skills and attitude following factors are considered:

- (i) Reports of various reputed organizations like NASSCOM, Sustainable Development Goals by UN etc.
- (ii) Model curriculum prescribed by AICTE,
- (iii) Mapping with Program Outcomes (PO),
- (iv) Suggestions by industry experts and alumni,
- (v) Syllabi of various competitive exams like GATE, IES, etc. Curricula addresses the following national missions: Digital India (Incorporation of MOOCs & digital pedagogy in the curriculum), Unnat Bharat Abhiyan, Women Empowerment, and Skilling India (provision of Skill Based Mini Project).

The provision to opt for Full Semester internship or major project in the final semester of UG programmes is in place. Many students have already completed their internships with good stipend and placement offer in the same industry after the internship.

The curriculum and relating practices are in line with the Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) of the various Programmes. The curriculum also includes recent technologies and the opportunities existing at regional and global level with all necessary elements.

The Institute observes the attainments of PEO, PO& PSO for respective programmes which in turn relates to Vision and Mission of the Institution and Department as well. The outcomes as stated have been integrated in curriculum and displayed on the Institute website to facilitate access to various stakeholders, including the teachers and students.

- The Board of Studies proposes the curriculum. The syllabi are continuously updated in consultation with experts from industry, academia, alumni and students, taking advantage of the academic autonomy from the affiliating university since year 2002.
- The curricular structure is prepared after rigorous discussions and pedagogical workshops, both conducted in-house as well as with external experts. Keeping in mind the national and international needs, desired graduate attributes, and guidelines such as United Nation's sustainable development goals (UN-SDGs), a balanced structure is proposed.
- There are course committees at the department to address each vertical/subdiscipline. A structured feedback system is in place. The Board of Studies (BoS) meetings followed by the Academic Council meetings are conducted twice a year. Before the meeting, feedback on existing curriculum is collected from stakeholders.
- All faculty members are the members of the BoS along with nominated experts from the state, outside the state, alumni and industry persons.
- The points related to the institute policy are included and circulated by the Academic Development Cell (ADC).
- All the courses are developed by identifying the specific course outcomes, which
  are mapped with the POs and PSOs. Shortfall in POs the attainment is backtracked
  to identify gaps in COs and curriculum is accordingly revised or new courses are
  developed
- The provision of 'Professional Development' is made by assigning 02 credits, evaluated at the final semester, for extra & co-curricular activities.
- Professional Ethics, Gender, Human Values, Environment and Sustainability, Project Management, Disaster Management, Indian Constitution & Traditional Knowledge are mandatory audit courses.
- About 78 different optional courses are also offered in 'Novel Engaging Course' category.
- For preparing future ready engineers, courses such as Cyber Security, Intellectual property Rights, Data Science, Artificial Intelligence & Machine Learning are mandatory courses.
- Interdisciplinary learning and flexibility is already included through the provision of DEs/OCs/Honours degree/Minor specialization. Students can earn minor specialization & Honours degrees in addition to UG degree by earning 20 additional credits
- There is a provision of full VIII semester internship at industry/research organization for making them job ready.

# > Teaching-learning and Evaluation

• In order to unburden the students from high stake end-term examinations, the weight of continuous evaluation is slowly being increased. Presently the ratio of continuous to end-term evaluation has been increased from 30:70 to 40:60.

- Continuous evaluation of theory course consists of 20% weightage to learning through quizzes and assignments, mini projects etc. and 10% each to two midsemester examinations. To promote modern tool usage, laboratory courses have a "Skill Based Mini Projects" component with 20% weightage and the other 20% weightage is given to lab-work/sessional.
- The Learning Management System, MOODLE (Modular Object Oriented Dynamic Learning Environment) is effectively used by faculty and students of the institute for teaching, learning and assessment purposes providing a student centric 'any-time-any-where' format of learning.
- MOODLE is also very effectively used for continuous and online end term evaluation, setting MCQ based question paper and conduction of exam.
- The lecture plans are prepared according to the 'Multiple Mode Teaching Learning Pattern' (MMTLP) developed by the institute. The lecture plan reflects the mode and pedagogical methods of teaching.
- The "Digital Teaching-Learning Action Plan" was prepared during the COVID period by customizing the PRAGYATA guidelines of Ministry of Education, (then MHRD), New Delhi to the scheme, scope and needs of engineering education.
- Some Department Elective and Open Category Courses are offered through MOOC platform (NPTEL/SWAYAM) and credits are directly transferred.
- MITS is a NODAL center of Virtual Labs (An Initiative of Ministry of Education under the National Mission on Education through ICT) from 21st July, 2020 onwards in association with IIT-Delhi. Some experiments are conducted in virtual mode also.
- The Examination Control System is automated resulting in extensive improvement in the efficiency and transparency of the whole process. Valuation is conducted digitally and answer books are displayed to the students.
- The examination reforms based on 'Outcome Based Education' have been implemented. The end-semester evaluation for theory courses is conducted in multiple modes viz, Pen & Paper, Assignment plus Oral and Multiple Choice Questions.

# Student Support and Mentoring

- The institute curriculum and practices are designed to achieve all three domains of learning; knowledge, skills & attitudes.
- The first two domains are addressed through curriculum, pedagogy and various academic activities, working in well-equipped laboratories, skill based projects and assignments.
- For the development of a good attitude and behavior, ethical conduct, team spirit
  and soft-skills there is provision of activity based learning through focused courses,
  presentations, proficiency evaluation, group learning and various activities in the
  campus which are organized by the students.

- The Institute has established Students Development Cell for promoting and organizing extracurricular and co-curricular activities. There are 65 student clubs on campus which are active year the round.
- There is a practice of conduction of 'Orientation Programs' at the onset of semester
  to brief them on 14-specific points related to academic, extracurricular and career
  related activities to be conducted during the semester. Separate support and
  sessions are conducted for the lateral entry students to address the curriculum gaps
  for transition to the degree programme.
- The slow learners are identified by the course faculty and regular remedial classes, extra assignments and quizzes are conducted for slow learners. Similarly, support is provided to the fast learners also.
- The institute follows a 'Mentor-Mentee System'. Besides this, personal counselling is given to students through a full time, qualified professional Student Counsellor.
- A number of sports and cultural activities/competitions are organized by the institute every year wherein the students play an important role in planning and organizing the activity.
- The institution also has a transparent mechanism for timely redressal of student grievances. Students are represented in several academic & administrative committees of the institute.
- In-house internship programmes are conducted mandatorily for students in first year and second year while internship support is provided to the third year students on a need basis.

# The academic plan for the next fifteen years

The academic plan for the next fifteen years for following activities/process is prepared considering the SWOC analysis, requirement of Quality Assurance agencies and NEP-2020 recommendation for the Holistic, Multidisciplinary, Value Based Education and Flexibility to learners.

- (i) Curriculum Reforms
- (ii) Examination Reform & Evaluation process
- (iii) Teaching Learning & Evaluation Process

#### (i) Curriculum Reforms

Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1	Curriculum Design & Development			Twice/Year	Dynamically
2	Introduction of new courses focused on employability/entrepreneurship/skill development		Introduced as open electives	Technology Based	
3	Revision of Syll Industrial Need	abus as per curren	t Societal &	Twice/Year by conducting	Continuous Improvement

		syllabus revision workshops	
4	Industry & alumni involvement in the program design and Curriculum	Direct & Indirect	Continues Improvement
5	A Balanced Structured Curriculum for attaining the Program Outcomes (POs) & Program Specific Outcomes (PSOs)	Implemented from 2017-18	Continues Improvement
6	Implementation of Academic Flexibility through Flexible Curriculum System	Implemented from 2017-18	To be continued
7	Curriculum Enrichment via audit courses	Implemented from 2018-19	Dynamically
8	Implementation of Feedback System to collect feedback from Students, Teachers, Employer & Parents for Curriculum development	Through Online feedback mechanism	To be continued
9	Conduction of Value-added courses to impart transferable and life skills	Implemented from 2017-18	Need Based
10	Provision of Internship (in-house/Industrial) in every academic year of study	In-House Summer Internship Program started in 2017-18 for I year & Industrial Internship is mandatory for II & IIII Year students, Provision of full semester Internship in final year with industry/ organizations	To be continued
11	Encouraging for Industrial Projects to solve the real time Industrial problems	Partial Financial Support for Industrial and Interdisciplinary projects	All Deserving

12	Reviev	v & Corrective measures on	The Cos, Pos and	Continuous
	implementation of OBE:		PSOs are	Improvement
		Mapping courses and the POs & PSOs.	prepared and	
		Framing COs for every course.	revised as per	
		Availability of COs embedded in the	NBA guidelines.	
		syllabi.	The attainment	
		Course Articulation Matrix (Mapping of	level of each COs	
		CLOs with COs) table.	is evaluated and	
		Program Articulation Matrix (Mapping of	corrective	
		CLOs with POs) tables.	measures are	
		Development of assessment tools and	taken for	
		processes used to gather the data upon	improvement in	
		which the evaluation of Course Outcome	attainment	
		is based.	levels.	
		Attainment of Course Outcomes of all		
		courses with respect to set attainment		
		levels.		
		Development of assessment tools and		
		processes used for assessing the		
		attainment of each of the POs & PSOs.		
		Evaluation of each PO & PSO.		
		Review and improvement in attainment		
		levels of Cos, Pos & PEOs.		

# (ii) Teaching Learning & Evaluation Process

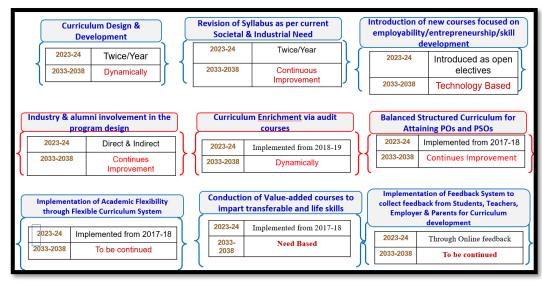
Years	2023-2028	2028-2033	2033-2038	Status	Intervention
Acaden	nic Reforms: Ac	lapting Cafeteria	a Approach against	the existing Rice	e-Plate Approach
1	Adherence to	academic Calen	ıdar	100%	To be continued
				adherence to	
				academic	
				calendar	
2	Learning Man	agement Systen	n: Effective	Up to 100%	100%
	teaching with	the use of e-lea	rning resources,		
	ICT tools & In:	stitute <u>MOODLE</u>	, <u>MOOCS,</u>		
	<u>SWAYAM</u>				
3	Teaching-lear	ning through IC	Γ enabled	100%	100%
	classrooms & Smart Class rooms			classrooms	
				are effective	

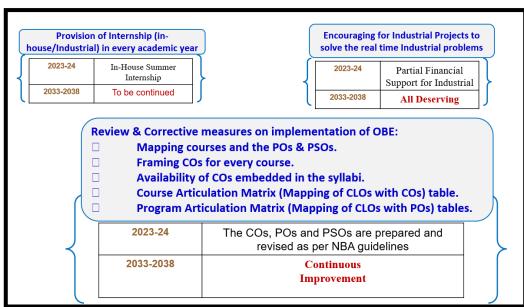
4	Pedagogical initiatives (real life examples, collaborative learning, ICT supported learning, interactive classrooms, e-resources & latest techniques)	Up to the level of 70%	100%
5	Effective Students mentoring system	Scheme is very effective since 2016	Enhance Effectiveness
6	Implementation of effective support system for weak students & to encourage bright students (identification, action taken, impact observed)	Up to 70%	100%
7	Student's feedback on teaching process and Corrective measures.	Online feedback system & actions accordingly. 02/Sem.	Enhance Effectiveness
9	Flexible Curriculum Scheme:  - Core Courses  - Electives and Open Elective Courses  - Inter-Disciplinary Courses  - Credit Transfer Provision for Online Courses including courses of foreign Universities  - Industry training/Course Crediting  - Add-on/Audit Course Crediting etc.  -NEC Novel Engaging Courses Provision of minor specialization & Honors	Implemented w.e.f 2017-18	Enhance Effectiveness
10	Assuring Quality of assignment and its relevance to COs (to promote self-learning, survey of contents from multiple sources, assignment evaluation and feedback to the students, mapping with the COs)	Implemented	To be continued
11	Question paper analysis based on HOT & LOT and gap analysis & corrective measures.	Implemented	To be continued
12	Developing mechanism for students grievances about evaluation	Manual System	Online System

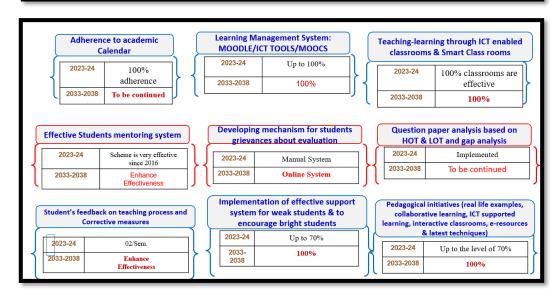
13	Digitization of Evaluation Process	Online	Complete
		Evaluation	Digitization
		System has	
		started w.e.f.	
		2017-18 as a	
		pilot project	
		& started as	
		complete	
		online	
		evaluation	
		from	
		2018-19	
14	Digital Examination Process	Objective	Subjective
15	Innovative practices for Identification of	Under	100%
	students projects and allocation	Progress	Implementation
16	Classification and relevance of the projects and	Under	100%
	their contribution towards attainment of POs	Progress	Implementation
	and PSOs		
17	Establishing Industry supported laboratories	SKF, IBM	01/ Program
18	Industry involvement in partial delivery of any	Under	Effectiveness
	regular courses for students	Progress	Enhancement

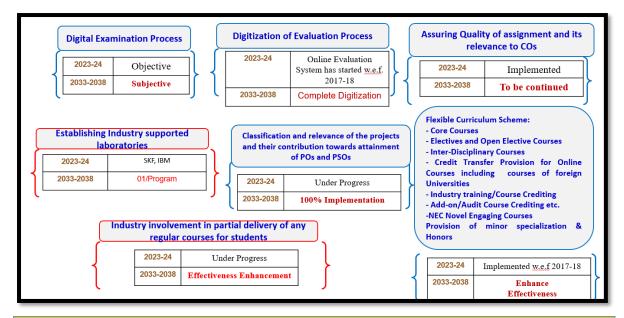
# (iii) Examination Reform & Evaluation process

Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1	Implementing effec	tive Process of i	nternal	Implemented	To be
	semester question p	paper setting an	d evaluation		continued
	(effective process o	f question papei	r setting,		
	model answers, eva	luation and its c	ompliance)		
2	Implementing effec	tive system to e	nsure the	Implemented	To be
	questions from outo	come/learning le	evels		continued
	perspective				
3	Implementing effective system to ensure			Implemented	To be
	evidence of COs coverage in class test/mid-				continued
	term test.				









