Dr. Babasaheb Ambedkar Technological University

Maharashtra State

PERSPECTIVE PLAN

(2020-2025)

Content

Dr. Babasaheb Ambedkar Technological University

State Technical University

by

MAHARASHTRA ACT No. XXIX OF 2014

(Dr. Babasaheb Ambedkar Technological University Act, 2014 Dated 27th June 2014)

An Act to establish and incorporate a University of Technology in the State of Maharashtra.

As per Sections 3(3) and 4(1) of Chapter II of the Dr. Babasaheb Ambedkar Technological University Act, 2014, the **University is an affiliating University** and the territorial limits, within which the powers conferred upon the University by this Act, shall comprise of the **whole of Maharashtra** and it may affiliate any college, or institution conducting engineering, pharmacy, architecture, hotel management and catering technology courses for the conferment of degrees, diplomas or grant certificates to the students admitted therein.



OUR VISION

The University is committed to becoming a leading 'Center of Excellence' in the field of Engineering & Technology, Pharmacy, Architecture, Hotel management and Sciences with a national character and international outlook

OUR MISSION

The University is committed to provide quality technical education, research and development services to meet the needs of industry, business, service sector and society.

Quality Policy

To pursue global standards of excellence in teaching, research, and consultancy and continuing education, and to remain accountable in our core and support functions, through processes of self-evaluation and continuous improvement

As the State Technical University we aim to work most effectively when motivated by the common values- Openness, Commitment, Integrity, Innovation and Societal relevance

Core Values

As the State Technical University we aim to work most effectively when motivated by the common values- Openness, Commitment, Integrity, Innovation and Societal relevance

Openness

The University is open to all and the inclusiveness embraces diversity, respecting the perspectives and contributions of all, students, faculty, staff, industry and society.

Commitment

The Faculty, Students and Staff are committed to the mission of the University of providing quality technical education and to become a ‘Centre of Excellence’ in Engineering Education

Integrity

We agree to be consistently honest and fair in our dealings with others, respect each other’s interests and abilities to work together towards a common goal of achieving excellence.

Innovation

We aim to innovate, espouse the academic rigour and work together to find solutions to the local problems facing the society but having global reach.

Societal relevance

We continually strive to be better by applying creative solutions to problems in rapidly changing technology landscape. We commit to respond to the needs of colleagues, students, research sponsors, industries and visitors in a helpful, timely and sensitive manner.

Affiliation of Colleges

As the affiliating *University of Technology in the State of Maharashtra, Dr. Babasaheb Ambedkar Technological* ***University has started the affiliation of Engineering & Technology, Pharmacy, Architecture and HMCT colleges from September 2016***

Planning of Affiliation of Colleges

The affiliation shall be on the basis of the parameters recommended by UGC and can be either temporary or permanent.

The mandatory parameters shall have to be met by the Institute to get permanent affiliation**.**

The Local Inspection committee also shall evaluate the capability of the management and leadership qualities by direct interaction with chairman and principal of the Institute.

Projected Affiliation of Colleges to the University and Corresponding Number of Students registered with the University in the next five years

The University plans to affiliate colleges from the State in the following manner (cumulative in Nos.)

Academic Year	Engineering & Technology	Pharmacy	Architecture	HMCT
2020-21	67	123	08	02
2021-22	100	130	25	5
2022-23	150	150	40	10
2023-24	250	160	55	25
2024-25	368	168	60	30

Expected Number of Students in University in UG Programmes (cumulative in Nos.)

Academic Year	Engineering & Technology	Pharmacy	Architecture	HMCT	total number of Students
2020-21	20000	10283	340	180	16240
2021-22	60000	14000	2000	400	66400
2022-23	135000	12000	4800	1200	153000
2023-24	300000	25600	8800	4000	338400
2024-25	441600	26880	9600	4800	482880

Expected Number of Students in University in PG Programmes (cumulative in Nos.)

Academic Year	Engineering & Technology	Pharmacy	Architecture	HMCT	Total
2020-21	2700	360	180	18	3258
2021-22	10800	1800	900	180	13680
2022-23	16200	3600	1440	360	21600
2023-24	27000	5760	1980	900	35640
2024-25	39744	6048	2160	1080	49032

Expected Number of Students in University in PhD Programmes (cumulative in Nos.)

Academic Year	Engineering & Technology	Pharmacy	Architecture	HMCT	Total
2020-21	50	40	10	0	100
2021-22	200	200	25	0	425
2022-23	450	600	40	0	1090
2023-24	1000	1280	55	0	2335
2024-25	1840	1680	60	0	3580

Industries In Maharashtra-Districtwise

District	Agri & Processing	Sugar	Chem & Pharma	Cotton & Textile	Healthcare	Electronics	IT-ITES	Auto	Power & RE	Coal & cement	Metal & Manufg	Finanace	other
Ahemednagar	■	■											
Akola	■			■									
Amravati				■		■	■		■				
Aurangabad	■		■	■			■	■			■	■	■
Beed	■												■
Bhandara			■			■		■			■		
Buldhana	■		■	■							■		
Chandrapur										■			
Dhule				■					■				
Gadchiroli	■		■										
Gondia				■					■	■			
Hingoli	■					■					■		
Jalgaon	■										■		
Jalna	■		■	■							■		■
Kolhapur				■							■		
Latur	■		■								■		
Mumbai			■		■		■					■	■
Nagpur	■			■		■	■		■		■		■
Nanded		■	■	■			■			■			■
Nandurbar	■								■				■
Nashik	■	■	■	■		■		■	■		■		■
Osmanabad	■	■	■								■		
Parbhani	■					■	■						
Pune	■	■					■	■			■		
Raigad	■		■	■			■				■		
Ratnagiri			■						■		■		■
Sangli	■	■		■		■			■				
Satara	■							■			■		
Sindhudurg	■		■								■		■
Solapur	■			■			■						
Thane	■		■	■		■					■		
Wardha		■	■	■							■		
Washim	■					■					■		■
Yavatmal	■			■						■			

The Table shows district-wise distribution of different type of industries through the State of Maharashtra**.**

