Government College of Engineering Karad

(An Autonomous Institute of Government of Maharashtra under TEQIP 1.3)

Actions Taken Report

Institute Development Plan

(2017 onwards)

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1.1 Administrative Office

Sr. No	Proposed Plan	Action Taken	Impact
1	Under take institute reforms and effective governance	Impressed cash up to Rs.10000 to each unit head. Define duties and responsibilities of each stake holder and organisational structure. Student centric approach and special meetings called for emergent issue.	Effective and sensitive governance.
2	Fill up vacant positions.	Vacancy position communicated to government time to time, hence MPSC filled up higher level posts. 67 Visiting faculty full time appointed by BoM to fulfil the emergent need. Six Adjunct faculty appointed to have better industrial connect.	Sufficient faculty available with blend of industrial academic experience.

1.2 Library

Sr. No	Proposed Plan	Action Taken	Impact
1	Establish State of Library	1.e-books , e-journals and other e-resources are purchased /subscribed as per the requirements of the institute 2.Library Shifted from the intranet to the internet for remote access from April 2020 3.M.Opac (Mobile app) facility provided to students	State of Library available on internet

1.3 Workshop

Sr. No	Proposed Plan	Action Taken	Impact
1	To upgrade laboratories and teaching learning infrastructure	EDM, Ultrasonic Machine, TIG welding, spot Welding facilities added.	Well-equipped workshop to support curricular and club activity.
2	Implementation of 5S concept in the institute	Started implementation of 5S	Better house-keeping

1.4 Hostels

Sr. No	Proposed Plan	Action Taken	Impact
1	Refurbishment existing amenities	Hostels refurbished, washing machine facility, RO water facility, recreation room with basic amenities provided.	Better living ambiance.
2	Establishing WiFi enabled hostels.	1gbps speed WiFi operational.	Better internet connectivity.

1.5 Building Works Committee

Sr. No	Proposed Plan	Action Taken	Impact
1	New Library Building	In Progress and 60 % work completed	Students will get dedicated Library building with 24 hours access
2	Electronics & Telecommunication Building	In Progress and 55 % work completed	Information Technology (for UG and PG) Department will get Separate and dedicated building, as per AICTE norms
3	Incubation centre of institute	Completed	Students are working 24 hours and few start ups are on verge to start
4	Auditorium of 350 capacity	Completed	All programs like TPO company presentations, staff and faculty meetings, International conference, seminars, workshops etc
5	Extension (First floor) of Dean Academics	Completed	Infrastructure for various activities related to controller of examination like paper checking hall, store, various cabins for office staff.
6	Extension (Second floor) PG Hostel	Completed	Increase in capacity of hostel for more 15 students
7	Concrete Technology Lab	Completed	Centre of excellence for structural health monitoring and Non-Destructive Testing
8	New basketball ground	Completed	Sports facility in the campus
9	SC/ ST Girls Hostel	In progress – Pre tendering work is completed	Possible to provide hostel and safety facility for socially backward class girl student
10	Railing on GF of main building with S.S. pipes and teak wood handrail	Completed	For safety and enhanced ambience
11	Chain link fencing from fluid	Completed	Safety for department

	mechanics lab up to compound wall near masur road with gate		
12	Dean R & D (Cabin and Toilet Block) – fixing of mat, sliding windows, renovation of toilet block like tiles, plumbing, fixtures etc. colouring, pantry and partition with door	Completed	Bare minimum facilities are provided and Ambience is enhanced
13	Refurbishment of chemistry lab – including experiment tables, otta, plumbing, granite top, furniture for cupboards, water tanks etc.	Completed	State of art facilities are provided to 1st year students, hence teaching learning process is made effective
14	Extension of platform (kata) with canopy for entrance near chemistry laboratory	Completed	R and D activities started in science department
15	Robotics arena – Roof shed between chemistry lab and MCA Building – providing steel columns including foundation, truss and with pre coated or poly carbonated sheet	Completed	Center for start-up, research, innovation and incubation is constructed at described place
16	Roof top water harvesting – for all existing buildings in the campus water harvesting including repair and providing new gutters, down take pipes, horizontal pipeline upto tank, construction of	Completed	Green campus

	sumps or tanks or farm tanks etc.		
17	Canopy for pathway between main building and MCA building – providing steel columns. Truss covered with poly carbonated sheet.	Completed	Connectivity with different departments is made easy
18	False ceiling and acoustic of auditorium	Completed	Ambience is enhanced
19	Aluminium windows to existing 3 windows of 1 m x 2.1 m and 3 windows 2 m x 2.1 m	Completed	Ambience is enhanced
20	Refurbishment of hostels, repair of toilet, floor, roof (@ Rs. 1650 per Sqm)	Completed	Living ambience of hostel is enhanced.