#### **The Five Year Academic Plan**

Following academic provisions which are already implemented in the Institute are considered for the prepration of **Academic Plan for next five years (2023-2028):** 

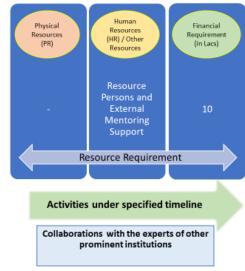
- Multidisciplinary Education: Provision of Minor Specialization
- Choice and Flexibility: Provision of Honours
- Cross Disciplinary Thinking: Open Courses
- Online Education: Credit Transfer Through SWAYAM/NPTEL/ MITS MOOCs
- Accessibility and Flexibility: Blended Teaching Learning
- Holistic Education and Informal Knowledge: Novel Engaging Courses
- Skill Development and Creativity: Skill based Projects
- Facilitation of Proficiency Development, Natural Science & Skill courses and Mandatory Audit Courses in scheme of study & examination
- In-house Internships for skill development
- Industrial/External Working Exposure: Full semester Internship
- All Round Involvement/ Professional Development: Extra Curricular Activities in the Curricula
- Moving Away from High-stake Examinations (unburden the students): Continuous and Comprehensive Evaluation
- Humanities and Arts Integration with STEM: Mandatory Value based Courses
- Innovative/Multidisciplinary Research: Research Internship
- Industry Readiness: Industry Collaborative Courses
- Industry Partnership Programmes: Industry Collaborated Degree Programmes
- Industry Readiness: Vocational Courses
- Enrichment of Faculty and Staff knowledge: Facilitation of Training
- Innovative Teaching, Learning & Assessment: Criterion Based Grading
- Cross Disciplinary and Interdisciplinary Thinking, Innovation: Interdisciplinary Projects

- Entrepreneurship: Skill based Courses in Local/Regional Language & Start-up Activities
- Future Skill Areas and Innovative Domains: New UG Programmes in Diversified
   Domains as per Societal and Industrial Need
- Certificate Courses in Future Skill Areas and Innovative Domains
- Industry Executive Training: Courses for Industry Persons
- Outcome Based Education as per NBA guidelines
- Degree with Research to offer Flexibility and Choice
- Multiple Entry & Exit Option
- Academic Bank of Credit (ABC) for Accountability of Credits Earned Through Various Platforms
- Open Distance Learning (ODL): provision for Courses and Grades Acquired Through Distance Learning

Attributes	Strategies
Multidisciplinary	Provisioning of Minor Specialization through additional
Education	credits

# Multidisciplinary Education: Minor Specialization



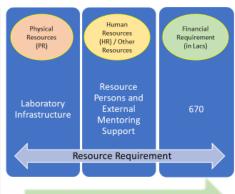


#### **Choice and Flexibility**

#### **Provisioning of Honours through additional credits**

#### **Choice and Flexibility: Honours**





Activities under specified timeline

Collaborations with the experts of other prominent institutions

# **Cross Thinking**

Disciplinary

**Provisioning of Open Courses (from other disciplines)** 

# **Cross Disciplinary Thinking: Open Courses**





Activities under specified timeline

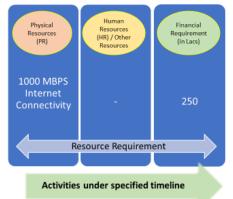
MoUs with other institutions/ universities of multidisciplinary nature

#### **Online Education**

- Provisioning of MOOC based courses from various learning platforms / other institutions
- Credit transfer facilitation through MOOC based learning platforms / other institutions
- Development of Institutional MOOCs for credit transfer

#### Online Education: SWAYAM/NPTEL/MOOCs

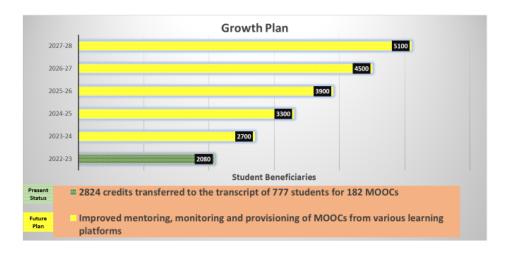


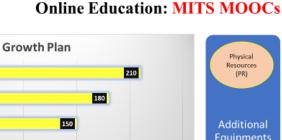


--High bandwidth Internet connection availability

--Provisioning for course registration / examination fee support to bright students

#### Online Education: Credit Transfer Through SWAYAM/NPTEL/ MOOCs





Development of MOOCs

Present MOOCs developed

90

Future Coverage to maximum "open category courses" for multidisciplinary orientation

120



Activities under specified timeline

--Training to faculty and staff for development of MOOCs --Incremental Operating Cost (IOC)

Accessibility and Flexibility for Teaching Learning

2027-28

2026-27

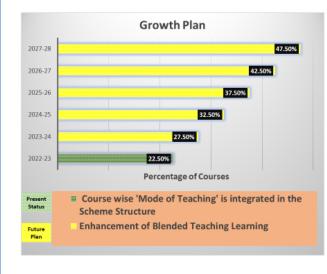
2025-26

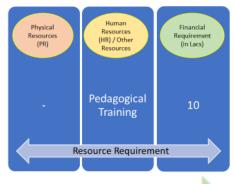
2023-24

2022-23

Provisioning of Blended Teaching Learning under various modes of Teaching Learning, as per the nature of the course

# Accessibility and Flexibility: Blended Teaching Learning





Activities under specified timeline

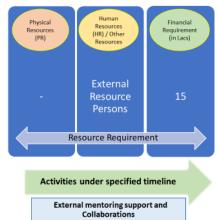
Training support to faculty members

Holistic and Multidisciplinary Education, Knowledge of Many Arts" or "Liberal Arts", Integration of all branches of Creative Human Endeavour

- Provision of "Novel Engaging Courses" through mentoring system
- External mentoring from various other institutions

#### Holistic Education and Informal Knowledge: Novel Engaging Courses



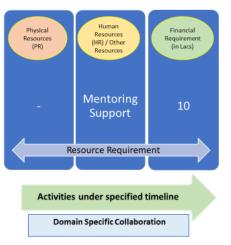


# Skill Development and Creativity

• Provision of Skill based Projects for effective learning

#### Skill Development and Creativity: Skill based Projects

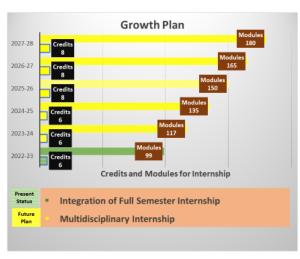


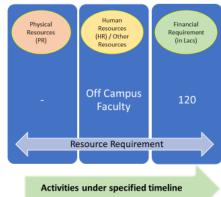


Industrial/External
Working Exposure
through Internship

- Provision of full semester Internship with industry/ organizations
- Scope enhancement (inclusion of SMEs, businesses artists, craft persons etc. for the enrichment of external working environment)

## Industrial/External Working Exposure: Internship





Off Campus Faculty resource on part-time basis (for mentoring and monitoring at various internship locations)

All Round involvement

 Inclusion of Extra Curricular Activities and attainments in the Curricula through credits (Professional Development)

#### All Round Involvement: Extra Curricular Activities in the Curricula



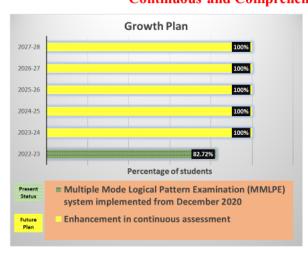


Activities under specified timeline

External Mentoring Support through MoUs with universities and institutions for specific areas Move Away from high-stake examinations (unburden the students)

- More continuous and comprehensive evaluation
- Implementation of Multiple Mode Logical Pattern
  Examination (MMLPE) System
- Emphasis on internal assessment and evaluation through well structured mechanism

# Moving Away from High-stake Examinations (unburden the students): Continuous and Comprehensive Evaluation





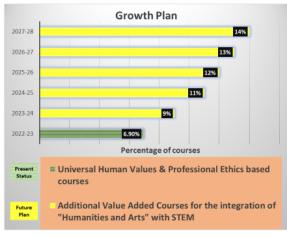
Activities under specified timeline

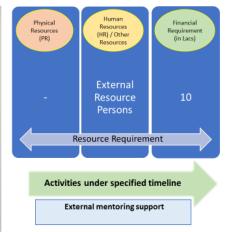
Training on Exam reforms and ICT Tools for digital evaluation and assessment

Integration of "Humanities and Arts" with STEM: Science, Technology, Engineering and Mathematics as STEAM

- Provision of Mandatory Value based Courses for positive learning Outcomes
- Enhancement of scope by provisioning more value based courses, as per NEP 2020

#### Humanities and Arts Integration with STEM: Mandatory Value based Courses





# Innovative Multidisciplinary Research

- Promote research activities by extending support to Research Assistants (RAs)/ students/ faculty members
- Provision for Research Internship for active engagement of students with the practical side of their learning

## Innovative/Multidisciplinary Research: Research Internship



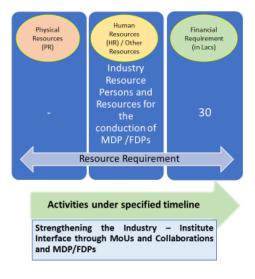


#### **Industry Readiness**

- Provision of Industry Collaborative Courses
- Provision of Industry Partnership Programmes
- Provision of Vocational Courses

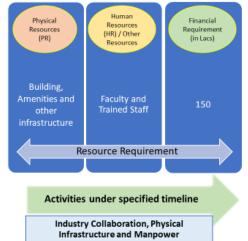
#### Industry Readiness: Industry Collaborative Courses



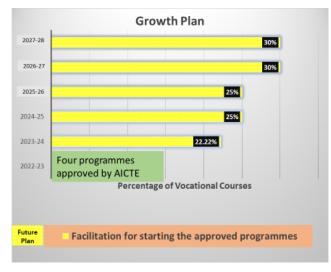


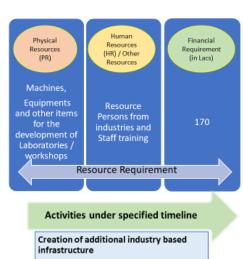






## **Industry Readiness: Vocational Courses**

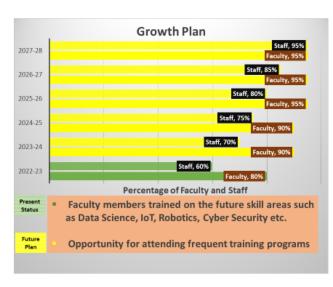


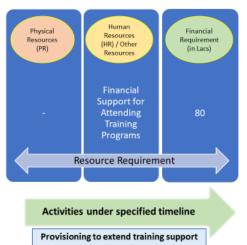


# Facilitation of Training and Innovative Teaching, Learning & Assessment

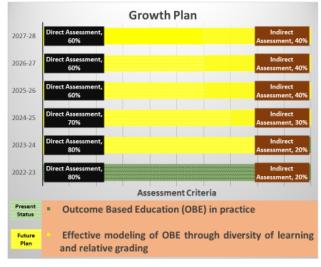
- Training of faculty members and technical staff for enrichment of their knowledge
- Adoption of Criterion Based Grading
- Diversity of learning methods to be included for more effective modeling of Outcome Based Education (OBE) Model

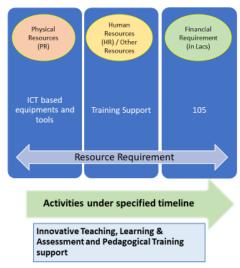
#### Enrichment of Faculty and Staff knowledge: Facilitation of Training





#### Innovative Teaching, Learning & Assessment: Criterion Based Grading



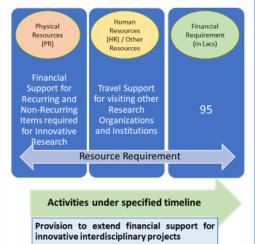


Cross disciplinary and Interdisciplinary thinking, Innovation

Focus on Interdisciplinary Projects

# Cross Disciplinary and Interdisciplinary Thinking, Innovation: Interdisciplinary Projects

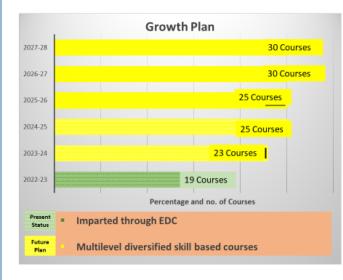


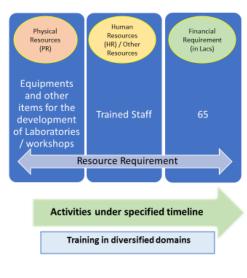


Promote
Entrepreneurship, Startup activities

- Provision of Skill based Courses in Local / Regional Language
- Facilitation for Incubation Center, Start-up and Business Development training and support

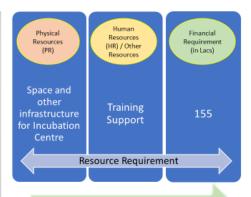
#### Entrepreneurship: Skill based Courses in Local/Regional Language











Activities under specified timeline

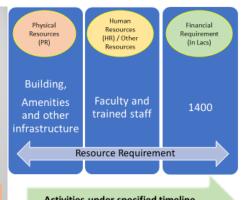
Facilitation for Incubation Center, Startup and Business Development training and support

**Future Skill Areas and Innovative Domains** 

- Introduction of new Programmes in emerging areas
- **Provision of Certificate Courses**
- **Provision of courses for Industry Persons (industrial** executives / manpower)

## Future Skill Areas and Innovative Domains: New UG Programmes in Diversified Domains as per Societal and Industrial Need



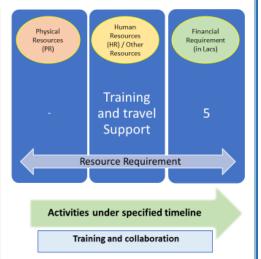


Activities under specified timeline

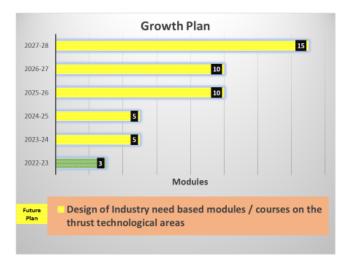
Infrastructure and resources (equipments, items, computing facility etc.)