- Agriculture still seems to be the main source of income although certain districts have sizable sugar, chemical, pharmaceutical, cotton and textile industries which could be based on agriculture.
- IT and IT enabled services are also concentrated in few areas. Healthcare is mainly concentrated in metropolitan cities.
- Heavy industries like power, Auto, Cement, and Coal are few and are localized in remote areas.
- The Technical Institutes in the area should concentrate in coordinating with local industries for training of their students and corresponding courses should get more attention.
- The Food processing courses in districts with agri-based economy may be better than other courses. The districts such as Akola, Washim, Sindhudurg, Hingoli and Gadchiroli indeed need more technology Institutes with attention to local economy.
- There has been spurt in intake in IT and Communication Technology courses in the last decade. Yet we do not see large and wide spread industries in these sectors in the State, affecting the employment of the gradauates. On one hand, the policy of the Government is that no student should be deprived of the opportunity in technical education, but merely increasing number of graduates without improving the industry infrastructure for employment may become counterproductive.
- This distribution should be seen more as opportunities that exist to establish those industries in the districts where a sizable number of trained engineers are also available.
- Currently, the capacity of Technical Education in the Institutes is underutilized with large vacancy in some colleges. Students prefer institutes in Urban areas or where industries are concentrated from employability of view. If the intake is to be maintained in Institutes with adequate infrastructure in rural areas, the quality of education in those Institute must be increased and Industries must be set up near those Institutes, if possible, by providing incentives.
- The key for improvement is quality of faculty in the Institutes. An exposure of the faculty to research, industry and corporate culture is probably required in immediate future, along with training in pedagogy/andragogy.
- Demand for Pharmacy and architecture courses shows an increasing trend. Healthcare industry is, however, concentrated in very fewer areas. Alternate medicines have crept into pharmacy research in the last few years, particularly in nanotechnology and drug delivery systems.
- Rural areas are distant from cities and in some cases there is poor connectivity. The poor connectivity is major issue even in the University area of DBATU because of forest land surrounding the University. If the ICT infrastructure is made available to such colleges, it shall enable imparting education at such distant places with quality. It can also bring down cost of education significantly.
- **The University shall emphasize on training the faculty in pedagogy/andragogy, industrial exposure, ICT based self-learning, live projects in collaboration with industries, hands-on learning and access to e-resources in the University and in the affiliated colleges**.

FOCUS AS TECHNICAL UNIVERSITY OF THE STATE

Academic Activities

➢ Curriculum Development

- Orientation programs for Teachers
- Development of dynamic curriculum with industry input
- Professional Skills Development in students, staff, and Faculty
- Choice/ Flexibility through elective subjects
- Participation of Industry Professionals in teaching and advisory Boards
- Student-centered learning strategies
- Project and research based Teaching-Learning Processes
- New pedagogy methodology
- Motivating teachers for research

➢ Academic Monitoring

- Faculty development
- Curriculum Implementation and Assessment Norms
- Continuous assessment
- Result Analysis
- Development and Use of new learning resources
- Students attendance
- Library facilities and e-Resources
- Laboratory standards and Manuals
- Closed Loop system i.e. corrective measures through feedback mechanism.
- Well trained engineering Teachers
- Mandatory NBA accreditation for Institutes after five years of establishment of courses.
- NAAC accreditation of colleges
- Academic audit

➢ Academic Resources

- Standardize Laboratory Practices in the institutes across the state.
- Well arranged lab manuals
- Creating learning space in each Institute
- Scientifically Customized Learning Resources across the State in each discipline of Engineering,
- Transparent documents between the teachers and students,
- Continuous updates of the manuals and lecture notes
- Compulsory industrial visits/ Training
- Softwares for subject domain learning
- Mini projects for integrating skills.
- Interactive expert lectures
- Free educational resources

➢ E-Learning

- Establishing Virtual learning centers at Regional and sub-regional centres .
- Relay/ Video streaming of lectures from Digital media studios at regional centres
- Students and teachers of remote colleges to benefit.
- Involvement of other universities in the network for digital learnings.
- Online certificate courses
- Career counseling sessions.
- Online Remedial examination
- MoU with IIT Bombay/ Madras and other Institutes for training in software
- Spoken Tutorials
- Online freeware

- e-Depository of Lectures, PPT files, educational videos
- On-line e-courses for learning for audit courses.

➢ Language Laboratory

- Development of Communication skills,
- Development of Technical Writing skills
- Development of Foreign Language skills in students and Faculty
- Establishment of remote colleges on priority basis.
- Orientation Training for Teachers for communication with students

➢ Online Remedial -Examination

- Online examination centers
- Instant result declaration.
- Examination centers for physically challenged.
- Open office choice available.
- Practical questions.

➢ Other Projects

- Conduct of Online Digital Evaluation across the state
- Conducting Result Processing
- Common Examination and Tests.
- Search Conferences, Job Analysis, Market Survey
- Key performance indicators of colleges, normalized over district level and of University

➢ Question Banks

- Question Banks for important subjects
- Balanced and errorless Question Papers.
- Audit of question papers
- Numerical solutions and answer keys for question paper on completion of examination
- Question Paper profiling

Faculty Development

- Orientation trainings
- Subject/Content updating training
- Pedagogy -Teaching and Learning processes
- Industrial Training
- Management skills (Time management, Project Management)
- Hands-on-skills trainings.
- Financial management training,
- Intellectual Property Management
- Human Resources and Interpersonal Communications training
- Life Skills, communication skills & Professional Skills
- Research Methodology

➢ Industrial Training for Teachers

- Industry Education Partnership Cell
- Collaboration with Industrial Organizations
- Deputation for industrial training
- Latest state-of-the art technology developments
- Industrial/Corporate Practices exposure
- Latest shop floor practices and Human Resource Management
- Confidence and self-Esteem building
- Innovation and Research skills

➢ Academic Expertise

- Design and Development of Need based Curricula.
- Design and Development of Lab Manuals and other virtual resources.
- Academic Audit of Technical Institutions.
- Faculty & Student development program.
- Conduct of on-line Examinations
- Result Processing and analysis
- Joint Certification Programs with industry and other organizations.
- Consultancy Services
- Focus on development of skills and competencies for solving real life problems

Staff Development

- Industrial/Corporate Practices exposure
- Hands-on-skills trainings
- Deputation for industrial training
- Confidence and self-Esteem building
- Human Resources and Interpersonal Communications training
- Qualification improvement

Student-Centric Activities

➢ Talent Search

- Promoting innovation, talent and Creativity programs through project competition.
- Encouraging with cash prize for winners
- Finishing Schools-Life Skills, communication skills & Professional Skills

➢ State/National Level Student Technical Quiz Competitions

- Learning peripheral and interdisciplinary knowledge.
- Development of broader vision for opportunities.
- Knowledge sharing.
- Development of confidence and self-esteem .
- Grooming to Industry's expectations of professional competence.
- Certification and Cash prizes for winning teams and Internships

➢ State/ National Level Student Technical Paper Competitions

- Self-study skills
- Presentation skills
- Information search skills
- Research abilities
- Knowledge sharing skills
- Defense skills

➢ Career Fair

- Technical & Vocational education reaching to the rural masses.
- Dissemination of information to the students
- Aptitude Testing
- Student Counseling
- Information on Industrial Training.