1.6 Environmental Management Framework

Sr. No	Proposed Plan	Action Taken	Impact
1	Gardening Work for Hostel D, Principal Qtr, Jijaoo Hostel, G-H-J Staff Qtrs.	Gardening work completed	Beautification of campus, ambience improved, aesthetic look improved
2	Sewage Treatment Plant at G-H-J Staff Qtrs., D Hostel and Admin Building	Sewage Treatment plant work at G-H-J staff qtrs. Completed, D hostel work in progress	Recycled treated water using for gardening @ 10 KLD, save domestic water, reducing river pollution
3	Biodiversity Survey	Survey work in progress	Campus tree georeferencing and age database generating
4	Water Audit	Water audit work completed	Water balance study will utilize for implementation additional water supply scheme for short supply
5	Rainwater Harvesting	Recharge well construction in progress	Recharge will improve groundwater level
6	Energy Audit	Energy audit work in progress	-

7	Fire safety	Fire extinguisher installed in all laboratories; fire safety training given to staff	More awareness and safety measures would be useful to escape in fire hazards
8	Solid waste management	Compost pit constructed for solid waste management near H-J staff qrts	Clean Campus, organic manure generated will be used for gardening
9	Incinerator for sanitary pad disposal	Incinerator machine installed in ladies' common room, all ladies toilets	Proper disposal of sanitary pad will maintain hygiene
10	Laboratory safety	Laboratory safety guidelines displayed in all laboratories, training given to staff, safety tools procured and issued	Laboratory safety training and tools will prevent from minor accidents
11	Solar panel	Solar panel installed at all hostels for hot bath water, solar panel installation at workshop in progress	It saves electricity bill
12	Campus cleanliness	Regular cleaning and hygiene maintained	Hygiene for staff and aesthetic of campus improved

1.6.1 Gardening and Landscaping

Sr. No	Proposed Plan	Action Taken	Impact
1	Garden Cement Bench	Procured and Installed in campus at various locations.	Rest places for staff, students.
2	Garden Cement Curb For Roadside Trench	Procured and Installed in campus at various locations.	It improves aesthetic looks and support to plants.
3	Lawn Plantation in front of Main building Sidrah Landscaping	Lawn planation competed in front of main building	It improves aesthetic looks and increase decorativeness of college campus.
4	Red Soil for Gardening	Procured and placed for gardening	For healthy growth of plants.
5	Cement Curb fitting Charges	Procured and Installed in campus at various locations	It improves aesthetic looks and support to plants.
6	Sewage Treatment Plant Installation by Nature and Care Scientific Solution	Sewage Treatment plant work at G-H-J staff qtrs. Completed, D hostel work in progress	Recycled treated water using for gardening @ 10 KLD, save domestic water, reducing river pollution
7	Tree Plantation GCE Karad Campus	Tree plantation at GCE Karad campus	It maintains the atmosphere free from air, noise and soil pollution.

8	Water Connection Saidapur For Gardening	Water connection completed	It minimizes the water deficiency at GCE Karad for gardening.
9	HDPE Tank and Pipes for Gardening	Procured and installed at respective place	It minimizes the water wastage /deficiency at GCE Karad for gardening.
10	Organic Manures 2 Trolley	Procured and installed .	It helps for making compost manures for gardening and landscaping.
11	Compost Khat Bag	Procured and installed .	It helps for making compost manures for gardening and landscaping.

1.7 Digital Campus

Sr. No	Proposed Plan	Action Taken	Impact
1	Cashless / Digital admission procedure, admission fee.	All Admission activities like admission, fees are collected through online only	It minimizes time, human efforts, and mistakes.
2	Paperless and Digital Examination Procedure	All Academic activities like Examination forms, Examination fees and results are made online through MIS	It Protect Environment by minimizing use of paper. It will minimize time, human efforts, and mistakes.

1.8 National Service Scheme

Sr. No	Proposed Plan	Action Taken	Impact
1	Tree plantation	Total 1100 plants are planted	Campus greenery enhanced. Control noise, air, and soil pollution. Campus becomes oxygen park.
2	Blood donation	Twice in a year 15th August and 26th January blood donation camp organised.	This donation will help socioeconomically backward class.
3	Plastic free campus	Non-biodegradable plastic removed from the campus	Social awareness created. Eco friendly campus
4	Voter registration awareness program	Camp organized	Awareness for voting and improved
5	Social awareness through NSS activity	➢ Eco friendly Ganesh rally ➢ Cleanliness camp at Pritisangam Karad	Social awareness regarding pollution of

		➤ Visit orphanage at Kole	water, ambiance, and hygiene. Charity to orphanage students.