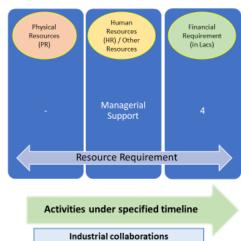






# **Industry Executive Training: Courses for Industry Persons**

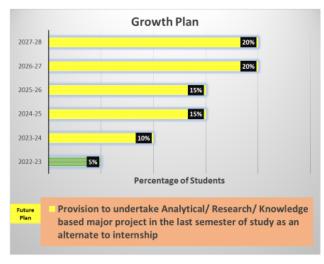


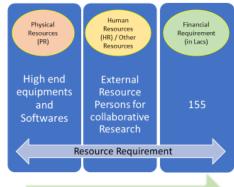


Degree with Research at UG Level

 Provisioning of Research oriented major project for the award of UG Degree with Research

## Degree with Research: Flexibility and Choice





Activities under specified timeline

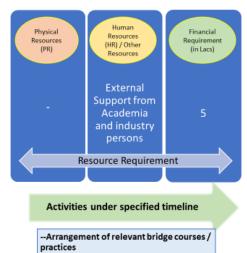
Collaborations with research organizations for external support and mentoring

Multiple Entry and Exit Options

 Provisioning to offer certificate, diploma & Bachelor degree for enhanced choice and flexibility

## Multiple Entry and Exit Options: Flexibility and Choice





practices
--Ordinance amendments required

**Promote Education** through Open Distance Learning (ODL)

Provision for the courses and Grades (with credit transfer) through Distance Learning

# Open Distance Learning (ODL): Courses and Grades Acquired Through **Distance Learning**





Activities under specified timeline

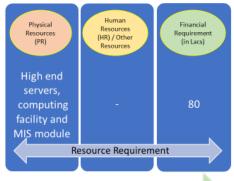
Collaborations with the institutions of repute for courses in Open Distance Learning (ODL) mode

Academic Bank of Credit (ABC)

Accountability of Credits earned by an individual from various institutions /platforms

## Academic Bank of Credit (ABC): Accountability of Credits Earned **Through Various Platforms**





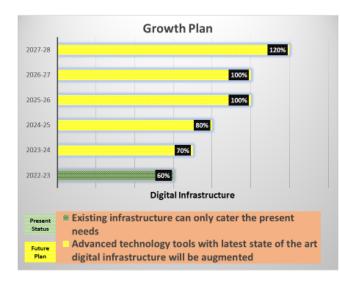
Activities under specified timeline

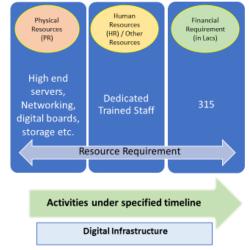
**Dedicated Machines / High End Servers** and specific MIS module

# Digital Infrastructure: Enhancement of Capability and Capacity

- MOOC Development Centre, Smart Class Rooms
- Arrangement of advanced technology tools with latest state of the art digital infrastructure

# Capability and Capacity Enhancement: Digital Infrastructure





## (b)Research Plan

- Institute has a well-defined Research Promotion Policy which is disseminated through its website. The Institute has an established Research Committee to promote and encourage research among students and Faculty. Support is provided to faculty members in applying for research projects offered by different funding agencies.
- There are about 100 scholars working in different domains of engineering and science.
   Institute has created an ecosystem for innovation, creation, and transfer of knowledge by establishing R&D cell, MOUs with industries.
- Research scholars undergo a rigorous coursework and their progress is monitored regularly through the Research Advisory Committees. Scholars are required to publish minimum two papers in the area of their research before submission of the thesis.
- Technical events such as quizzes, projects exhibitions, paper presentations, posters, etc. are organized to showcase talents of students. The Institute organizes FDPs, STTPs, Technical Workshops, Seminars, and National and International Conferences on a regular basis.
- The faculty qualifications are good and many of them have good exposure and research
  collaboration with institutes of repute and due to being on the expert panels of Central
  Agencies like the NBA, UPSC etc.
- During the last five-years, faculty members at Institute have published more than 400 research articles in different journals and conference publications. In order to create a

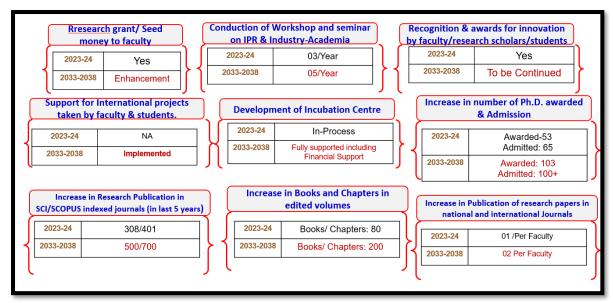
- research culture among students and faculty, the institution has collaborations with about 400 plus industries/organizations.
- Research grants of more than 3 Crore were received from various agencies for research projects. About 80 workshop/awareness programmes were conducted on Research Methodology, Intellectual Property Rights (IPR), Entrepreneurship and Skill development.
- More than 100 books and chapters in edited volumes/books were published and around same number of papers were presented in national/international conferenceproceedings.
- Revenue of around Rs. 1.0 Crore was generated from consultancy during the last five years. More than 100 extension and outreach activities were carried out by the Institute through NSS/NCC.
- More than 500 collaborative activities are carried out for research, faculty/student exchange and industry Internships. 25 plus active collaborations and MoUs have been in action with industries, government and research organizations in India.

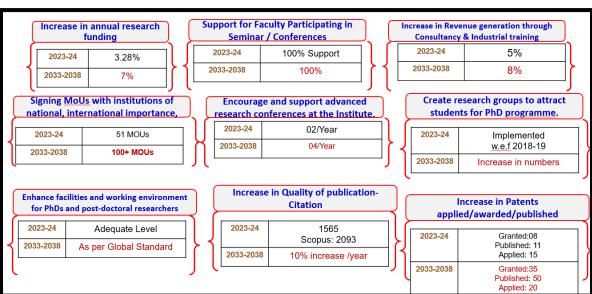
## Fifteen Year Research Plan

Resea	Research, Development, Innovations & Professional practices					
Year	2023-2028	2028-2033	2033-2038	Status	Intervention	
1	_	earch grant/ Seed ovative research	money to	Implemented	Enhancement	
2	Recognition & support to faculty for national/international fellowship for advanced studies/research			Yes	Enhancement	
3	Recognition & support to faculty for receiving Research & development funds from various agencies, industries and other organizations (minor, Major, interdisciplinary, industry supported projects)		Yes	Enhancement		
4	Support for In	novative Student	s projects	Partially	Fully Deserving	
5	Support for International projects taken by faculty & students.		NA	Implementation		
6		f Workshop and s y-Academia Innov		03/Year	05/ Year	

7	Recognition & awards for innovation by	Yes	To be continued
	faculty/research scholars/students		
8	Development of Incubation Centre	In-Process	Fully supported
			including Financial
			Support
9	Promotion for Start-up incubated on	In-Process	Fully supported
	campus to commercialise research		including
	innovations annually		Financial
			Support
10	Increase in number of Ph.D. awarded &	Awarded-53	Awarded: 103
	Admission	Admitted: 65	Admitted: 100+
11	Increase in Research Publication in	308/401	500/700
	SCI/SCOPUS indexed journals (in last 5		
	years)		
12	Increase in Books and Chapters in edited	Books/	Books/
	volumes	Chapters: 80	Chapters: 200
13	Increase in Publication of research papers in	01 /Per Faculty	02 Per Faculty
	national and international Journals &		
	conference proceedings/Year		
14	Increase in Quality of publication-Citation	Web of Science:	10% increase
	Index of Faculty Members ( Last five year	1565 Scopus: 2093	per year
15	Web of Science & Scopus Index)	·	Crontod:25
15	Increase in Patents	Granted:08 Published: 11	Granted:35 Published: 50
	applied/awarded/published	Applied: 15	Applied: 20
16	Support for Faculty Participating in Seminar	100% Support	100%
10	/ Conferences	100% Support	100%
17	Increase in Revenue generation through	5%	8%
	Consultancy & Industrial training	370	370
18	Linkage with Institutes/industries for	Initiatives taken	Effective
	internship, on-the job training, project		implementation
	work, sharing of research facilities along		
	with Faculty & Students exchange program		
19	Signing MoUs with institutions of national,	51 MOUs	100+ MOUs
	international importance, other institutions,		
	industries, corporate houses.		

20	Motivating research and development	Initiatives taken	Effective
	leading to technologies with immediate	by framing	implementation
	societal value (water, energy, housing,	research groups	
	healthcare, education, etc.)	of faculty	
21	Establishing research centres of excellence	NA	01 /Year
22	Establish mechanism to support high impact	Implemented	All Deserving
	research through an annual call for	w.e.f 2017-18	
	proposals and a process for identification of		
	thrust areas.		
23	Encourage formation of multi-disciplinary	Developed	Effectiveness
	research centres in high potential areas.		Enhancement
			with induction
			of students with
			faculty of other
			institute
24	Proactive and flexible mechanisms to	Under Process	Effectiveness
	attract high quality faculty and researchers		Enhancement
25	Create research groups to attract students	Implemented	Increase in
	for PhD programme.	w.e.f 2018-19	numbers
26	Encourage and support advanced research	02/Year	04/Year
	conferences at the Institute.		
27	Enable PhD student exchanges with partner	Under process	Effective
	international universities.		Implementation
28	Enhance facilities and working environment	Adequate Level	As per Global
	for PhDs and post-doctoral researchers.	·	Standard
29	Enhancing Placement activities and	Adequate Level	 Effectiveness
29	dedicated PlaceComm Cell to promote and	Adequate Level	Enhancement
	enhance PG & PhD placements.		Lilliancement
30	Increased publications per faculty, citations	Adequate	As per NIRF
30	per faculty, citations per paper	Aucquale	As her MILL
24		2 200/	70/
31	Increase in annual research funding.	3.28%	7%
32	Initiate Joint Academic Courses in	Under Progress	Implemented
	Medicine/Healthcare/Agriculture/physical		
	education in collaboration with other		
	institutions.		