- Motivating Lectures
- Theme talks :

➢ Scholarships

- Scholarships to needy and meritorious students
- Social responsibility of Scholars

➢ Training and Placement

- Create platform for placement through campus interview, Pool Campus.
- Create equal opportunity for students and industries in urban as well as in rural areas.
- Finishing Schools, Counselling and Remedial Training

➢ Internship for Students

- In-plant training /internship of one month each after 4th semester and 6th semester for all students of in Engineering
- Six months Apprenticeships in industry after graduation

Reforms in Administration

➢ e-Governance

- Cashless transactions
- E-correspondence with affiliated colleges and Institutes.
- Quick and confirmed communication.
- Information dissemination (Circulars, Academic Calendar, Curricula, Exam Timetable, Exam Results, Office Orders, Hall tickets, etc. available on web site)
- State-wide University Information Management System
- On line affiliation system
- Online submission of registration, marks-sheet, declaration of results
- Online information dissemination
- Online availability of fcaulty, staff and students data
- On-line registration for courses
- Online transcript application
- Demat account of degrees and certificates
- Online verification of information
- Online feedback
- Online attendance system and e-Notice board

Schools and Centers of Excellence

- To meet the current needs of industry and Society
- Industry-Institute Partnership in Innovation.
- Bridging technology gaps between industry and academics.
- Improve employability and entrepreneurship.
- Hands on Practical Experience of recent technologies practiced in the industry.
- Faculty development and enrichment.
- Project and research programs.
- Setting up CEP Programs.
- Revenue generation.
- Information Processing and Planning of research
- Technology development and Transfer

Promotion of Innovation

- ***Innovation***
  - Promote and boost the ability of faculty & students towards innovation
  - Innovation for product, process or System
  - IP management and processing fees for patent
  - Technology Transfer support
  - Incubation Centre
- ***Networking Resource Centre***
  - Champion Industry & Patron Institute connected together & assists other institute(s) for industry interaction.
  - Promotion of industry meetings and participation in education and Incubation of ideas
  - Number of ideas incubated

Promotion of Excellence

- ***Best Laboratory Award***
  - To motivate institutes to develop full fledged laboratory in engineering discipline.
  - *Requirement*:
    All working laboratory equipments required based on curriculum
    Development of in-house new experiments
    Completion of 100% practicals as per curriculum
    Additional learning material developed etc.
- ***Best Industry Institution Interaction Award***
  - To encourage & acknowledge institutes to develop interaction with industry.
  - *Requirements:*
    Industry visits, Percentage students sent for training,
    Number of industry sponsored projects, Industry training attended by faculty
    Number of self organized trainings, Number of industry lectures arranged
    Industry training workshops
- ***Best Partner Institute Award***
  - To Encourage institutes to participate in networking activities with the University & error free execution of examinations
  - *Requirements:*
    Excellent academic performance,
    Conduct of examination,
    Assessment center, No lapses,
    Acceptance & execution of directives for training,
    Curriculum development,
    Laboratory Assessment, paper setting, assessment etc.
- ***Best Research Award***

  To encourage colleges to pursue research in frontier areas of technology
  Requirement:
  Number of papers in high impact Indexed journals
  Maximum number of faculty involved in research
  Maximum amount generated as research funds

- ***Best Innovation Award***

  To encourage innovation in all sectors of education fields
  Maximum innovative ideas
  Best Commercialized patents
  Maximum encouragement to students and faculty and staff to innovate

- ***Best Entrepreneurship Award***

  To encourage entreneurship in graduates in all sectors
  Maximum entrepreneurs

- ***Best Teacher Award***

  To Motivate and appreciate teachers for teaching
  For outstanding teachers in University and affiliated colleges
  Criteria: Innovative teaching methodologies, concern for students, expertise in subject domain and popularization of science and technology

Skill Development Centers

- For skilling rural unemployed youth and providing employment.
- To become entrepreneurs.
- To promote science and technology development
- To support ‘Start up’ for traditional knowledge

Main Centre and Regional Centres


As per Sections 3(5) to 3(7) of Chapter II of the
Dr. Babasaheb Ambedkar Technological University Act, 2014,

The principal seat of the University shall be at Lonare in Raigad district in Konkan region, or at such other places as the State Government may, by notification in the *Official Gazette*, specify in this behalf.

And

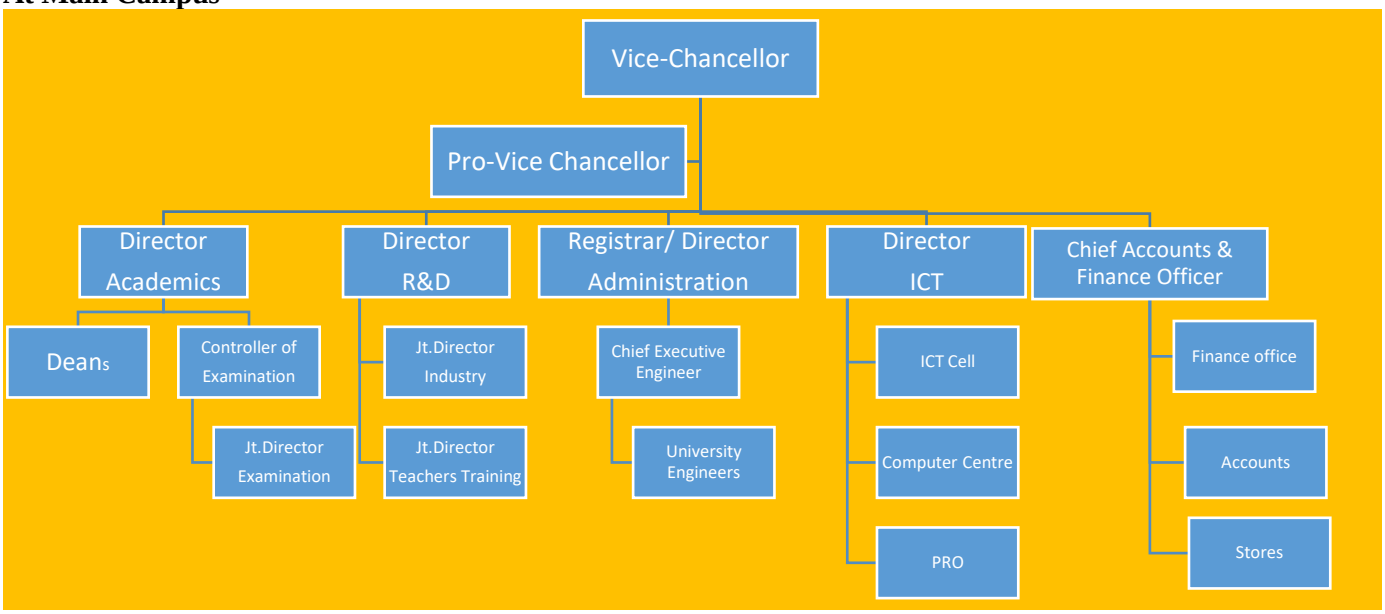
The University shall establish Regional centres at **Mumbai, Pune, Nagpur, Aurangabad** and at such other places as may be determined by the University, from time to time.

The University shall have five Sub-regional Centers at **Kolhapur, Solapur, Amravati, Nanded and Jalgaon** or at any other places decided by the Government of Maharashtra.