1.9 TEQIP – III

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Improvement in faculty qualifications	Financial assistance is provided to pursue Ph.D	5 members completed Ph.D.with financial assistance. 7 faculty perusing their Ph.D
2	Subject upgradation of faculty through training programs	1. 53 subject based FDP and conferences are conducted. . 2. Faculty deputed to participate in 458 FDPs, 3. Workshops, Seminars, Conferences and MDP	Teaching quality improved hence student performance in GATE and other competitive exams improved.
3	Improving research capability	1.Five department started university recognised research centres. 2. Guidance and financial assistance for applying patents is provided to faculty 3. 44 Equipment having worth of Rs.358 lakh added to laboratories. 4. Innovation and incubation centre established with a cost of Rs.22.5 lakhs. 5.Rs83.46 lakhs of financial assistance is provided for UG and PG research projects.	Faculty research publications increased. Quality of student projects improved.
4	Increasing enrolment and starting new UG, PG and PhD programmes	Research centres is established in five departments. Two new PG programs started. Applied for 1 new UG program in Computer Science. It is proposed to start Minor degrees program.	44 students enrolled under 14 supervisors for Ph.D. Two new PG programs i.e. M.Tech. in Design Engg. and Computer Science started. Minor degrees programs in I.T. and Mechanical Engg. are expected to start from next academic year.
5	Improving academic performance of weaker section students	Committee is formed to implement Equity Action Plan. Innovative evaluation	Results of SC,ST and Female students improved.

		methods are used to identify corrective action. Remedial coaching and various training programmes are conducted under EAP.	
6	Improving academic governance	ICT is extensively used for academic governance such as for collecting student feedback, conducting examination etc. Curriculum is revised as per AICTE guidelines, Industry mode is introduced for B.Tech. students Curriculum revision is made frequently as per the needs of employers	Students numbers passing competitive examinations is increased. Campus placement improved.
7	Non academic reforms	Smart class rooms are established by installing 22 smart digital boards. Wi fi facility is extended to entire campus Rs.16.5 lakhs assistance is given to establish E library. Rs.37.84 is spent for modernisation of conference hall. Curriculum reforms ICT for administration 21 Students hobby clubs are formed.	Quality of teaching and student employability is improved. Academic schedule is strictly maintained.
8	Improving employability of students	56 soft skill training programs with participation of 4489 in three are conducted. Employability skill test for all students is conducted for last three years. Two hecktahon events with participation of 579 students are organised. 144 institute students participated in various national level hecktahon events.	Students employability improved
9	Increase in faculty productivity	Faculties are deputed to IIT and IIM for training programmes. Guidance is given to file patents. Laboratories are modernised	Quality of teaching improved. Revenue generation of institute enhanced. Faculty got

		by adding new equipment to enhance testing and consultancy. Financial assistance is given to enhance qualification.	two patents and booked 15 patents
Medium Term Goals			
1	Student employability and entrepreneurship	Strengthening Innovation Centre facilities and starting EDC.	Will motivate students to start ntrepreneurship.
2	Faculty collaboration and development	Undertake externally funded research projects. Collaborative projects with IIT and foreign universities	To be initiated
3	Facilities and infrastructure development and utilization	Construct additional buildings for departments, hostel and library planned.	Construction of E&TC building and Library building are under progress. Construction of Girls Hostel is above to start.
4	Governance and Administration	Strengthening BOM and other administrative bodies.	Reforms are introduced in functioning of BoM, AC, BoS, IAB etc.
5	Curriculum, Delivery, Assessment and Evaluation	Continuous improvement in teaching learning process as per requirements of society	Continuous process and is in progress

2 Action taken report at dean level

2.1 Dean Academics

Sr.	Description	Work Completed (if No : Reasons)	Action Taken	Impact
Short Term Goals				
1.	Extension of Autonomous Status of Institute	**In progress**	Applied for Extension of Autonomy to UGC through SUK	The Autonomous status of the institute will be continued. This will help the institute to implement various Academics related plans and CBCS system at the earliest.
2.	Initiation of process to start New Post graduate Programs in a. Design Engineering at Mechanical department b. Computer Science & Engineering at Information Technology department	**Work Completed**	PG programs started in (a) Design Engineering (Mech Engg.) (b) Computer Engineering (Inf. Tech.)	
3.	Interdisciplinary Minor Degree program	Proposed to be started from Academic year 2021-22 after approval from Academic Council.	Proposals submitted for following minor degree programs : (i) Artificial Intelligence and Machine Learning (Inf Tech) (ii) Design Engineering (Mech	• The students will be benefitted with additional qualification through minor degree. • This will help to