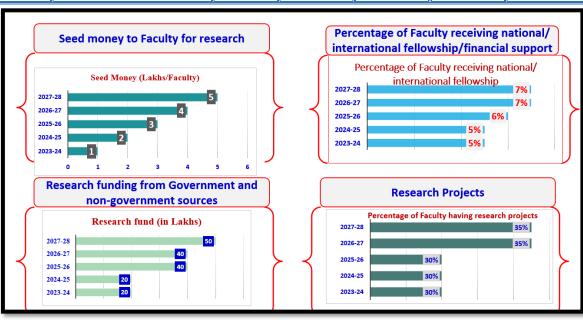


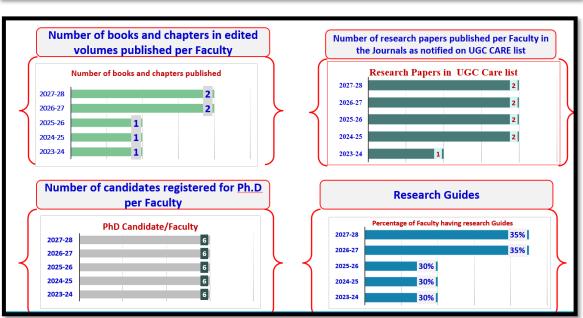
#### Five Year Research Plan

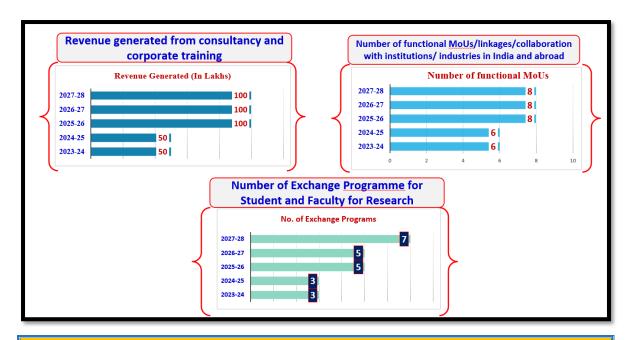
S. No.	Parameter	2023-24	2024-25	2025-26	2026-27	2027-28
1.	Seed money to Faculty	Up to 01	Up to	Up to 03	Up to 04	Up to 05
	for research	Lacs/	02Lacs/	Lacs/	Lacs/	Lacs/
		Faculty	Faculty	Faculty	Faculty	Faculty
2.	Percentage of Faculty	05%	05%	06%	07%	07%
	receiving national/					
	international					
	fellowship/financial					
	support by various					
	agencies for advanced					
	studies/ research					

3.	Research funding from	20 Lacs	20 Lacs	40 Lacs	40 Lacs	50 Lacs
	Government and non- government sources					
4.	Percentage of Faculty having research projects	30%	30%	30%	35%	35%
5.	Percentage of Faculty recognised as research guides	30%	30%	30%	35%	35%
6.	Number of candidates registered for Ph.D per Faculty	06	06	06	06	06
7.	Number of research papers published per Faculty in the Journals as notified on UGC CARE list	01	02	02	02	02
8.	Number of books and chapters in edited volumes published per Faculty	01	01	01	02	02
9.	Bibliometrics of the publications during the last five years based on Scopus/ Web of Science – h-index of the Institution	20	20	20	20	20
10.	Number of functional MoUs/linkages/collab oration with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research	06	06	08	08	08

11.	Revenue generated	50 Lacs	50 Lacs	100 Lacs	100 Lacs	100 Lacs
	from consultancy and					
	corporate training					
12.	Number of Exchange	03	03	05	05	07
	Programme for					
	Student and Faculty					
	for Research					







#### **Identified Research Domains**

Adhoc Network

Al applications to Electrical Power

Systems

**Bio- Medical Instrumentation** 

**Bio Signal Processing** 

Biomaterials

**Biomechanics** 

**Biometrics** 

Catalysis

Cement

**Communication Engineering** 

**Composite Materials** 

**Computational Fluid Dynamics** 

**Computer Networks** 

Computer vision and machine learning

**Condition Monitoring** 

Construction Technology & Management

Control systems

Cryptography

**Data Mining** 

Data Science

Data Science using Python

Data Structures,

**DBMS** 

Deep learning

Differential equation

Computation

**Digital Communication** 

Maintenance Management

Marketing Management

Mathematical Modelling in ecology

Mechanical Behaviour of Materials

Mechanical system Design

Medical Image Processing

Microfluidics

Microwave Engineering

Modeling & Simulation

Molecular Biology

Multilevel Inverters

**Nanoelectronics** 

**Network Security** 

**Number Theory** 

Numerical Method

**Optical Communication & Networking** 

**Optimization Techniques** 

Performance and Economic Analysis

**Power Quality** 

**Power System** 

Power System Operation & Control

Product Design

**Production & Operation Management** 

Production & Manufacturing

Psychoanalytical Approaches to English Fiction

**Quality Assurance** 

Renewable energy

Digital modulation

Digital Signal Processing EEG Signal Processing

Electric Vehicles
Antenna Designing

Energy

**Energy Auditing and management** 

Engineering Materials
Environmental Engineering
Finite Element analysis

Fluid Dynamics

Fuzzy logic

Geotechnical engineering Grid Connected Systems

**Hesitation Mining** 

**High Performance Computing** 

**HRM OB Operations** 

Hybrid evolutionary computing Hybrid renewable energy systems

Image and Signal Facing

**Image Processing** 

Impact and blast resistant structures

Information Security

Integration of Renewable Energy
Intelligent Computational Techniques

Internet of things (IoT)

Repair and seismic retrofitting and strengthening of

structures Security

Sentiment Analysis
Separation Processes

signal Processing

**Smart City** 

Soft Computing Application

Solar Energy

Solar Rooftop PV systems Solid Waste Management

Special Functions
Speech Recognition
Spray Forming

Stress and Vibration analysis

Structural Engineering

Structural Response Control

supplementary cementitious materials

System Reliability
Technical Education
Thermal Engineering

Toxicology and Environmental Engineering

Tribology and Maintenance Ultra-high performance concrete

Urban Planning VLSI Design

Water Resource Engineering

Welding Technology
Wireless Networks

# (c)Infrastructure Development Plan

- The Institute is spread over an Area of 44.6 acre which is lush green and has an aesthetic landscape.
- The Institute constantly endeavors to provide quality education and ensure all round development of students.
- The Institute has well maintained adequate number of class rooms, laboratories, computing equipments well beyond the regulatory guidelines conducive for teaching learning activities.
- The Institute has total 59 number of class rooms including seminar halls, conference halls and studios which are well equipped with ICT Audio Video facilities like Smart LCD Projectors, Wi-Fi LAN enabled etc. which help teachers and students to share their ideas among themselves.
- The Institute has total of 68 number well equipped laboratories including computing labs in all the departments to provide hands-on experience to the students, some

- of the laboratories are equipped with ICT facilities. Virtual labs are also developed for lab classes.
- A total of 615 computers are available exclusively for student usage. Apart from these, computers and laptops have been provided to the departments for faculty usage.
- The computing facilities include licensed software's and also open software's are being used as per the curricula requirements. Some of the licensed software's are ANSYS, MATLAB, PS CAD, Proteus Design Suite, Office Pro Plus 2016, SQL Server ST2016, Turnitin (for plagiarism checking) etc.
- The Institute has internet connectivity via lease line of 100 MBPS from NKN and 100 MBPS from IshanNetsol.
- The entire campus is Wi-Fi enabled with 24/7 internet facilities to the students and staff. The Institute has following servers available: HP Xeon 8 Core (2.10 GHz), Intel Xeon E5-2603v3 (1.6 GHz) State —of —art MOOC development centre has been established in the Institute where in faculty members develop their MOOCs.
- The Institute has its own MOODLE server since 2017 to facilitate E-learning, evaluation including conduction of Mid Semester & End Semester Exams (MCQ based type). NPTEL local chapter has been established since 2017 to provide elearning through MOOC courses.
- There is a shop for Xerox and stationery within the campus to cater to the needs of students.
- There are 01 Boys Hostel & 03 Girls Hostel functional in the Institute at the moment which are equipped with facilities including mess etc.
- As per the Vision of Institute, the Institute has created administrative block, Academic Infrastructure & amenities. Presently, Construction of one additional Academic Block is also under progress to accommodate the need of increased intake of students in future.
- In the last three years, augmentation in physical infrastructure, equipment, library & Digital Teaching-Learning facility is done to ensure the need arisen due to increase in intake, market demand for emerging areas of Technology & Covid-19 pandemic challenges.

**Methodology to ensure adequacy of Teaching-Learning Infrastructure & Facilities:** Every year, before commencement of next financial year, a need based analysis is done by every department & section to identify the additional requirement for teaching-learning infrastructure considering following:

- AICTE Norms
- Recommendation of BoS
- Removal of obsolesce as per current Technological Demands
- Students strength/Intake
- Feedback received from Stakeholders
- Perspective Plan of Institute

- Budget constraints (if any)
- Guidelines of Quality Assurance Bodies like NBA, NAAC etc.

The proposals received from various Departments/Sections are compiled at Institute level for the review and approval of Infrastructure committee of BoG. The recommendations of Infrastructure committee are further reviewed and approved in the Finance/BoG meeting for budgetary provision in next financial year.

Teaching-Learning Facilities in the Institute:

The Institute has twelve Departments namely Civil Engineering, Electrical Engineering, Mechanical Engineering, Electronics Engineering, Computer Science & Engineering, Information Technology, Chemical Engineering, Architecture & Planning, Management, Mathematics & Computing, Applied Science & Humanities. In all the departments & central level following facilities are provided as per AICTE standards and curriculum needs:

**Classrooms:** As per AICTE guidelines on area requirement, Institute has developed adequate number of well-furnished, well ventilated, classrooms equipped with ICT facility. **Laboratories:** All the laboratories are established as per AICTE norms & equipped with equipments, machines, software and computing facilities according to BoS recommendations on curriculum for the conduction of experiments/practical's to ensure achievement of lab course outcomes. Laboratories are also utilized for mini & major projects, skill based component as a part of teaching & contents beyond the syllabus. The virtual labs are also developed for online lab classes.

**Seminar Hall/ Tutorial rooms:** The Institute has multiple seminar Halls & Tutorial for presentations, various expert talks, group discussions, tutorial & remedial classes.

Central Library: Central Library of the Institute can be considered as a very special place in the MITS Campus with its rich collection of books and journals in the field of Engineering and Architecture related disciplines. Central Library currently houses around 109443 books in different heads i.e Library grant, Student chapter grant & Book bank grants, collection includes textbooks and Reference books for Engineering Graduates, Post Graduates and Ph.D. curriculum in Civil Engineering , Mechanical Engineering, Electronics, Electrical, Computer Science & Information Technology , Management, and Architecture Disciplines. Library collection also includes documents in Computer Science, History of Science, Fictions, Stories, General books, Encyclopaedias and Dictionaries, Magazines etc.

#### Internet

- National Knowledge Network (NKN) through RailTel: Available bandwidth: 100
   MBPS Dedicated Leased Line
- Ishan Netsol: Available bandwidth: 100 MBPS Dedicated Leased Line
- Wi Fi availability: Yes, Both in Academics Area and Hostels. The entire campus is
   WiFi enabled with 24/7 internet facilities to the students and staff.
- Internet access in labs, classrooms, library and offices of all Departments: Yes (everywhere with Fibre Backbone) Wired and well as Wireless with Firewall and protected and being monitored through Proxy.

- Security arrangements: Linux proxy server is being used for recording user activity on the server. The internet access (wireless and wired both) is password protected. Iptables are being used as firewall and to define access rules. Un-required Sites are blocked by using pattern matching rules.
- The Institute has following servers available: HP Xeon 8 Core (2.10 GHz), Intel Xeon E5-2603v3 (1.6 GHz)
- Some of the licensed software's are ANSYS, MATLAB, PS CAD, Proteus Design Suite,
   Office Pro Plus 2016, SQL Server ST2016, Turnitin (for Plag checking) etc.

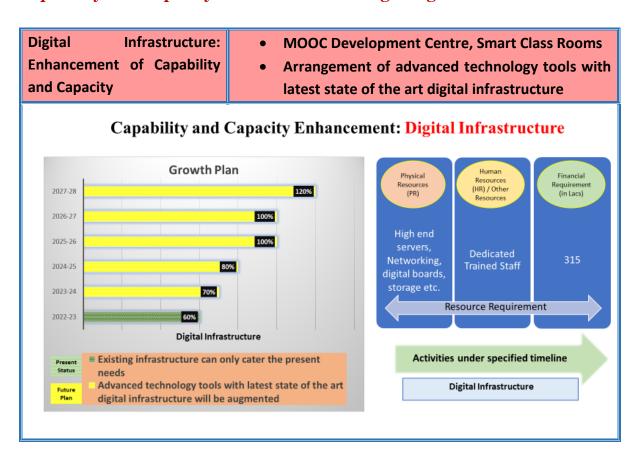


Fifteen Years Infrastructure Development Plan					
Years	2023-2028	2028-2033	2033-2038	Status	Intervention
Improv	ement /up-gradation	& increase in ex	isting facilities	;	
1.	Modernization and expansion of Class rooms,     Laboratories, Seminar halls, smart classrooms, &     equipment.			70%	100%
2.	Automation of Library (integrated Library Management System)			70%	100%
3.	Automation/digitization of examination, evaluation system			60%	100%
4.	Up-gradation of LMA (Learning Management System)/MOODLE			Under progress	Continuous up-gradation
5.	Up-gradation in IT I Internet, Browsing Departments CC, Av	Centre, Compute	r centres,	Under Progress	Continuous up-gradation

6.	Up-gradation of all buildings and their surroundings to global standards in cleanliness and safety	Adequate	As per Global Standard
7.	Creating comfortable accommodation to all students and scholars in hostel	Accommodatin g 600 Students	2000
8.	Provide well-maintained and accessible sports facilities for all major sports	Partial	Full facilities
9.	Development of Additional Academic Block		Academic block for new UG & PG programmes/ increase in intake
10.	Development of Auditorium for Academic Activities		Auditorium with capacity of 1000 Students
11.	Provide sufficient well-maintained quarters for the faculty and staff	Limited	Adequate
12.	Development of "Continuing Education Program Centre/ Centre for Advanced Learning and Training" for organizing various faculty & Staff Development activities		Dedicated faculty & Staff Development Centre
13.	Project laboratory/Incubation Facilities for students and faculty	Limited	Adequate
14.	Renovation of Institute Guest House	Limited	Adequate
15.	Renovation of Laboratories and Development of New Laboratories	Adequate	As per future needs
16.	Development of Business School	-	For new proposed programme
17.	Development of Pharmacy School/Department	<del>-</del>	For new proposed programme



# Capability and Capacity Enhancement through Digital Infrastructure



# (d) Governance & Administrative Plan

- The Board of Governors of the Institute plays an important role in the growth of the
  Institute through regular reviews of policy matters and initiating new practices by
  creating 5-year vision plans. Year-wise targets have been set through the 'NEP-2020
  Action Plan' prepared by the institute and approved by the BoG in its meeting in
  July 2020.
- The Institute is administered on a day to day basis by the Director with other faculty members holding key administrative and academic responsibilities.
- The organizational chart and the roles and responsibilities of each functionary are clearly defined and also available on Institute website.
- The vision, mission, branding Statement and value framework is aligned with the
  perspective plan of the Institute, which is prepared with the contribution from BoG
  members and faculty members considering the SWOT analysis, vision plan of each
  department and feedback from stakeholders.
- Powers are given to Class Coordinators to ensure decentralization of all processes, monitoring records of attendance, student leaves, forwarding various documents & applications of students and final forwarding of examination form.
- For each initiative taken by the IQAC separate coordinators are appointed at the
  department level to help in administration of the different activities such as, OBE
  coordinator for monitoring activities related to attainment of learning levels,
  coordinator for remedial/bridge classes, web coordinator for departmental
  webpage management, Coordinator for departmental e-Newsletter, alumni
  coordinator for enhancing and managing alumni interaction and plagiarism
  administrator have clearly defined responsibilities.
- Due to the constant efforts of MOODLE coordinators, use of MOODLE for teaching-learning-evaluation has been institutionalized now.