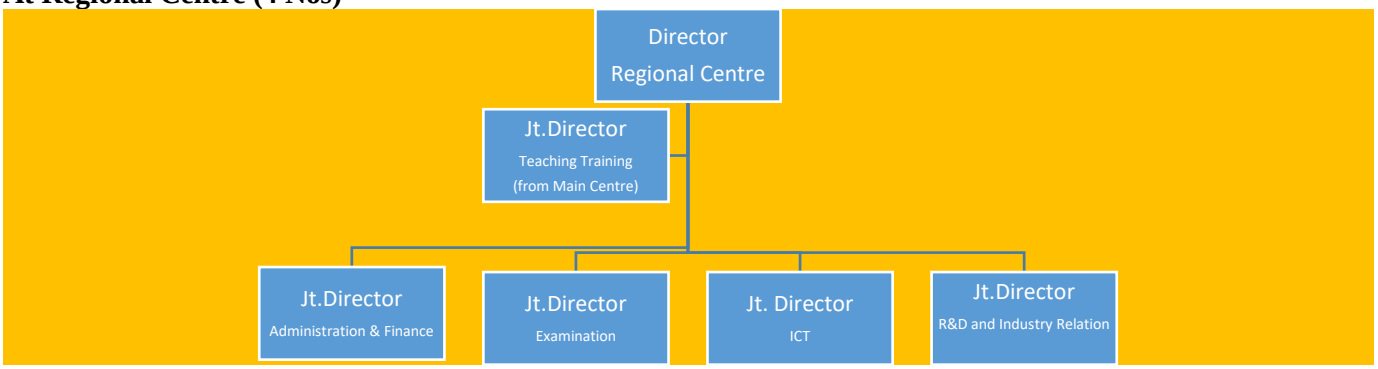
Organizational Structure of the University

The University shall have a Main campus and nine Centres throughout the State. A 'Regional Center' means a Center established or maintained by the University, as its constituent unit, for the purpose of coordinating and supervising the work of students and institutions and for rendering any other assistance including training, conducting classes and administering examinations and for performing such other functions as may be conferred on such center by the Executive Council

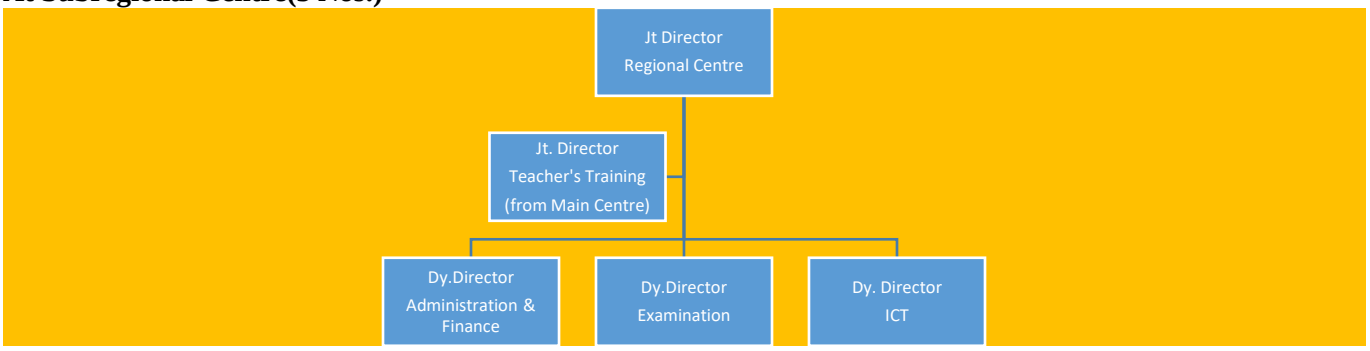
At Main Campus



At Regional Centre (4 Nos)



At Subregional Centre(5 Nos.)