			Engg) (iii) Entrepreneurship Development (Inf Tech)	improve employability of the students with additional skills.
4.	Apply for Q.I.P. centre for Ph.D. and Post graduate programs to Government of India in Civil, Mechanical, Electrical and Information Technology Department.	**No,** will apply whenever call for proposal is initiated by AICTE / UGC.	Proposed to apply for Q.I.P centre. (for P.G. and Ph.D. for which research lab is approved by Shivaji University Kolhapur)	This will surely improve R & D activity of the institute.
5.	To setup new laboratories for advance courses	**In progress**, (a) Under MODROB Elect Engg. department is establishing Renewable Energy Lab, (b) RPS proposal of Inf. Tech. department.	---	---
6.	To increase employability of graduates	Students' employability tests are conducted by T & P to find individual skills and accordingly guided for employment.	---	---
7.	To promote awareness of Intellectual Property Rights (IPR)	Faculty are encouraged to apply for patents, the patent registration charges are reimbursed by the institute under R & D activity.	Institute promotes this activity by providing Technical / Financial support to the faculty as well as students who files patents.	In last few year patents filed and approved by patent office has increased.
8.	To organize National / International Seminars & Conferences	Institutes promotes to organize National / International Seminars & Conferences so that the students can get benefit to interact with experts in various fields of program.	---	---
9.	To get the Electronics & Telecommunication (E&TC) programme accredited by the NBA	**In Progress** Appointment of sufficient Regular Faculty (by Govt of Maharashtra).	---	---

	Medium Term Goals			
10.	To establish state-of-the-art laboratories	**In Progress :** this is continuous process to update laboratories	---	---
11.	Establishing NABL accredited lab a. Mechanical Dept : Metrology lab b. Electrical Dept : Electrical Measurement and Calibration	To set-up state-of-art laboratories with advanced equipment to cater needs of calibration of industry around needs 2-4 years. Survey of industry needs is in progress by visiting industry around	---	---
12.	Development of 02 no of smart classroom with smart board, video lecture recording and learning material development facility.	Task completed	---	---
13.	To establish campus wide network with intranet	Campus-wide internet is available (wired as well as wi-fi connection)	---	---
14.	To create conducive atmosphere to undertake R & D activities	Research Scholars are encouraged to apply for RPS and other funding agencies	Proposed to apply for Q.I.P centre. (for P.G. and Ph.D. for which research lab is approved by Shivaji University Kolhapur)	This will surely improve R & D activity of the institute.
15.	Faculty development through qualification, publication, training, study tour, short term courses	Faculty is encouraged to apply and complete Ph.D. Under Q.I.P. program	Few faculty are on deputation for Ph. D. under Q.I.P. as per D.T.E. / Govt. of Maharashtra	This improves faculty profile and helps to improve R & D

			norms and few faculty have completed Ph D under Q.I.P.	activity of the institute.
16.	To implement Choice Base Credit System (CBCS)	Planned from AY 2024-25	Proposed to implement after retaining autonomous state of the institute.	This will more number of courses (elective) to the students and to improve students profile as well as employability.

		Long Term Goals		
17.	To achieve deemed University status	The institute become autonomous since AY 2015-16 with only 02 batches passed-out under autonomy. Needs few more batches to be passed-out from the institute.	---	---
18.	To become financially autonomous	As per Govt. of Maharashtra Norms	---	---
19.	Achieving self-reliance by enhanced testing, consultancy an industry sponsored project	**In progress**	**---**	---
20.	Installing Industrial chair at least one in each department	**In progress** (The institute become autonomous since AY 2015-16. In progress, to establish better contacts with industry around).	**---**	---
21.	Collaborative research with Industries and academia	**In progress** (The institute encourages students to opt for industry mode project. To facilitate this activity, Industry Mode and Academic Mode structures are made available to the students.). Students started to opt for Industry Mode for Project and Internship for one (final) semester	In final year structure / curriculum industry mode is included so that the students get facilitated to apply for internship for one complete semester (VIII-sem). Simultaneously, he / she can complete the project work in industry with additional benefit of working on rel time problems of industry	The students gets benefitted to complete internship for one semester (VIII-sem) along with project work on real time problems of industry.

2.2 Controller of Examination

Sr. No	Proposed Plan	Action Taken	Impact
1	Starting of makeup examinations instead of summer term.	Since 2018 it is been implemented.	Students can appear immediately after ESE not necessary to wait for next examination
2	Adoption AICTE exam reform policy	Adopted AICTE exam reform policy since 2019 winter examination	Awareness of Blooms Texonomy in question paper setting is increased
3	To implement Choice Base Credit System (CBCS)	Planned from AY 2023-24	-

2.3 Dean Research and Development

Sr. No	Proposed Plan	Action Taken	Impact
Short term Goals			
1	Apply for QIP centre for Ph D and Post graduate programs.	Institute is not eligible to apply due to pending NBA accreditation visit. However, as per new norms can apply for Ph. D program in autonomous system	
2	At least one publication by each faculty in reputed Journal /conference	Target achieved	Enhanced research competency
3	Faculty development through qualification, publication, training, study tour, short term courses	Satisfactorily Achieved	Higher competency
4	To promote awareness of Intellectual Property Rights (IPR)	Achieved. During pandemic 11 patents were filed.	Enhanced research culture
5	To create conducive atmosphere to undertake R & D activities	Conducive atmosphere created through adequate funding for equipment, high end softwares infrastructure, sponsoring technical forums	Enhanced faculty profile
6	To organize National/International Seminars & Conferences	03 international events	
Medium and Long Term Goals			
7	Industry sponsored research / application development lab	Two labs are developed	Better industrial collaboration
The Long Term Plan			
8	Installing Industrial chair at least one in each department	Not achieved	-