#### **Other Committees**

- Internal Quality Assurance Committee
- Academic Council
- Development Cells
  - o Academic Development Cell
  - o Student Development Cell
- Board of Studies
- Research Committee
- Proctorial Board
- Internal Audit Committee
- Industry-Institute-Interaction Cell
- Library Advisory Committee
- Women Guidance, Grievances and Redressal Committee
- Girls Counselling Cell
- Students Grievances Cell

- Discipline Committee
- Central Purchase Committee
- Anti Ragging Committee as per guidelines of Honorable Supreme Court of India
- Internal Complaint Committee (ICC) for Women (Students & Staff) for Sexual Harassment at workplace
- Hostel Admission Committee

#### **Internal Quality Assurance Cell:**

To monitor standards of the higher educational institutions the University Grants Commission (UGC) has established the National Assessment and Accreditation Council (NAAC) as an autonomous body, under section 12(ccc) of its Act in September 1994. According to the 12th Plan guidelines of the UGC for Establishment the Internal Quality Assurance Cell (IQAC), is being constituted in the institute for building a mechanism to ensure a quality culture at the institutional level to develop proper structure and processes to meet the diverse needs of the stakeholders, for continuous improvement.

#### **Academic Council:**

Academic Council of the Institute is constituted according the UGC Guidelines January, 2018 consisting of following members:

- 1. The Principal (Chairman)
- 2. All the Heads of Department in the College.
- 3. Four teacher of the college representing different categories of teaching staff by rotation on the basis of seniority of service in the college.
- 4. Not less than four experts/academicians from outside the college representing such areas as Industry, commerce, Law, Education, Medicine, Engineering, Science etc, to be nominated by the Governing Body.
- 5. Three nominees of the university not less than Professors.
- 6. A faculty member nominated by the principal (Member Secretary)
  The meeting of Academic Council of the Institute is conducted at least twice in a year.

#### **Development Cells:**

Following Development cells are taking efforts for the development of various Academic & Administrative activities of the Institute though continuous meetings & efforts as per development plan of the Institute for ensuring Quality Enhancement, compliance of existing practices and developing new strategies:

- Academic Development Cell
- Student Development Cell

## Decentralization in working and grievance redressal mechanism

- Dean (Academics)
- Dean (Students Welfare)
- Proctor
- Registrar
- Deputy Registrar

- Controller (Examination)
- Dy. Controller (Examination)
- Assistant Controller (Examination)
- Head of the Department
- Class Coordinator
- Mentor
- Chief Warden
- Sr. Wardens
- Wardens
- Section In-charge
- Chairperson Central Purchase Committee
- Finance Officer
- Other Coordinators/In-charges

## Fifteen Years Governance & Administration Plan

The Governance & Administration Plan for the next fifteen years is prepared for quality assurance and efficient management to ensure the objectives of proposed deemed to be university for following categories:

- (i) Governance & Quality Assurance
- (ii) Technical & Internal Support System
- (iii) Students Support & Progression
- (iv) Engagement with Alumni, Industry & Society
- (v) Internationalization

# (i) Governance & Quality Assurance

Years	2023-2028	2028-2033	2033-2038	Status	Interventions
1.	Conducting regular Governing Body Meetings			04 Meetings/ Year	To be continued
2.	Organizing regular meetings of Finance Committee			04 Meetings/ Year	To be continued
3.	Organizing regular meetings of Academic Council & Board of Studies		04 Meetings/ Year/ Committee	To be continued	
4.	Assurance for Institute	Vision and Missi	on of the	Review & Assurance	To be continued

5.	Effective Implementation and Monitoring of	Six Monthly	To be continued
	the Institutional Perspective & Development	Review	
	Plan		
6.	Decentralization and participative	Decentralized	Increase in IT
	management in working and grievance	management	support
	redressal mechanism		Mechanism
7.	Effective Management Information System	IT based	IT based
		Management	Management
		Information	Information
		System for	System for all
		selected	required
		modules	modules
8.	Providing Administrative & Financial Support	Providing as	100% support
	for Quality Improvement strategies for:	per proposal	
	Curriculum Development	submitted by	
	Teaching & learning	various	
	Examination & Evaluation	departments	
	Research & Development	& sections	
	Library, ICT and physical	after	
	Infrastructure/Instrumentation	evaluation of	
	Human Resource Management	availability of	
	Industry Collaboration/Interaction	funds	
	Admission of students		
9.	Providing Administrative & Financial Support	Partial	100% support
	for Implementation of e-governance in areas of	support	
	following operations:		
	Planning & Development		
	Administration		
	☐ Finance & Accounts		
	Students admissions and support		
	Examination		
10.	Providing Financial support for the	Providing for	Provision for
	participation of faculty, staff in	participation	membership of
	Conference/workshop & membership of		professional
	professional bodies	In	bodies
		conference/	
		workshop	

11.	Providing Administrative & Financial Support for Conduction of professional development/Administrative training programmes for teaching & non-teaching staff	Providing for state level training programmes	Provision for national level programmes
12.	Providing Financial support for Participation of faculty in professional development programmes, orientation programme, refresher course, short term course, FDP	Providing for participation in India	Provision for International participation
13.	Faculty & Staff recruitment and hiring of various services required in administrative system	Inadequate	100% Adequacy to be achieved
14.	Implementing Welfare scheme for faculty, teaching & non-teaching staff, and students	Partial support	100%
15.	Use of Internal & External Financial audit	100%	100%
16.	Review & publication of service rules, policies and procedures, functions of various bodies, recruitment and promotional policies.	Regularly	Regularly
17.	Delegation of powers to Administrative Committees and Administrative Heads for taking administrative decisions	100%	100%
18.	Delegation of Financial powers to the Heads of Departments and relevant in-charges	Partial	Up to Rs. 50,000/-
19.	Show Transparency and availability of correct/unambiguous information in public domain	100%	To be Continued with online portal mechanism
20.	Dissemination of the information about student, faculty and staff	100%	To be continued
21.	Effective Budget Allocation, Utilization, and Public Accounting at Institute level	100%	To be continued
22.	Availability of effective Security mechanism	Upto the appropriate level	IT based surveillance system
23.	Initiatives for Environment control and sustainability	Upto the appropriate level	100% Implementation
24.	Development of "Urban Green Zone" at	22%	Increase up to

25.	Conducting meetings of IQAC (Internal Quality Assurance Cell) in every quarter of Academic Year	01/Quarter (04 / Year)	To be continued
26.	Conducting regular meetings of Development cells of the Institute:  Academic Development Cell Students Development Cell	02/Quarter (08 Meetings /year)	02/Quarter (08 Meetings /year)
27.	Administrative Audit in every Academic Year	01/Year	02/Year
28.	Academic Audit every Academic Year	01/ Year	02/ Year
29.	IT Audit	00/Year	01/Year
30.	Environment Audit	01/Year	02/Year
31.	Laboratory Audit	01/Year	02/Year
32.	Infrastructure Audit	As per requirement	01/Year
33.	Overall development of Institute through 360  degree feedback system-Structured feedback system to collect and Analyse feedback collected from:-  Students Faculty Employers Alumni Parents	Feedback from: Students- 02/Sem. Faculty- 01/Sem. Employers- 01/Year Alumni- 01/Year Parents- 01/Year	Feedback from: Students- 02/Sem. Faculty- 01/Sem. Employers- 01/Year Alumni- 01/Year Parents- 01/Year
34.	NBA Accreditation of UG & PG Courses	ME-ISD is Accredited and EE Accreditation expired in Sep, 2018. *All the UG courses accredited twice in past	NBA Accreditation of all offered eligible Courses will be
35.	ISO Certification of Administrative Offices	NA	Every Year

36.	Participation in NIRF	applied	Every Year
37.	Participation in AISHE	Every Year	To be continued
38.	Participation in Swachh Campus Ranking	Every Year	To be continued
39.	Participation in Atal Ranking of Institutions on Innovation Achievements Framework (ARIIA)	Not applied	Every Year
40.	Participation in CII Survey	Every Year	To be continued
41.	NAAC Accreditation	Accredited with B++ Grade in Cycle-1	Cycle-2: NAAC Accreditation [Target A+]
42.	Submission of AQAR to NAAC	Every Year	To be continued

# (ii) Technical & Internal Support System

Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1	Implementing	Simplify systems a	and processes	Up to 80%	100%
	with the use o	of digitization & IM	S system.		implementation
2	Implementing	Use of IT support	for purchase,	Partial	Complete
	maintenance	and administration	ı <b>.</b>		Support
3	Implement ne	w recruitment/eng	gagement rules	As per Govt.	In Addition
	to attract qua	lified staff at variou	us levels.	Norms	R&D Support
					for deserving
4	Conducting ar	nnual satisfaction s	urvey for	Implemented	Increase in
	services impro	ovement.			Parameters &
					Effectiveness
5	Organizing Or	ientation and train	ing for Faculty,	Organising	Frequency will
	Technical & A	dministrative staff			be increased
6	Development	of online complair	it systems.	Implemented	Fully Online
7	Organizing Or	ientation and men	torship	Partially	Effective
	programme fo	or new faculty men	nbers.	Implemented	Conduction
8	Reducing in a	verage processing t	imes for various	Up to the	100%
	administrative	Iministrative issues/services.		level of 80%	Satisfaction
9	Development	of online Tracking	system for	Partial	100%
	complaint red	ressal.			

10	Appointment of Technical manpower for	Implemented	Numbers will
	program-specific curriculum		be increased
11	Maintenance and overall ambience in	National	International
	Laboratories.	Level	Level
12	Safety measures in laboratories	80%	100% as per
			standards

# (iii) Students Support & Progression

Year	2023-2028	2028-2033	2033-2038	Status	Interventions
1	Providing scholarship and financial support from institute and other sources.			Limited	Numbers will be increased
2	Conducting Capability enhancement & Development scheme-Soft skill development, remedial coaching, language lab, bridge courses, yoga, Meditation, personal counselling and mentoring			100% implemented	100% Effectiveness
3	Guidance for cor	npetitive exams		Full Support	Increase in Participations
4	Organizing Induction & Orientation programs for all UG & PG students.			In-Place	Continued
5	Students grievances redressal system			In-Place	Minimum Grievances
6	Prevention of sexual harassment and ragging		Measures are in-place	Reducing complaints to Zero	
7	Support for Career Counselling, Placement, Students progression for higher education & entrepreneurship		Up to 80%	100%	
8	Increase in Students qualifying in state/national /international level examination (GATE/CAT/GRE/TOFEL/Civil Services/State Govt. Services.		30% Approx.	60%	
9	Organizing Sports and cultural activities/competitions		Yes	Increase in numbers	
10	_	ipation of students titions at national & el		Adequate	Increase in Numbers

11	Involvement of Students representations in	IQAC, T&P	Participation
	academic & administrative bodies/committees of	Cell, OBE,	will be
	the Institute	Anti-Ragging	increased
		& Grievances	
		Redressal	
		committee,	
		Woman	
		Grievances,	
		SWAYAM etc.	
12	Providing support and counselling through	Full Support	100%
	Professional counsellor and medical practitioner		Effective
13	Conducting annual student satisfaction survey	Adequate	Increased
			Parameters &
			Effectiveness
14	Providing Adequate facilities for PhD students &	Adequate	Industry
	Special training for PhD students for Teaching		connect
	and Entrepreneurship		
15	Promotion and support for learning by doing	At initial stage	100%
			Effective
16	Supervised internships for students in industry	Implemented	More Industry
	for longer duration		will be
			connected
17	Providing Self – Learning facilities, materials for	Adequate	Increase
	learning beyond syllabus, Webinars, Podcast,		Effectiveness
	MOOCs etc.		via Self
			Developed e-
			learning
			materials
18	Conduction of Co-curricular and Extracurricular	Adequate	National &
	Activities through sports and cultural facilities,		International
	NCC, NSS and other clubs, Annual students		Level
	activities		
19	Opening Professional societies / chapters and	12	22
	organizing engineering events		

# (iv) Engagement with Alumni, Industry & Society

Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1	Establishment of an "Alumni Development Cell"			Adequate	Effective
	at the Institute to support alumni visits, activities				Development
	and engagement.				
2	Development of alumni support system for continued learning and career improvement.			Partial	Full Development
2				Lladay Dua sasa	Full Davidanasant
3	Alumni for Lifel	f "Online Learning N	viodules for	Under Process	Full Development
4				Dortiol	Tff active
4	Alumni interact	ion through: ion between alumn	i and students	Partial	Effective Interaction
		nent of alumni for s	<i>'</i>		interaction
	mentori		reacties		
		on between alumn	i and faculty,		
	🗖 Alumni r	members in Depart	mental BOS for		
	curriculı	ım development,			
	🗖 Alumni l	inkage for student	placements		
	and inte	•	_		
		epresentation in III	C, IQAC and		
		the Institute.	cocyctom		
		ng the innovation e alumni interaction	-		
		l, cultural and spor	_		
		ed by Institute.			
5	Engagement of	alumni as adjunct f	aculty/visiting	Limited	Increase in
	faculty.	-			Number
6	Conduction of c	ourses/workshops/	networking/	Limited	Increase in
	events for alum	ni.			Frequency
7	Development o	f online portal on Ir	stitute	Portal	Engagement
	-	note engagement b		Developed	through portal
	alumni, students and faculty members.				will be increased
8	_	ties organized by A	lumni	Adequate	Increase in
	Association				Frequency
9	·	f "Extension & Outr		Through	Effective
	· ·	port and services to	owards	Different	Development
	community.			Committees	