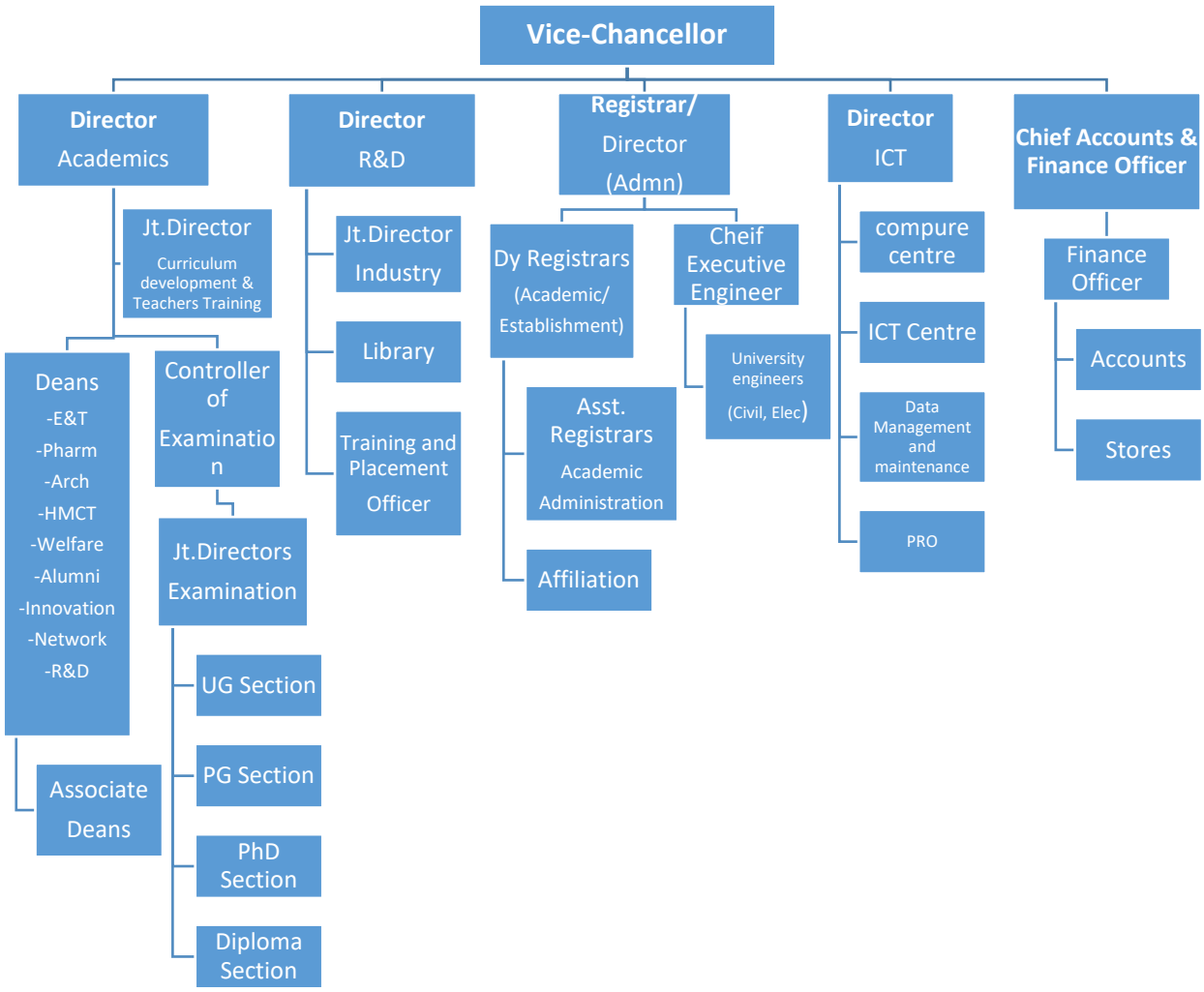
Administration of the University

OFFICERS OF THE UNIVERSITY

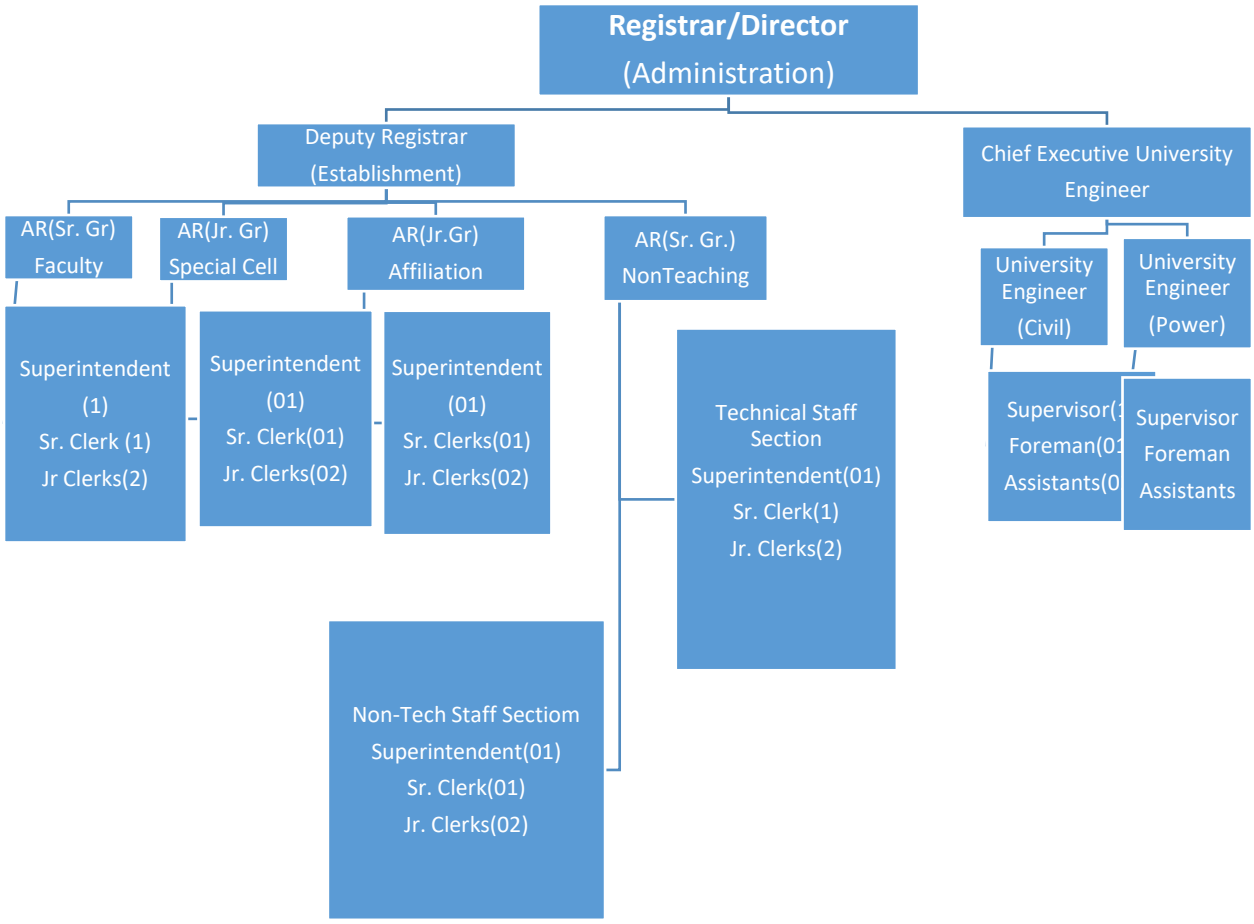
Sr. No	**Position**	
1	*T*he Chancellor	*Hon'ble Governor, State of Maharashtra*
2	Vice-Chancellor	Appointed by the State Government
3	Directors	Director-Academics
		Director- Administration
		Director- R&D and Industry Relations
		Director- Information and Communication Technology
		Directors- Regional Centres (Nos.4)
4	Deans of Faculties	Dean- Engineering & Technology
		Dean- Pharmacy
		Dean-Architecture
		Dean-Hotel Management & Catering Technology
5	Dean of Research and Development;	Dean-R&D
6	Registrar	Appointed by the State Government
7	Finance Officer;	First Finance Officer is yet to be appointed by the State Government
8	Joint Director at Main Campus	Jt. Director-Examination
		Jt. Director- Industry
		Jt. Director- Curriculum Development * Teacher's Training Centre
9	Jt. Directors at Regional Centres	Jt. Director- Administration & Finance(No.4) Jt. Director- Examination(No.4) Jt. Director- R&D and Industry Relations(No.4) Jt. Director- ICT(No.4)
10	Jt. Director-	Jt- Director- Subregional Centres(05)
11	Deputy Directors at Subregional Centres	Dy. Director- Administration & Finance(No.5) Dy. Director- Examination(No.5) Dy. Director- ICT(No.5)
12	Librarian	Librarian
13	Other Officers in the University	Pro-Vice-Chancellor
		Chief Accounts and Finance Officer
		Dean- Student, Staff Welfare and Alumni Relations
		Dean- National and International Relations
		Dean- Innovation & Incubation Centre
		Controller of Examination
		Dy. Registrars at Main Campus
		Ass. Registrars at Main Campus
		Chief Executive Engineer
		University Engineers (Civil & Electrical)