Sr No	Proposed Plan	Action Taken	Impact
9	Collaborative research with Industries and academia	Collaborative Research with Indian and foreign universities	Enhanced research output

2.4 Dean Industry Institute Interaction

Sr. No	Proposed Plan	Action Taken	Impact
Activities to improve employability			
1	Development and adoption of CBCS curricula with participation of all stakeholders as per UGC / AICTE guidelines	It is part of Academic Policy. Not in the purview of Dean III	-
2	Permission of credit transfer for course competed online, another approved institute	MoU with VJTI, CoEP, WCE for students. Credits of CoEP students in SY (2019) were transferred to CoEP.	-
3	Arranging soft skill courses	Soft skills are part of curriculum now. External agencies are hired for soft skills. Induction program is conducted for 1st Year students. SWOT analysis is done for all students. AMCAT analysis is done for all students.	Placement number improved
4	Enhancing industrial exposure by increase in number of visits, training, and internship in semester break	IIIC policy published are promoting industrial exposure and visits are made compulsory with financial assistance	Enhanced quality placement
5	Demand driven short term courses	It is part of Academic Policy. Not in the purview of Dean III.	

Sr. No	Proposed Plan	Action Taken	Impact
Medium Goal (Page 13)			
1	Industrial exposure	➢ Industrial visits are now part of CII policy. Every semester each class will go at least to 2 industries. ➢ Industry Expert Session are now part of CII policy. Every semester each class will have at least to 2 Industry Expert Session as an essential part of curricula.	Enhanced quality and quantity placement

2	100% assistance in placement	Every student gets minimum 7 opportunities to appear for placements. Company list is given here.
		  1. Principal
		  2. TCS, Wipro
		  3. Cepton
		  4. L Cube
		  5. Cognizant, Infosys
			All students get an opportunity for placement and students understand the importance of skill sets they should have

3	Industrial internship as an essential part of curricula	After II semester each program is now going for internship. This is from 2019-20. For intake of 300, thus @ 900 students will have to do internship every year	748 students did internship in 20-21 900+ students registered on Internshala platform
4	Enhancing technical capabilities and aptitude through special coaching	➢ Soft skills are part of curriculum now. ➢ External agencies are hired for soft skills. ➢ Induction program is conducted for 1st Year students. ➢ SWOT analysis is done for all students. ➢ AMCAT analysis is done for all students.	Enhanced quality and quantity placement

2.5 Dean Resources & Mobilization

Sr. No	Proposed Plan	Action Taken	Impact
1	Strategic management of resources	New library building and IT building are completed 60%. New SC-ST girls hostel, financial allocation by AICTE and institute fund.	Efficient utilization of resources.

2.6 Dean Student Welfare

Sr. No	Proposed Plan	Action Taken	Impact
1	To start minimum 20 different student CLUBS for overall development of students	24 CLUBS have been started	Student participation in national competitions enhanced. Success rate in competitive examination improved.
2	Development of playing ground	Holley Ball (Boys and Girls separate ground), Kho-Kho, Kabaddi and Cricket grounds are developed.	Participation of students to play various games increased. Prises in zonal and inter-zonal games increased.
3	Development of Indoor game place	3000 Sqft Indoor space developed.	Increase in students participation in indoor games like Chess, Table Tennis, Boxing etc. One of the students selected in University TT team consecutively for three years.
4	Development of new Basket-Ball ground	State-of-the-art Basket-Ball is constructed near to hostels.	Participation of students (Both Boys and Girls) in Basket-Ball tournaments increased. One of the girl students selected in University Basket Ball team.
5	Student grievances cell	Student grievances cell created.	Students grievances were addressed at initial level hence students satisfaction improved.

3 Action taken report at department level

3.1 First Year Engineering

Sr. No	Proposed Plan	Action Taken	Impact
1	Setup language laboratory	60 student capacity language laboratory developed.	Better communication skill of the students enhanced.
2	Refurbishment existing amenities	Laboratories refurbished.	Better learning ambiance.
3	Induction program	Last three years induction program of three weeks conducted.	Student affinity towards institute enhanced and confidence level of fresh entrants enhanced.