10	Effective use of "Business Development Centre" for Industry Linkage, start-up and incubation strengthening.	Established	Increase in Effectiveness
11	Motivating Joint Intellectual Property (IP) commercialisation with industries.	Partial	Full Support
12	Effective use of entrepreneurship development cell in the institute.	Adequate	Increase in Activities
13	Development of dedicated cell for research on societal problems.	Under Process	Development of Research Group
14	Enhancing interaction with industries, educational and research organizations in the region for versatile exposure to students and faculty.	Implemented	To be continued
15	Conduction of joint workshops/activities with govt. & NGO for students and local community.	Limited	Increase in Number
16	Conduction of joint research, workshop & Training programs with industries.	Limited	Increase in Number
17	Organising Public lectures/colloquia/competitions on global issues.	Limited	Increase in Number
18	Enhancing faculty engagement with industries.	Limited	Enhance through research & Development Activities
19	Conduction of training programs for Govt. staff/industry personals and other organizations.	Adequate	Increase in Activities
20	Conduction of students Competitions on city and state problems	Conducting through clubs & societies	Level & Quality Enhancement
21	Joint conduction of sport and cultural activities with other institutions and organizations.	Adequate	Increase in Activities
22	Establishment of MITS foundation to contribute to technical education and to address various social issues including development of financial resources	Under Progress	Effective Development

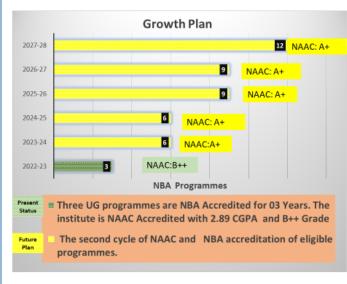
# (v) **Internationalization**

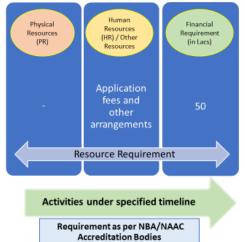
Years	2023-2028	2028-2033	2033-2038	Status	Intervention		
1	Increase in the act cell to attract inteadmissions			Initiative Taken	Enhancement in Effectiveness		
2	Enhance Institute publicity in target		•	Limited	Fully Developed System		
3	Development of li universities	nkage with intern	ational	At Initial Stage Adequ			
4	Facilitate student programmes	exchange and joir	nt-PhD		Implementation of Student Exchange Program		
5	Attract internation short term engage courses & Confere	ment in conferen		Partial	Increase in Frequency		
6	Attract internation engagement in resactivities	-		Limited	Effective Engagement		
7	Increase percenta (exchange student				1%		
8	Increase in admiss Students	ions of Internatio	nal		25/per year		
9	MOU with Interna University/Organia			Limited	Effective Collaboration for Micro level Activities		

### **Quality Assurance**

- NBA/NAAC Accreditation
- NIRF Ranking

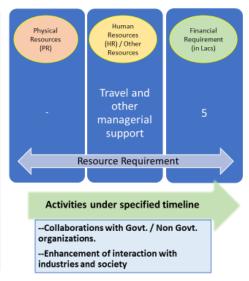
# **Quality Assurance: Accreditation**





# **Institute Recognition: Ranking**

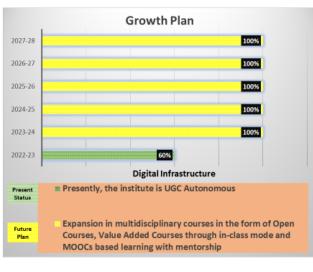


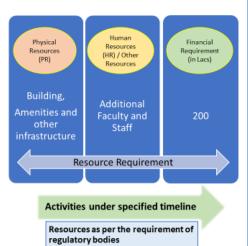


To attain the status of
"Teaching Intensive
University"
or
"Research Intensive
University"
or
"Autonomous Degree
Granting College (AC)"

- Expansion in multidisciplinary education and research activities
- Arrangement of resources as per the requirement of regulatory bodies
- Arrangement of Building, Amenities and other infrastructure [as needed for attaining the status of Teaching Intensive University or Autonomous Degree Granting College (AC)]
- Arrangement of faculty and staff as per norms

# Teaching Intensive University or Deemed to be University Status: Towards More Flexibility and Academic Autonomy





Five Years Gove	Five Years Governance & Administration Plan										
Parameters	2023-24	2024-25	2025-26	2026-27	2027-28						
NIRF Ranking	Under 200	Under 100	Under 100	Under 100	Under 100						
NAAC Accreditation	A+	A+	A+	A+	A+						
NBA Accreditation	06	08	10	12	14						
	Programmes	Programmes	Programmes	Programmes	Programmes						
Total MoU/Collaboration with National Institute	25	30	35	35	40						
Total MoU/Collaboration with International University	04	06	08	10	10						
MoU/Collaboration with Industries	25	30	35	35	40						
Conversion of Institute in to Degree Granting Institute/Deemed to be university	Acquired	Maintained	Maintained	Maintained	Maintained						
Number of International Students (Off- campus)	10	20	25	30	35						
Institutional visibility and peer perception	70%	70%	75%	85%	90%						

# (e) Faculty Recruitment & Human Resources Empowerment Plan

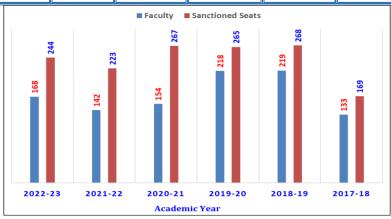
#### **Teaching & Non-Teaching Staff**

- Selection and or Promotion of faculty (Teaching posts): as per the MHRD/AICTE/CoA &
   MP Government rules and regulation (whichever applicable).
- Regular Staff: As per state government norms through Staff Selection Committee of the Institute constituted by Board of Governors from time to time.
- Non-Teaching posts will be as per the decision of Board of Governors from time to time and in force at the time of advertisement/recruitment. Minimum/ maximum age and

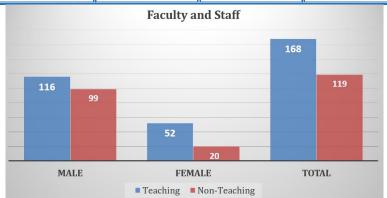
- educational qualifications: as per MHRD/AICTE/CoA/UGC & MP Government norms as applicable in force from time to time.
- Selection and or Promotion of faculty (Teaching posts): as per the MHRD/AICTE/CoA & MP Government rules and regulation.
- Promotion of class II, III & IV: as per M.P. Government rules adopted and approved by BoG.
- The General Service Rules/Conditions, code of conducts exists in the institute for the employees who are in service or will join the Institute in future.

The total number of faculty against the sanctioned positions for the last six years are as follows:

Academic Year	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
Number of Faculty	168	142	154	218	219	133
Sanctioned Seats	244	223	267	265	268	169



Faculty & Staff	Male	Female	Total
Teaching	116	52	168
Non-Teaching	99	20	119



# Fifteen Years Faculty Recruitment & Human Resources Empowerment Plan

Recruitment of Faculty will be done as per AICTE/COA/PCI requirement of cadre and faculty students ratio and to maintain the FSR as per Quality Assurance agencies like NBA/NAAC. The Effort will be made to appoint faculty in the field of specialization not available in the Institute/department. Overall target is to achieve Faculty Students Ratio below 1:20.

Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1	Appointment of	full time Quality tead	chers	FSR=1:25	FSR=1:20
2	Provision of Visit etc.	ing /Adjunct/Emerit	us faculty	Implemented	To be continued
3		ty from Industry and	d academia	Implemented	To be continued
4			•	Implemented	To be continued
5	Implementing Fa Development Sys	culty Performance A stem	ppraisal and	Implemented	To be continued
6	Providing API ba	sed promotion and I	rewards.	Implemented	Frequency Enhancement
7	Rewarding high-a	achieving faculty me	mbers once	Implemented	To be continued
8		y participation in Fa aining activities /STT	•	100% Support	To be continued
9	Providing Suppor higher qualificati	t to faculty member on	s to obtain	Implemented	To be continued
10	participation in for Research/Production laboratories/Inst	support to faculty for ollowing activities: S at Development/Reso ructional materials/ nonograms etc./Cons	ponsored earch Working	Implemented	To be continued
11		g support to technic aff for participation ivities.		100%	100%
12	Motivation & sup qualification duri	pport to achieve high ng service.	ner	Adequate	Increase in Numbers

# Five Years Faculty Recruitment Plan

The following proposed number of high quality faculty members will be recruited in next five years through a transparent open selection process:

# (i) Existing Programmes:

Faculty/Resource Person	2023-24	2024-25	2025-26	2026-27	2027-28
Total [Target FSR1:20]	253	253	253	253	253
Appointment of Faculty Members (Reg	gular)				
(i) Professor	3	2	1	1	-
(ii) Associate Professor	7	5	2	2	
(iii) Assistant Professor	20	13	7	7	
Appointment of Faculty Members (Full-time 03 year contract)	40	20	10	5	5
Appointment of Adjunct Faculty,	visiting Fac	culty and re	source per	sons from I	ndustry
(i) Adjunct Faculty from Industry	3	3	3	1	1
(ii) Resource Persons from Academia	3	3	3	1	1
(iii) Off campus Faculty from Industry and academia	7	7	7	6	6
(vi) Pro	posed Pro	grammes			
Faculty/Resource Person	2023-24	2024-25	2025-26	2026-27	2027-28

Faculty/Resource Person	2023-24	2024-25	2025-26	2026-27	2027-28					
Total [Target FSR1:20]	-	18	51	88	117					
Appointment of Faculty Members (Regular)										
(i) Professor	-	02	04	07	09					
(ii) Associate Professor	-	03	08	14	19					
(iii) Assistant Professor	-	09	25	42	57					
Appointment of Faculty Members (Full-time 03 year contract)	-	02	04	07	09					
Appointment of Adjunct Faculty, visiting	ng Faculty a	nd resourc	e persons f	rom Industi	ſy					
(i) Adjunct Faculty from Industry	-	01	02	04	04					
(ii) Resource Persons from Academia	-	01	02	04	04					
(iii) Off campus Faculty from Industry and academia	-	02	06	10	15					

#### • Students Admission Plan

**Intake & Reservation policy:** The seats allocated for admission in UG and PG program are as per the sanctioned intake approved by AICTE and guidelines issued by AICTE & Directorate of Technical Education, Madhya Pradesh:

- The State Government/ UT/ Directorate of Technical Education/ Directorate of Medical Education shall ensure that 10% of reservation for Economically Weaker Section (EWS) as per the reservation policy for admission, operational from the Academic year 2019-20 without affecting the reservation percentages of SC/ ST/ OBC/ General.
- Tuition Fee Waiver (TFW) Scheme
   d) Admission Procedure Under this Scheme, up to a maximum of 5% of "Approved Intake" per Course shall be available for this admission.
- Supernumerary seats for the Union Territories J&K and Ladakh under Prime Minister's Special Scholarship Scheme (PMSSS)
   b) 2 seats per Course shall be available for these admission with the maximum of 10
  - seats per Institution. These seats shall be supernumerary in nature and shall be available to such Course(s) in an Institution.
- CSAB-NEUT: CSAB North Eastern States and Some of Union Territories (NEUT)

**Total Sanctioned Seats are as follows:** Sanctioned Seats as per AICTE Approval letter+ EWS Seats +TFW Seats +PMSSS/ CSAB-*NEUT* Seats

As per the guidelines issued by Directorate of Technical Education, Madhya Pradesh for admission in UG and PG program in Autonomous and Govt. Aided institutes, 16%, 20% and 14% of the MP domicile candidates (90% of total seats) are reserved for candidates belonging to Scheduled Caste (SC), Scheduled Tribe (ST) and Other Backward Classes (excluding Creamy Layer) OBC categories respectively.

In addition to above, 3% seats in each category viz - UR, SC, ST and OBC shall be reserved for Physically handicapped candidates (with disability percentage of 40 or above and satisfying MP domicile requirements). This reservation is compartmentalized horizontal reservation and vacant seats in this category is filled by converting such seats into Open Seats of the NIL (X) category.

Availability of Seats: 90% Seats for MP domicile candidates 5% All India Seats 5% NRI Seats (All India Seats & NRI seats if not filled then converted into Seats for MP domicile candidates)

#### **Admissions:**

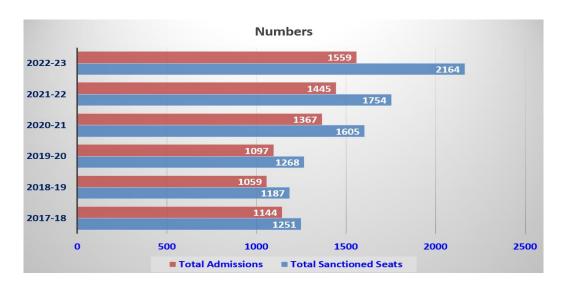
- As per Directorate of Technical Education, Madhya Pradesh/State Government norms, through Joint Entrance Exam (JEE)-Mains-I II for B.Tech./B.Arch. NATA for B.Arch.
- As per intake approved by AICTE, the admission for UG/PG students is online through state level counselling managed by the Directorate of Technical Education (DTE) of the state.
- Students of other states are admitted through Central Seat Allocation Board (CSAB)

of Government of India.