Main Centre, Regional Centres and Sub-Regional Centres

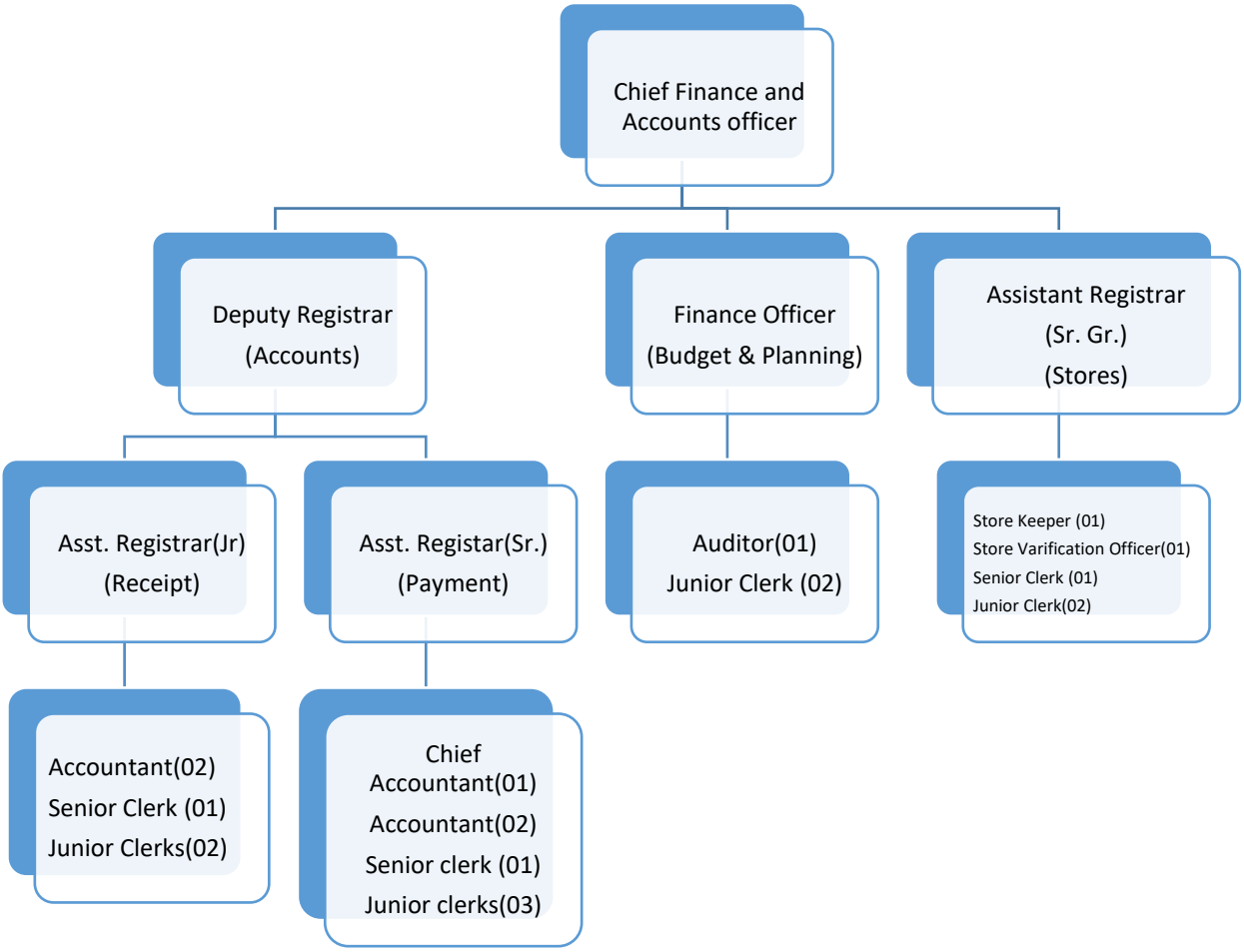
Human Resources at Main Campus



ADMINISTRATION SECTION



FINANCE SECTION

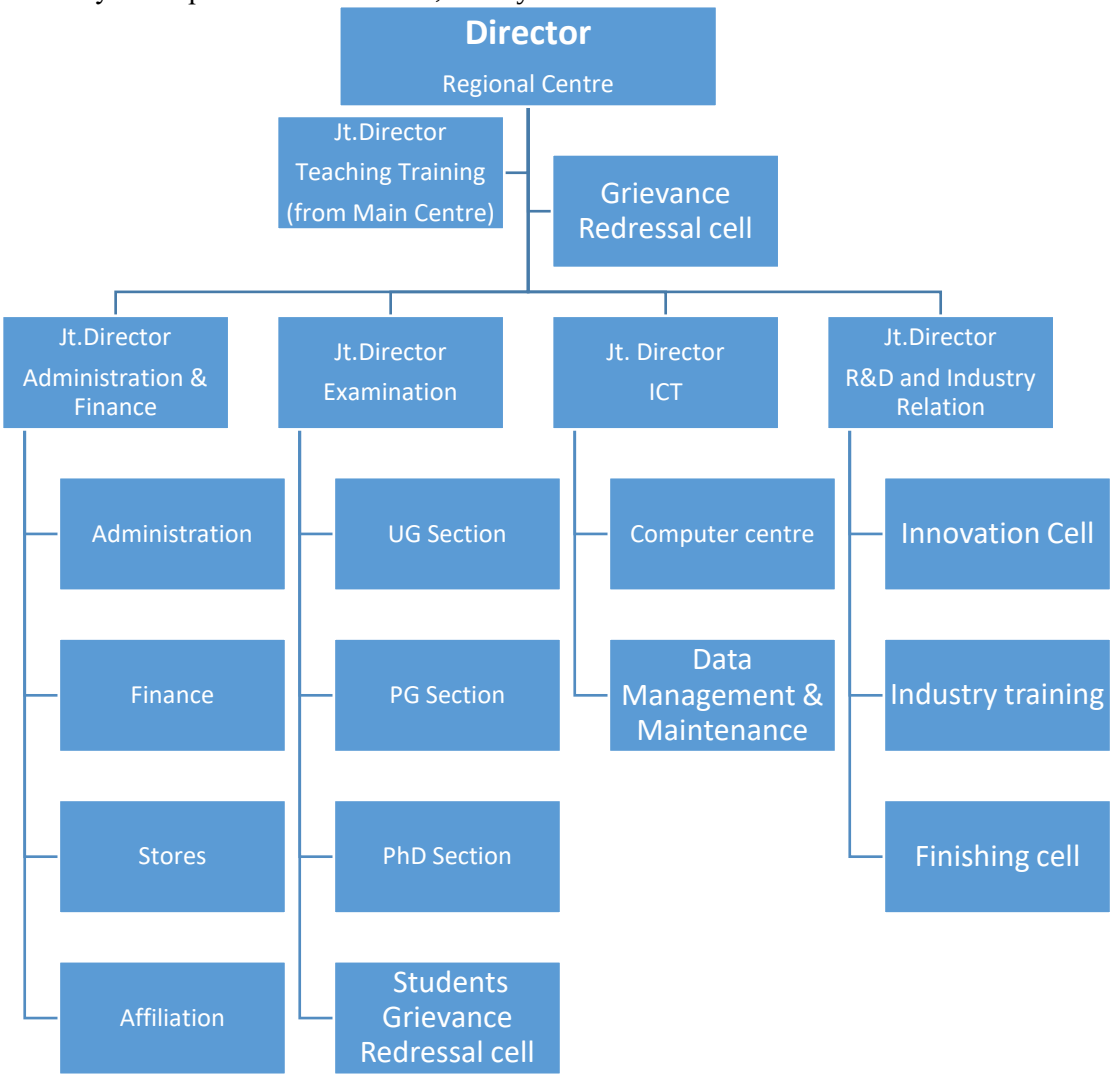


Human Resources at Regional Centres

(1) The Regional center shall establish the following divisions or cells :
- (*a*) Examination cell;
- (*b*) Research and Development and Industry Co-ordination cell;
- (c) Administration and Finance cell;
- (*d*) Information and Communications Technology cell;
- (e) Students Grievances Center.