3.2 Civil Engineering

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Development of villages under Unnat Bharat Abhiyan	6 Villages (Bidal, Nidhal, Dhamner, Jambhali, Majgaon, Kondawa) were adopted and social economy survey carried and potential projects are suggested and executed.	Social economic development of villages.
2	Strengthening of resources for existing courses	Many state-of-the-art equipment are purchased in all laboratories from various grants and necessary infrastructure is developed.	Skill development and hands-on practice.
3	Improvements in teaching learning and research competence	➢ Two faculties were deputed for PhD to reputed institutes. ➢ Department has conducted many workshops/ FDP/ STTP and conferences, funded by TEQIP.	Interaction with eminent persons and other research scholars, QIP centres, faculties helped to enhance culture of research substantially.
4	Consultancy and revenue generation activities	➢ Many state-of-the-art equipment's and latest softwares are purchased in all laboratories. ➢ Signed MoU's with reputed industries, institutions and personnel.	➢ Revenue generation is increased substantially. ➢ Societal needs
5	Training to supporting staff	Technical and behavioural training is provided to all supporting staff through TEQIP III and other funding's.	Skill of the supporting staff enhanced.
Mid Term Goals			
1	Starting new PG program in Environmental Engineering	Proposal preparation is in progress and may be started from next Academic year	-
2	Modernization and strengthening existing UG & PG labs	New state-of-the-art equipment's are purchased. Work is partially completed.	IRG enhanced.
3	Modernization of classrooms and smart classroom	Refurbishment Work for setting smart classrooms is completed.	Faculties are using smart classroom for teaching.
4	Applying for research proposal to central and state agencies	Proposals are submitted to AICTE and DST	-

5	Collaborations with IITs and other institutes	Work of signing MoUs with reputed institutes is in progress	-
6	Setting of smart classroom and MOOCs courses, flipped classroom and virtual lab.	Work of smart classroom and facility for MOOCs courses is well established however work of setting flipped classroom and virtual Lab is in progress.	Faculties of the department have completed at least one MOOC course.
7	Offering the projects based on socioeconomics need.	Projects offered are on socioeconomic needs mainly related with Sewage disposal, Unnat Bharat Abhiyan etc.	Social relation developed.
8	Internship to the students in Government organizations	➢ Internship is made compulsory in curriculum. ➢ Efforts are being taken to provide the internship in PWD and WRD	Students acquainted with field knowledge.
9	Establishing Centre of Excellence in NDT, Structural Audit, Soil and water testing	Necessary infrastructure is established, Procurement of Equipment is in Progress.	Students are exposed to recent technologies which will enhance their skill.
10	Upgradation of Environmental laboratory for air and water quality monitoring	The procurement process for the necessary equipment is in progress.	-
11	Self-sustainable campus and villages	Work is in progress with the help of UBA and TEQIP III funding and necessary set ups are installed.	-
12	Implementation of Green Technology	Green Technology is effectively implemented in new constructions in the campus.	-
13	Organization of FDPs, Expert lectures etc.	Many National, International workshops, FDPs are conducted regularly	Faculty outreach extended.
14	Setting of faculty exchange program	Efforts are being taken for this activity.	-
Long Term Goals			
1	Starting new PG courses in Geotech Engg. and Town planning	Proposal for the same is under preparation.	-
2	Starting sewage farming in campus	Yet to be started	-

3	Preparation of smart campus	Phase-wise work is in progress	-
4	Faculty exchange program with foreign universities,	Yet to be started	-
5	Establishing Centre of excellence in Earthquake resistant structures	Proposal preparation is in progress	-
6	Started finishing school	Proposal preparation is in progress	-
7	Collaboration with reputed foreign university	Yet to be started	-

3.3 Mechanical Engineering

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Initiation of process to start New Post graduate Programme in Design Engineering	Achieved in A.Y. 2019 -20	Department completes three major areas of mechanical engineering for PG program
2	Apply for QIP centre for Ph D and Post graduate programs	Applied for QIP centre but application rejected due to NBA accreditation in process.	-
3	Offering piping engineering course under CEP	Non availability of participants due to pandemic situation.	-
4	To enhance the knowledge competence of faculty by participating in various FDPs,	Achieved. Faculty development programme had input from industrial experts.	Enhanced competency of faculty to train industrial ready manpower.
5	Training on advanced skills based on industrial environment to be arranged for the faculty, staff and	Training on practices in power generating systems and CFD conducted.	Better Industrial interaction and knowledge transfer.