• Foreign students are admitted through Ministry of External Affairs (GOI) Quota.

The total admissions against the sanctioned seats/intake for the last six years is as follows:

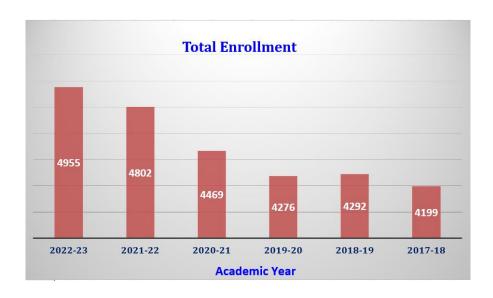
Academic Year	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total Sanctioned	1251	1187	1268	1605	1754	2164
Seats/Intake						
Total Admissions	1144	1059	1097	1367	1445	1559



#### Students

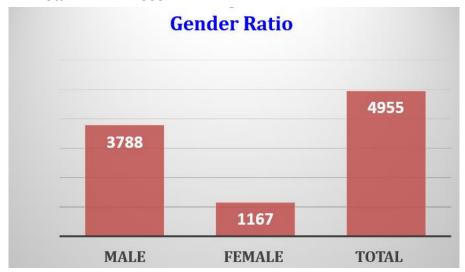
The total number of students enrolled during last six years are as follows:

2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
4955	4802	4469	4276	4292	4199



Number of Students on roll by gender

- Male 3788Female 1167
- Transgender 0
- Total 4955



The admissions for Certificate, Diploma, Degree (UG & PG) and Ph.D. programmes for national and foreign students will be made purely on merit basis. The merit position of the candidate for admission will be based on the norms prescribed by the academic council/Executive Council of Institute. However, their eligibility for admission will be as per requirement of AICTE/UGC/other regulatory agency.

The Institute will offer Certificate, Diploma, Degree (UG & PG) and Ph.D. programmes as per NEP guidelines of off-campus & online education.

Academic Bank of Credits will be utilized to enable multiple entry-multiple exit for students to complete their degrees as per their time preferences, providing mobility across various disciplines and HEIs for Degree/ Diploma /Certificate programs programme. ABC will ensure the opening, closure, and validation of Academic Bank of Accounts, verification, accumulation, and transfer or redemption for students. ABC facilitate students to choose their own learning path to attain a degree /Diploma /Certificates, working on the principle of multiple entry-multiple exit as well as anytime, any-where, and any-level learning.

**Degree with Research at UG Level:** Provision will be available to undertake Analytical/Research/Knowledge based major project in the last semester of study to promote research in the degree level Institutions.

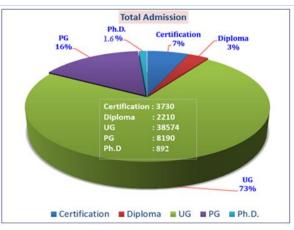
The proposed admissions in various Certificate, Diploma, Degree (UG & PG) and Ph.D. programmes is shown below:

Programmes			Cert	ificate					D	iploma		
	B.L.	I	Ш	Ш	IV	V	B.L.	1	Ш	Ш	IV	
Engineering & Technology	0	200	200	280	340	420	0	-	60	60	120	120
Architecture & Planning	0	20	20	20	20	20	0	-	-	-	-	-
Master in Computer Application	0	20	20	20	20	20	0	-	-	-	-	-
Management	0	20	20	40	40	40	0	-	-	-	-	-
Pharmacy	0	-	20	20	20	20	0	-	30	30	30	30
Sciences	0	-	-	80	100	120	0	-	-	-	-	-
Total	0	260	280	460	540	640	0	0	90	120	150	150

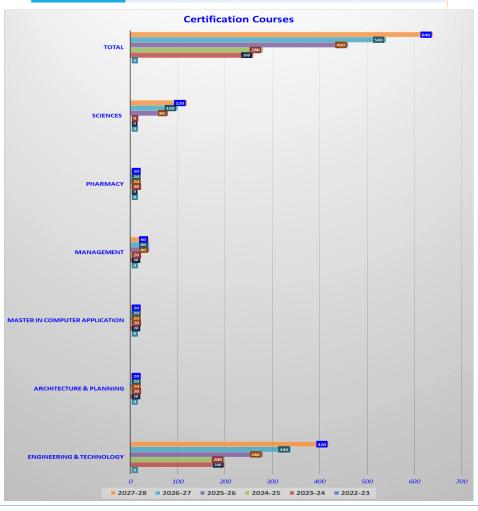
Programmes			U	G			PG					
	B.L.#	I	II	Ш	IV	V	B.L.	1	II	Ш	IV	V
Engineering & Technology	1397	1683	1761	1839	1917	1995	9	60	90	100	181	181
Architecture & Planning	22	40	40	40	60	60	8	18	18	18	18	18
Master in Computer Application	-	-	-	-	-	-	78	78	78	78	78	78
Management	-	-	-	-	-	-	45	60	120	120	120	120
Pharmacy	0	-	60	60	60	60	0	-	60	60	60	60
Sciences	0	-	60	120	150	150	0	-	60	120	150	150
Total	1419	1723	1921	2059	2187	2265	140	216	426	496	607	607

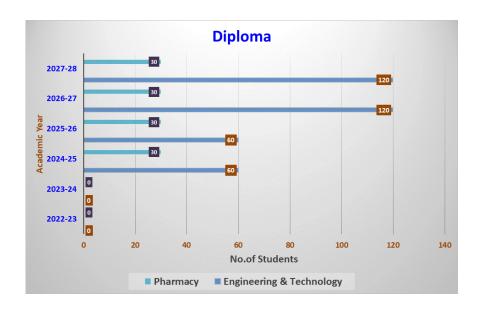
Programmes	Ph.D					
	B.L.	I	Ш	III	IV	V
Engineering & Technology	6	10	20	30	30	30
Architecture & Planning	2	2	2	2	2	2
Master in Computer Application	-	2	2	2	2	2
Management	-	2	2	2	2	2
Pharmacy	-	-	1	2	2	2
Sciences	-	-	2	5	10	10
Total	8	16	29	43	48	48

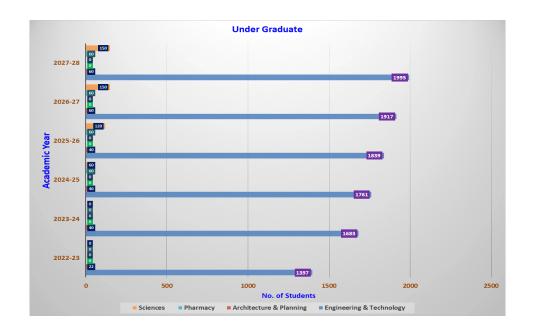
B.L. : Baseline:	I: 2023-24	II: 2024-25	III: 2025-26	IV: 2026-27	V: 2027-28
2022-23					

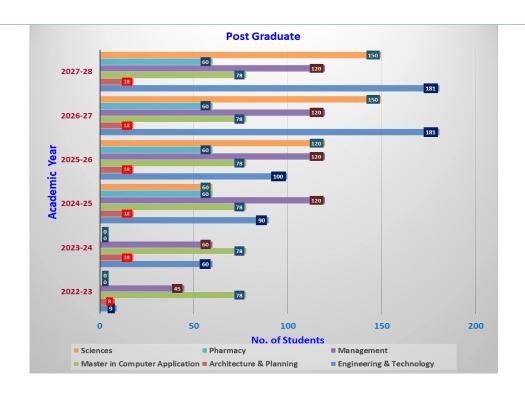


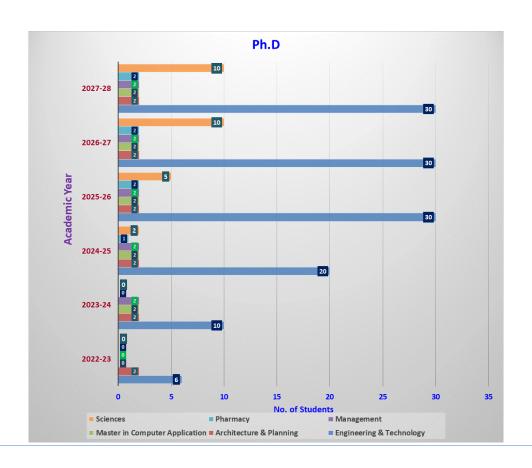
Programmes	Total Admissions					
	2023-28	2028-33	2033-38			
Certificate	1030	1200	1500			
Diploma	510	700	1000			
UG	11574	12000	15000			
PG	2490	2700	3000			
PH.D.	192	300	400			

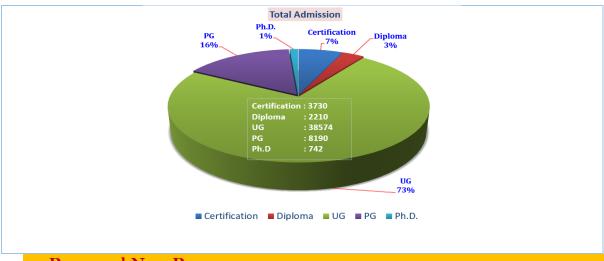












## Proposed New Programmes

## **Engineering & Technology**

#### **UG Courses**

- o Computer Science and Business Systems
- o Computer Science and Engineering (Artificial Intelligence)
- Computer Science and Engineering (Data Science)
- o Robotics and Artificial Intelligence
- o Airline Management

#### **PG Courses**

- Computer Science Engineering (Big Data Analytics)
- Airport Management
- o Aviation Management
- o Business Analytics
- Business and Corporate Law
- o Corporate Communication and Event Management
- o Cyber Law
- o E- Business Management
- o Fintech
- o Foreign Trade
- Healthcare Management
- o Internal Business
- o Project Management
- Innovation, Entrepreneurship and Venture Development (IEV)
- o Information Technology and Systems Management
- o Heritage Management

#### D.VoC and B.VoC

Engineering and Technology (Emerging Technologies Specialization)

- o 3D printing
- o AI & Robotics
- o Architectural Drafting and Basic 3D
- Artificial Intelligence, Machine Learning & IoT
- Artificial Intelligence and Data Science
- o Big Data Analytics
- o Block Chain
- O Virtual Reality and Augmented Reality
- o Cyber Security and Digital Forensics
- Industrial Automation and Robotics
- Internet of Things

#### **Management**

#### Certificate Courses

- Banking, Financial Services and Insurance (BFSI) Management
- o Broadcasting and Journalism
- Digital Journalism and Multimedia Applications
- o Entrepreneurship Development
- Financial Management
- Fire and Safety Management
- Fire Technology and Industrial Safety Management
- o Innovative Waste Management
- o Inventory Management Service and Production Planning
- Logistics Management
- Management-BPM and Analytics
- o Management-Financial Services
- o Operational Research and Risk Management
- Power Distribution Management
- Public Services
- o Renewable Energy Management
- Retail Management
- Water, Sanitation and Waste Management
- o Paramedical and Health Care
- Tourism and Service Industry
- Travel and Tourism

#### **Proposed Diploma & Certification Courses**

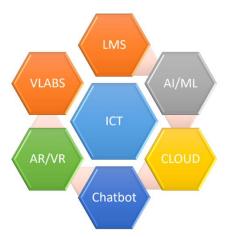
- o Automobile Servicing
- Biogas Technologies
- o Building Materials and Construction Skills
- o CNC Programming and Operation
- Construction Technology
- Design and Development of Electronic Devices
- Digital Manufacturing
- o Electrical Skills
- Electronics Manufacturing Services
- Hospital Instrumentation and Management
- o Industrial Electronics
- o Industrial Microbiology
- Industrial Tool Manufacturing (ITM)
- o Marine Technologies
- Manufacturing Skills
- Mechanical Manufacturing
- Mechatronics
- Metal Construction and Fabrication

- Mobile Communication
- Piping Technology
- o Printing Technology
- Production Technology
- Production Tool and Die Manufacturing
   Production-Press Tool and Die Maintenance
   & Stamping
- Refrigeration and Air-Conditioning Skills
- Repair and Maintenance of Electric Vehicles
- Rubber Technology
- o Small Hydropower Technologies
- o Solar and Renewable Energy
- Solar PV Systems: Operation and maintenance
- Solar Technology
- Solar Thermal Systems: Operation and Management
- Technology Aided Chip Design
- Telecom and Electronics SkillTelecommunications
- Textile Manufacturing
- Tractor Repair and Servicing
- Tractor Repair and Servicing
   Unmanned Aerial Vehicles
- VLSI Design Skills

- Welding Technology
- Wind Power Technologies
- Animation and Graphic Design
- Computer Hardware
- Computer Networking
- Computer-Aided Design
- Data and Web AnalyticsDigital Media and Animation
- Forensic Science and Data Analytics
- Geoinformatics
- Graphics and Multimedia
- Hardware and Networking
- Information Technology
  - Software Development
  - Web Design and Mobile Application
    Development
  - Web Designing, Animation & Graphics
- o Catering Technology and Hotel
- Management
  o Dairy Technology
- o Short Film and Video Production
- o Office Automation Computer Applications
- Practical Accounting and Tax (DPATP) & Tally

# (h) Campus Information & Communication Technology Plan

In today's digital age, Information and Communication Technology (ICT) has become a necessity for higher education institutions to effectively prepare students for the rapidly changing world. ICT enables institutes to offer a more modern and engaging learning experience, facilitate collaboration and communication among students and faculty, streamline administrative processes, and provide students with the technical skills required for success in their future careers. The increasing demand for ICT skills in the job market, coupled with the need for engineering colleges to keep pace with technological advancements, makes it imperative for institutions to incorporate ICT into their programs and operations. Without ICT, engineering colleges risk falling behind their peers and failing to adequately prepare their students for the challenges of the future.