(2) Each of the divisions or cells shall be headed by a Joint Director,

(3) The Sub-centers shall be operated and maintained as University's constituent unit, having University's complements of facilities, faculty and staff.



Sub-Regional Centres

There shall be five sub-regional Centres, one each at **Amaravati, Jalgaon, Nanded, Solapur and Kolhapur**

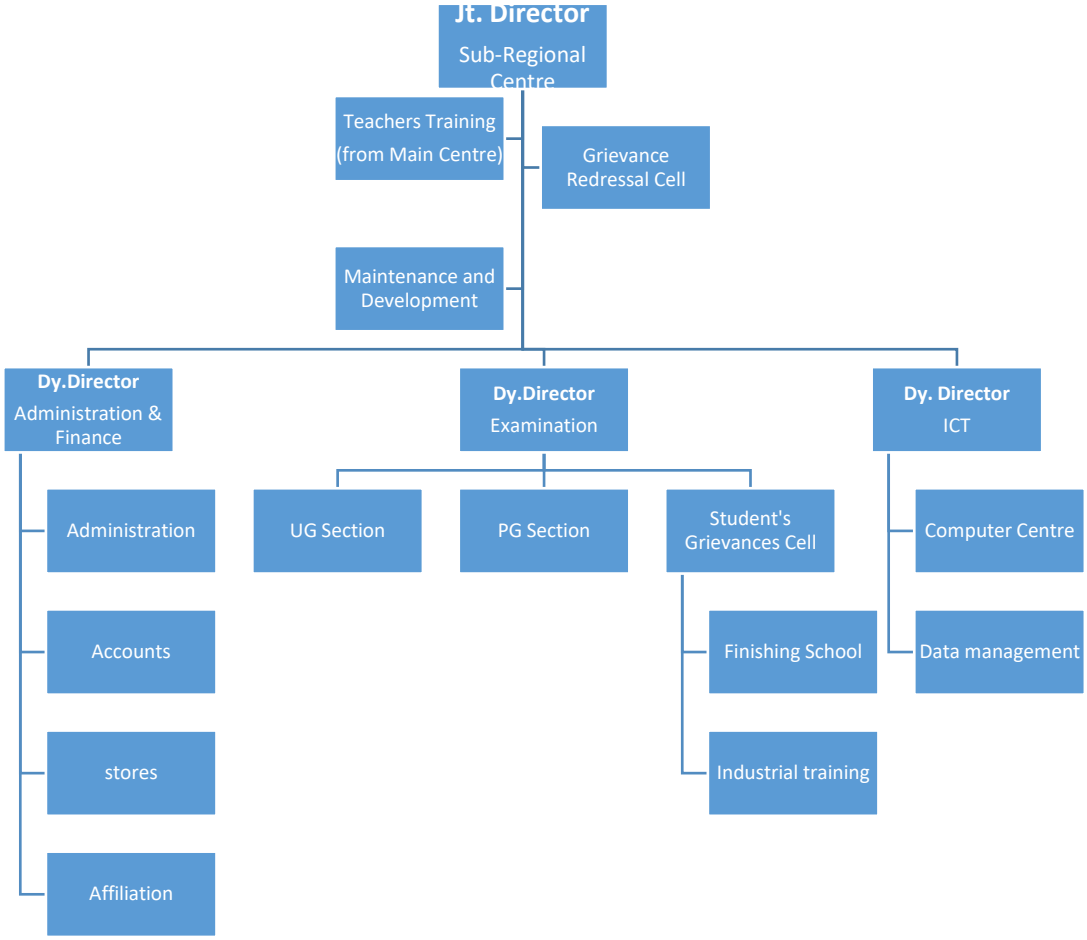
(1) Each Sub-Regional Centre shall have the following Administrative Directors

a) Jt. Director- Head of the Centre
b) Dy. Director -Examination
c) Dy. Director- ICT
d) Jt. Director-Administration and Finance

(2) The Sub-center shall establish, within its campus, all or any of the following divisions or cells and such other facilities as it may deem fit:

(a) Examination cell;
(b) Administration and Finance cell;
(c) Information and Communications Technology cell;
(*d*) Students Grievances Center.

(3) Each of the divisions or cells shall headed by Deputy Director,



Role and Responsibilities of Centres

The Regional Centre is the direct connectivity between the affiliated colleges and the University. Its primary role is to ensure timely and orderly conduct of the examination at designated examination Centres in the region. But it shall address many more functions of the University.

Since the academic activity, such as regular attendance of students, is important part of the education, Content delivery at the colleges shall be monitored by e-Attendance system. The system shall track the attendance in lectures and practicals by the students on regular basis and corrective steps shall be taken to address insufficient attendance. The University shall adhere strictly to 75% attendance in the classes to allow the candidate to register for the examination. The content delivery as per syllabus will be followed through the website of the college where all academic activities have to be put up by the concerned college. A significant Choice shall be offered by the academic system to students at college level as electives based on expertise of the faculty members. The College management should try to get faculty with necessary expertise in relevant areas.

Advisory Boards of Centres

The Departments of the University, already have Advisory Committees for guidance, evaluation and monitoring of all activities. The Advisory Committee also conducts audit of academic activities of the concerned Department.

In order to bring in good governance practices, it is proposed to have an advisory board for each Regional Centre and Sub-regional Centre. The Board shall be chaired by either a prominent industry person who should be known for his progressive views and philanthropic activities or an academician of repute who has contributed significantly to science and technology at National as well as International levels. The members shall be invited or nominated on the advisory boards by Vice-Chancellor on recommendation from the Nomination Committee of the University. The Chairman shall have no direct stake in any of the colleges affiliated with the University.

The Advisory Board shall meet at least twice in a year to review the activities of the Centre and provide guidance for framing policies within the University rules and regulations to develop the regional technology landscape. It is hoped the members of the Board take active interest in the activities of the Universities by regular formal and informal visits to the Centre to have discussion with the teachers, students and industries in the local region to give guidance, help as and when required and constant encouragement. The members shall have no formal relation with any of the affiliated colleges. The membership of the Board shall be entirely honorary and no remuneration shall be payable to the members except the reimbursement of the travel expenses.

Examination Section

The University is planning uniform syllabus across the state for core subjects of ALL engineering disciplines and, therefore, a common examination for all affiliated colleges in the entire state. The

primary role of the Centre then will be to ensure that all examinations are conducted in prescribed manner. Also the colleges have been given academic flexibility of offering electives depending upon the expertise available at the colleges for wider choice of subjects to the students. The quality of these courses and their examinations, which are specific to the regional colleges, will be monitored by the Director from the Regional Centre.

The examinations will be conducted by the Jt. Director at Regional Centres and by Dy. Director at the subregional Centres, at the designated examination centres. The answerbooks from examination centres shall be brought to the Centre(s) where they shall be bar coded and scanned for **Digital Evaluation** and sent to Common Assessment Program Centres at designated locations throughout State with requisite infrastructure for online evaluation.