	students of the department		
6	To upgrade laboratories and teaching-learning infrastructure	Smart boards, new equipment and software's are added	Enhanced learning opportunities
7	Development of virtual laboratories in the institute	In progress	-
8	To setup new laboratories for advance courses	Have Set up Tribology Lab for M. Tech Design Engineering	Better learning opportunities
9	Development of two smart classroom with smart board, video lecture recording and learning material development facility	Installation of two smart boards completed and video lecture and learning material development is in progress.	Due to use of smart boards and modern tools teaching learning process improved.
10	Number of expert lecture by industrial / field experts shall be enhanced	Achieved. 10 percent higher industrial experts shared their knowledge.	Better industrial connect and knowledge transfer.
11	Number of industrial visits of student and faculty shall be enhanced	➢ For last two years industrial visits are arranged minimum two visits per as a part of the course. ➢ But last year due to pandemic situation visits are not permitted.	➢ This has bridged the gap between industry and academia. ➢ Students get familiar with industrial culture.
12	To promote awareness of Intellectual Property Rights (IPR)	Achieved. During pandemic 11 patents were filed and also last two years awareness of the patents filling enhanced.	Innovation attitude of the students and faculty is cultured and cultivated.
13	To create conducive atmosphere to undertake R & D activities	Partially Achieved, 3 RPS grants received by department faculty and also no of enrolled PhD students is enhanced.	Faculty outreach, publications, departmental perception enhanced.
14	To organize National/International Seminars & Conferences	Department has organised 2nd National conference (NCNM 2017), International winter academy 2018. Reputed national and international keynote speakers are interacted	Research culture and publication quality improved.

		with the research scholars of the department.	
15	Implementation of 5S concept in the department	Started	Better house keeping

Medium- and Long-Term Goals			
1	To establish state-of-the-art laboratories	Centre of excellence in computer integrated manufacturing (CIM) developed and Robotics and Product Development are under process. Conventional laboratories are updated with modern equipment's.	Better students learning
2	Establishing Centre of Excellence in Condition Monitoring of Plants and Machineries	Upgradation is in process.	Enhanced learning and research

The Long-Term Plan			
1	Installing Industrial chair	Not achieved	-
2	Collaborative research with Industries and academia	Collaborative Research with premium institute of the nation.	Enhanced research output

3.4 <u>Electrical Engineering</u>

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Development of two smart classroom with smart board, video lecture recording and learning material development facility	Installation of two smart boards completed and video lecture and learning material development is in progress.	Due to use of smart boards and modern tools teaching learning process improved.
2	Apply for research laboratory for PhD	University recognition for research lab is obtained from AY2017-18.	➢ Twenty-Eight students enrolled for PhD in this research centre. ➢ Environment and culture for research is created.

3	Arrange International conference	One conference was arranged in 2018.	Increase out-reach of the faculty.
4	No of Industrial visits by faculty and students to be enhanced	Industry visit is made part of curriculum. Hence one visit per class per semester is made mandatory.	Increased industry-academy interaction.
5	No of lectures by industry experts shall be enhanced	Ongoing process.	Increased industry-academy interaction.
6	Training for skill-based courses for faculty	Faculty attended 12 training programs till date.	Faculty becomes familiar with contemporary technology.
Medium and Long Term Goals			
7	Establishing Centre of Excellence in RES and Power electronics and calibration lab	➢ Equipment bid processing is started and RES Lab will be established by June 2021. ➢ For PE and calibration lab faculty is working on getting funds and permission from NABL.	Will provide opportunity for research to UG and PG students.
8	Faculty development	➢ Two faculty are deputed for Ph. D. under QIP. ➢ Faculty publication has increased. ➢ Study tour to reputed organizations (4 tours conducted)	Increased faculty qualification
9	Reapply for accreditation	Applied, waiting for expert visit.	Recognition to the department
10	Employability enhancement	➢ Employability has shown satisfactory growth. ➢ AMCAT training is made mandatory.	Satisfaction of student community and Admission ranking of program at state level is improved.
11	Development of infrastructure	Limited space for expansion. Pursuing for getting additional built-up area.	As two new buildings, library and IT are in progress after completion current area of ground floor of library will be allotted to Electrical department.

3.5 Information and Technology

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Start new PG courses.	AICTE/State Govt./University granted permission to start new Computer Science Engineering,	Opportunity of new PG course to students. Started this course in 2019-20.

2	Setup PG lab for CSE.	Equipment's, Software's i.e., PCs, Servers, Accessories, auxiliaries, furniture, etc. procured.	New facility created with modern infrastructure for students.
3	Upgradation of UG course curriculum.	Every year curriculum is updated according to industry need based, subjects are introduced, internship is introduced.	Placement enhanced.
4	Industry Institute collaboration 1. Industry sponsored/ invited projects. 2. Internship of students. 3. Industrial Visits. 4. Industry Expert talks Collaborative projects.	➢ 09-MoU signed with IT Industry. ➢ 04-Industrial projects completed. ➢ 06-Internships completed, ➢ 04-Industrial tours visited.	Industry ready students
5	Development of smart classroom with smart board, video lecture recording and learning material development facility	Installation of smart boards completed and video lecture and learning material development is in progress.	Due to use of smart boards and modern tools teaching learning process improved.
6	FDP organization / Attending externally. STTP/Seminar/C onference attending locally & externally	08 FDPs / STTPs organized, International Seminar & Conference organized	Total 14 faculties trained in different domains.
7	Scaling-up R&D and Collaborative Research	Centre of Excellence established, 01 Lab modernized with AICTE MODROB funds (02 times)	R & D enhanced.