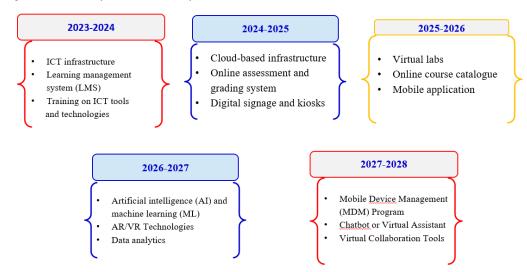


**Scope:** There are some of the areas where ICT can be applied in the institute:

1. Learning Management Systems: to develop and manage learning management systems which can provide students with access to course materials, assignments,

- and assessments. These systems can also facilitate communication between students and faculty, allowing for more effective collaboration and feedback.
- 2. Virtual Labs and Simulations: the development of virtual labs and simulations that provide students with hands-on experience in a safe and controlled environment. This can be particularly useful in areas like engineering design and analysis, where physical prototypes can be expensive and time-consuming to create.
- 3. Computer-Aided Design and Manufacturing: to develop and use computer-aided design (CAD) software, which enables students to create, modify, and analyze 3D models of products and systems. Similarly, computer-aided manufacturing (CAM) can be used to control manufacturing processes, such as CNC machining and 3D printing.
- 4. Cyber security: As technology becomes increasingly integrated into every aspect of our lives, cyber security is becoming more critical. ICT can be used to develop and teach cyber security skills to students, enabling them to identify and mitigate security threats in systems and networks.
- 5. Data Analytics: The vast amounts of data generated in the engineering field can be challenging to manage and analyze. ICT can be used to develop and teach data analytics skills, enabling students to extract insights from large data sets and make data-driven decisions.

# Five year Plan (2023-2028)



- In the first year, the focus will be on developing a strong foundation for the university's ICT infrastructure. This includes upgrading the network infrastructure, installing high-speed internet connectivity.
- Implement a comprehensive learning management system (LMS) that enables students to access course materials, assignments, assessments, and collaborative tools: To enable effective distance learning, a robust Learning Management System (LMS) will be implemented. This system will allow students to access course

- materials, assignments, assessments, and collaborative tools. Faculty members will be trained to effectively use the LMS and create engaging course materials.
- Develop and implement a program to train faculty and staff on the use of ICT tools and technologies: To ensure faculty and staff can use the new technologies and systems, a training program will be implemented. This program will include training on the use of the LMS, cloud-based computing, cybersecurity measures, and other technologies.

#### 2024-2025

- 1. Implement a cloud-based infrastructure that supports greater scalability and flexibility: This involves adopting a cloud-based computing system, which allows the college to store, access, and manage its data and applications over the internet. The advantages of this approach include greater scalability, flexibility, and cost savings.
- 2. Develop an online assessment and grading system that provides students with realtime feedback and progress tracking: This involves creating an online platform for student assessment and grading, which would allow students to receive feedback and track their progress in real-time.
- 3. Implement digital signage and kiosks around campus that provide real-time information on events, schedules, and university news: This involves installing digital displays and kiosks throughout the campus to provide students, faculty, and staff with real-time information on events, schedules, and university news. These displays and kiosks can be interactive, allowing users to navigate and explore campus resources, and can also be used to provide emergency notifications and alerts.

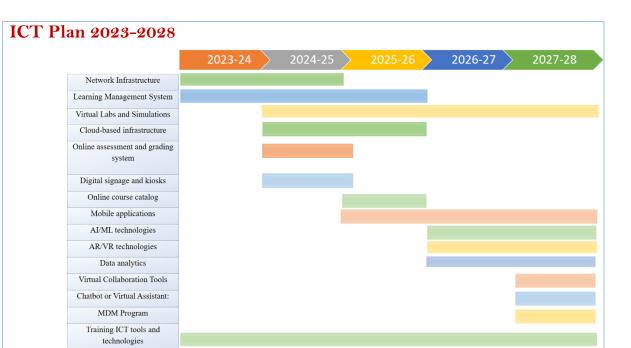
- 1. Expand the use of virtual labs and simulations to provide students with hands-on experience in engineering and science courses: This involves incorporating more virtual labs and simulations into the curriculum to provide students with hands-on experience in engineering and science courses.
- 2. Develop and launch an online course catalog that enables students to browse and register for courses online: This involves creating an online platform that enables students to browse and register for courses online. The online course catalog would provide students with up-to-date information on course offerings, schedules, prerequisites, and other relevant information.
- 3. Develop a mobile application that enables students to access course materials, schedules, and other university resources from their mobile devices: This involves

developing a mobile application that enables students to access course materials, schedules, and other university resources from their mobile devices.

#### 2026-2027

- Explore the use of artificial intelligence (AI) and machine learning (ML) to improve teaching and learning outcomes: This involves investigating the use of AI and ML technologies to improve teaching and learning outcomes in engineering and science courses.
- 2. Expand the use of augmented and virtual reality (AR/VR) technologies in engineering and science courses: This involves expanding the use of AR/VR technologies in engineering and science courses to provide students with immersive and interactive learning experiences.
- 3. Implement a data analytics program that enables faculty and students to extract insights from large data sets: This involves implementing a data analytics program that enables faculty and students to extract insights from large data sets generated by research projects, experiments, and other academic activities.

- 1. Mobile Device Management (MDM) Program: The first component of the plan is to develop an MDM program that enables the university to securely manage and distribute mobile devices to students and staff. With the increasing reliance on mobile devices for learning and work, it is important to have a program that can ensure the security and privacy of data on these devices. The MDM program will enable the institute to remotely manage and update mobile devices, enforce security policies, and track device usage.
- 2. Chatbot or Virtual Assistant: The second component of the plan is to implement a chatbot or virtual assistant that can answer student inquiries and provide assistance 24/7. With the increasing demand for online learning and support, a chatbot or virtual assistant can provide immediate assistance to students, without the need for human intervention. The chatbot or virtual assistant will be able to answer common questions, provide guidance on assignments and assessments, and direct students to appropriate resources.
- 3. Virtual Collaboration Tools: The third component of the plan is to expand the use of virtual collaboration tools, such as video conferencing and virtual whiteboards, to enable remote collaboration among students and faculty members across different locations and time zones. With the increasing popularity of remote learning and working, it is important to have tools that can facilitate collaboration and communication among team members.



#### ICT Plan for 2028-2033

- Smart Campus Technology: Implement a smart campus technology system that will
  provide real-time data on energy consumption, occupancy rates, and other
  important information. This technology will enable the university to optimize its
  resources and improve sustainability.
- Cybersecurity Measures: Strengthen cyber security measures by implementing advanced security protocols and technologies to protect the university's sensitive data from cyber threats.
- Internet of Things (IoT) Integration: Integrate IoT devices into the university's infrastructure to enable real-time monitoring and control of campus facilities, such as lighting, temperature, and air quality.
- Blockchain Technology: Explore the use of blockchain technology to create a secure and decentralized system for managing student records and academic credentials.
- Data Analytics and Visualization: Implement a data analytics and visualization program to enable faculty and students to extract insights from large data sets and make data-driven decisions.
- Quantum Computing: Explore the potential of quantum computing in solving complex engineering problems and develop a plan for integrating this technology into the university's infrastructure.

 Social Media and Marketing: Develop a comprehensive social media and marketing strategy to promote the university's brand and attract top talent to its engineering programs.

#### ICT Plan for 2033-2038

- Quantum Computing: Fully integrate quantum computing into the university's infrastructure and curriculum, allowing students and faculty members to explore and solve complex engineering problems using this cutting-edge technology.
- Robotics and Automation: Expand the use of robotics and automation in engineering courses, providing students with hands-on experience in designing, building, and programming robots and automated systems.
- Immersive Learning Environments: Develop immersive learning environments using technologies such as virtual reality, augmented reality, and mixed reality to provide students with realistic and interactive simulations that enhance their learning experience.
- Smart City Integration: Collaborate with local municipalities to integrate the university's infrastructure with the smart city technologies, creating a more connected and sustainable community.
- Digital Twins: Develop a digital twin of the university's infrastructure, allowing for real-time monitoring and optimization of campus facilities, and providing students with a virtual model for experimentation and learning.
- Internet of Things (IoT) Security: Enhance IoT security protocols to ensure the safety and privacy of the university's data, devices, and infrastructure.
- Personalized Learning: Develop a personalized learning system that uses artificial intelligence and machine learning to tailor course content and assessments to individual students' learning needs and preferences

#### 2028-2033

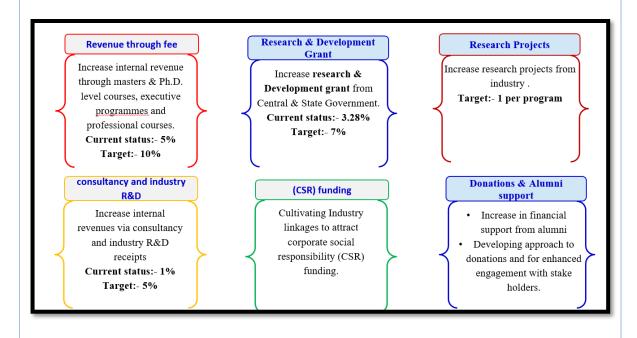
- Smart Campus Technology
- Cybersecurity
- Internet of Things (IoT)
   Integration
- Blockchain Technology
- Data Analytics and Visualization
- Quantum Computing
- · Social Media and Marketing

- · Robotics and Automation
- Immersive Learning Environments
- Smart City Integration
- · Digital Twins
- Internet of Things (IoT) Security
- Personalized Learning

# (i) Finance Plan

The Finance plan is prepared for next fifteen year based on proposed academics & Administrative activities, further the income and expenditure plan for next five years is prepared:

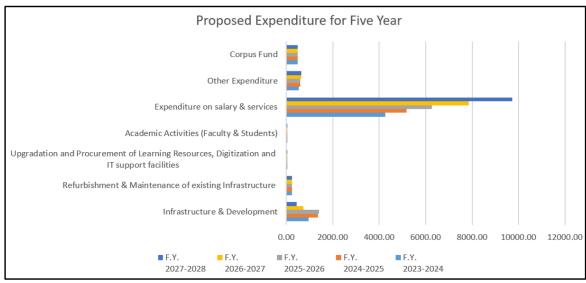
Year	2023-2028	2028-2033	2033-2038	Status	Intervention
1		al revenue throug xecutive program urses.	5%	10%	
2	Increase resear Central & State	ch & Developmen Government.	t grant from	3.28%	7%
3	Increase resear	ch projects from i	Limited 1 Per Program		
4	Increase international industry R&D re	al revenues via co eceipts	1%	5%	
5	Cultivating Industry linkages to attract corporate social responsibility (CSR) funding.			Initiative Taken	Development of Effective System
6	Increase in financial support from alumni		Initiative taken	Development of Effective System	
7	Developing approach to donations and for enhanced engagement with stake holders.			Initiative Taken	Development of Effective System



# Five Year Finance Plan

# (i) Proposed Expenditure

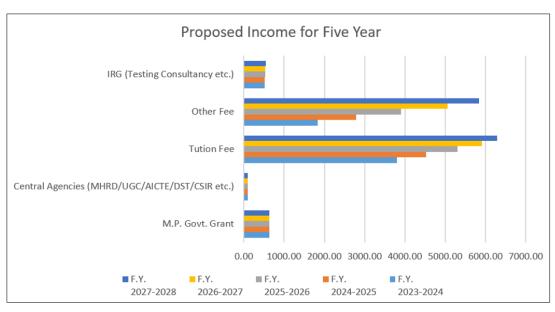
	F.Y. 2023-2024	F.Y. 2024-2025	F.Y. 2025-2026	F.Y. 2026-2027	F.Y. 2027-2028
Infrastructure & Development	955.00	1360.00	1402.00	730.00	440.00
Refurbishment & Maintenance of existing Infrastructure	237.00	240.00	245.00	250.00	250.00
Upgradation and Procurement of Learning Resources, Digitization and IT support facilities	50.00	50.00	50.00	50.00	50.00
Academic Activities (Faculty & Students)	50.00	50.00	50.00	50.00	50.00
Expenditure on salary & services	4260.00	5172.00	6276.00	7854.00	9720.00
Other Expenditure	543.00	600.00	600.00	650.00	650.00
Total	6095.00	7472.00	8623.00	9584.00	11160.00
Corpus Fund	500.00	500.00	500.00	500.00	500.00
Total Expenditure	6595.00	7972.00	9123.00	10084.00	11660.00
Surplus/deficit	271.00	578.00	1325.00	2127.00	1740.00
Rs. in Lakh					s. in Lakh



# (ii) Proposed Income

Income	F.Y. 2023-2024	F.Y. 2024-2025	F.Y. 2025-2026	F.Y. 2026-2027	F.Y. 2027-2028
M.P. Govt. Grant	626.00	626.00	626.00	626.00	626.00
Central Agencies (MHRD/UGC/AICTE/DST/CSIR etc.)	100.00	100.00	100.00	100.00	100.00
Tution Fee	3793.00	4516.00	5298.00	5904.00	6292.00
Other Fee	1837.00	2788.00	3894.00	5051.00	5842.00
IRG (Testing Consultancy etc.)	510.00	520.00	530.00	530.00	540.00
Total Income	6866.00	8550.00	10448.00	12211.00	13400.00

Rs. in Lakh



Rs. in Lakh

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