3.6 Electronics and Telecommunication

Sr. No	Proposed Plan	Action Taken	Impact
1	Fulfillment of basic infrastructure in classrooms and laboratories	➢ Overhead projectors and interactive boards are installed in classrooms and tutorial rooms. ➢ Cutting age technology equipment, hardware and software tools are purchased to develop laboratories-basic laboratories,	➢ Fundamental, applied knowledge and technical competency is improved in students. ➢ Students started thing innovatively and project-based learning.

		communication laboratory, fibre optic laboratory, VLSI laboratory, control and simulation laboratory, IoT, AI and machine learning laboratory	➢ Placement was meagre now it is 95% and in reputed companies.
2	Workshops for students	Workshops on MATLAB, ROBOTICS, Embedded system, image processing, VLSI Design, Antenna Design, AI Machine learning, PYTHON is conducted with the help of industry experts.	Employability of students is enhanced and lead to placement in IT and core companies with decent packages.
3	FDP	FDP in VLSI technology, Antenna design, MATLAB and out come based education are conducted with the help of experience faculty from higher learning institutes IIT's and NIIT's.	➢ Quality in learning – teaching – learning is improved ion the department. ➢ Confidence level of the faculty members is increased. ➢ Increase in no of publications.
4	Incubation centre	Incubation and entrepreneur cell is established centrally by institute.	➢ Two – Three students became entrepreneur. ➢ One technology transfer is executed.
5	Centre of excellence	Centre of excellence in IoT, AI machine learning is established. Robotic centre is in process.	Students are working in the centre leading to technical competency, placement and higher studies.

3.7 <u>Master of Computer Applications</u>

Sr. No	Proposed Plan	Action Taken	Impact
Short Term Goals			
1	Fulfilment of basic infrastructure in classrooms and laboratories	Overhead projectors and interactive boards are installed in classrooms and tutorial rooms.	Fundamental, applied knowledge and technical competency is improved within students.
2	Improvements in teaching learning and research competence	Many faculties were deputed to reputed institutes. Department has conducted many Workshops/ FDPs/ STTP and conferences with the help of TEQIP III and other funding institutes	Quality in learning – teaching –learning is improved in the department.
3	Workshops and Industrial Trainings for students	Workshops on Soft Computing, To enhance the knowledge in technical skills, data Mining Applications, Embedded Systems, Industrial trainings on Python, data Science and Machine Learning, data Analytics have been organised by department.	Employability of students is enhanced and lead to placement in IT and core companies with decent packages.

4	Industry Visits for Students.	Two Industry Visits are organised for Students.	Practical Knowledge has gained by students.
5	Training to supporting staff	Department has planned to organise Technical and behavioural training to all supporting staff.	To enhance the knowledge of supporting staff to improve work competency.
Medium Goal Terms			
1	Development of one Research Laboratory	Prepared proposal for Research Laboratory on "Digital Image Processing "	To prepare the students for technical competency, placement and higher studies.
2	Collaborations with IITs and other institutes.	Paper published in collaboration with NIT Goa by one faculty. Work of signing MoUs with reputed institutes is in progress.	To explore the students in reputed Institute's study culture and to enhance the knowledge in research.
3	Setting of smart class room and MOOCs courses , Flipped classroom and virtual lab	Work of smart classroom and facility for MOOCs courses is well established however work of setting Flipped classroom and virtual Lab is in progress.	To implement Digital transformation in teaching learning process.
4	Internship to the students in Government organizations , Industries and IITs and NITs	Already internships are made available and efforts are being taken to provide the internship in Government Organizations	To explore the students in reputed Institute's study culture and to enhance the knowledge in research.

4 Best Practices at institute level to improve the attainment level of PO's and PSO's.

➢ Close loop system in quality learning – teaching – learning.

➢ Involvement of student and faculty in research and innovation.

➢ Skill based training programs to attract core companies and enrich the employment.

➢ To provide ambiance for comfort zone to faculty.

➢ Inculcate self-belonging to institute for all the stake holders.

➢ To provide complete digitization to increase efficiency twice to all the stake holders.

5 Concluding remarks

➢ Short term goals of IDP are almost achieved.

➢ Medium term goals of IDP are 60% achieved.

➢ Long term goals, process initiated and directional approach with appropriate speed ensured.

Some of the goals like installing industrial chair, establishing accredited laboratory, filling up vacant position has limitations due to remote geographical location, government recruitment process and institute outreach.

Revision of Institute Development Plan is scheduled in July 2021.