The system is designed to maintain complete secrecy of identity of the candidate as well as that of examiner. The Regional Centre in coordination with Main Examination Centre shall complete the evaluation process in 30 days. The marks sheets can be distributed from the regional Centre to concerned colleges.

The University is planning to allow the unsuccessful candidates to appear for a remedial online examination within 28 days of the declaration of results to pass the subject. Only successful candidates will get the pass grade to avoid year loss. However, candidates who will be unsuccessful in the remedial examination also can appear only in the following year for the same subject. Candidates with pass grade and interested in improving the grade will have to appear for the regular end-semester/ Supplementary examination.

In general, we have provided significant academic autonomy at college level in terms of continuous assessment, and mid term examination and elective from third semester onwards under broad guidelines of the university, supported by a strong audit process. The curriculum for specific electives will have to prepared by the experts at the college and get it approved through Board of Studies and Academic Council. The colleges with consistent record of maintaining academic excellence shall be given academic autonomy under the UGC regulations. Colleges already having academic autonomy from earlier University, shall continue to be autonomous but will have to follow the broad framework policies defined by the University in content delivery, evaluation and assessment and defining course structure.

Grievance Redressal Cell

The Grievance cell shall address grievances of all stakeholders, students, staff and faculty alike. The Dean- Staff and Student Welfare shall be entrusted with the responsibility of addressing these issues. The Students' grievance Cell at the Centre shall address the academic issues of the students, including revaluation, registration, attendance deficiency, placement and college management. The online portal of the University will be available for registering the complaints but redressal will be done at the Regional Centre level. The Director at Regional Centres and Jt. Director at subregional Centres shall be responsible for it. A online grievance redressal system will be in place in two years time on establishment of the Centres.

Research &Development

The University aims to build on the talent of enthusiastic students to develop basic and applied research. The results of such developments should lead to applicable and affordable technologies that can address problems of society in the state as well local industry. The research projects should reflect not only current trends in the industry but also future needs of the country. Worldwide the Universities combine their basic research output with engineering skills to build more sophisticated instruments. In India, majority of research establishments and universities import most of these instruments which are initially built in the University labs. The University shall be at the forefront of building the prototypes on ' Make in India' principle to reduce the dependence on the imports.

The main campus shall have interdisciplinary schools/Centres to accommodate research facilities. The faculty at these centres shall be recruited on highly competitive basis and only on the basis of the ability of the researchers to attract funding, either through government agencies or industries. The research output shall be tracked every year. Each regional centre also shall develop a few research facilities to be made available to faculty of colleges at nominal cost to recover the operating and maintenance costs.

Networking with other Universities in the State and organizations elsewhere in the country will be promoted to advance the knowledge. We would like to give 'research experience' to the undergraduate too to think on new ideas and work on them in research labs of the University without any fear. The young engineers and researchers shall be challenged to take problems to work on in Mission mode so that the systems will be built over a period. The trends in different disciplines of science and technology will be tracked to identify problems and newer areas for development and shared on the website for students to take up. TEDx type seminars and open bidding competitions shall be organized throughput the state to identify the talent of the students. Select projects can be supported through the research facilities at the main campus.

Institute-Industry Relations

The another prominent role that the Regional Centres play is in industry relations. It has been observed that major reason behind the un-employability of graduating engineers is the lack of exposure to latest industry practices. Even a majority of faculty in the colleges is without industrial experience or corporate exposure. To address this shortcomings, the Director-R&D and Industry relations shall be a bridge between academia and industry. He in coordination with Dean (R&D) shall survey the local industries for their needs. Meetings with local industry chambers and other captains of industry will be held regularly to seek cooperation from the industries to provide industrial training, not only to the students after the VIth Semester examination but also to the faculty desirous of getting industrial experience. The industry person will have to also market faculty expertise to help industry, especially as our industry is becoming more knowledge based. In general the faculty – industry relation require being more at a give and take level and not only a take-take level.

The Industries need to be convinced that the students at their door step today can be leading the industries tomorrow and could be their colleagues in near future. Apart from that, the students are lot more enthusiastic and could be having out of box ideas. They can take a fresh look at the problem faced by the

industries where they cannot spare own manpower. The young students should be looked at as Human Resources without bias and given an opportunity they can work for extended hours without demanding pay rise. The young students also like to take challenges if those provide them opportunities to use their knowledge in more constructive manner.

The Jt. Director's responsibility shall include building relationship with industries, seeking problems to be solved by the Final Year students as real life projects. A continual dialogue with industry personnel will have to be maintained for synergistic collaboration. The Jt. Director shall also appraise the Industries the research and technology developments at the University and its affiliated colleges. The problems posed by the Industry shall be placed on the University's website for solutions in stipulated time and the solutions will be bid by the teams for acceptance by the same industry for implementation. This shall be very competitive and challenging exercise. The projects may be given in confidence too.

The Jt. Director shall promote and market the research done at the University in appropriate industrial forum. The technology developed at the University and affiliated colleges should be showcased in exhibitions on regular intervals and potential users can be tapped for commercialization. The inventors themselves can be encouraged to be entrepreneurs and start an enterprise rather than seek job. The University has developed a very good system for sharing the revenues earned from such endeavors.

Teacher's Training Cell

There shall be heavy emphasis on 'Train the Trainers' at the Teachers' Training Cell at each Centre. The Jt. Director at the main campus shall coordinate with all Centres for organizing the training program as per declared time-table. The Centre shall be equipped with Seminar rooms, audio-visual facilities, computer centres, Design tools, digital media room and high speed computer connectivity. In the initial phase the training shall be at the main campus but with establishment of the infrastructure at the Centres, training activities for teachers shall be conducted at regional levels.

The teachers shall be trained in Communication Skills, Pedagogy, interpersonal communication, financial management, IPRs, Research methodology, entrepreneurship, marketing, programming, e-content generation, video recording and management, web design, etc. The objective is to make a good leader from each teacher who can take responsibilities and be accountable to the students and for their growth.

Every new faculty must undergo pedagogy training for four-six weeks in a years' time of joining. The the candidates desirous to take academic jobs may undergo the training at a stretch while newly recruited teachers can undergo over a period. But initial training of one week at the main centre will have to be mandatory. With support from Jt. Director (Industry Relations), the cell shall facilitate training of teachers in industry during summer vacation preferably with some subsistence allowance. The cell also facilitate industry training of the faculty on competitive basis. The companies shall be called at the Centre to screen the candidates for internship either by written test or interview.

Finishing School Program

Most engineering graduates, despite sufficient training in technical subjects, have difficulty in communication. Particularly those coming from rural areas, face hurdles in communication with external

world. For some, adequate level of technical knowledge or its application, is lacking. The Cell shall conduct remedial courses for such graduates at the Centre, in communication skill, interpersonal communication, financial management, short term subject domain courses for refreshing knowledge, etc.

Innovation Cell

The Innovation Cell shall promote entrepreneurship and innovation by appropriate workshops using expertise of the University faculty. Regular sessions will be held with investors, entrepreneurs, businessmen, management experts and innovators. The Cell's program should be self-supporting with funding generated from industry.

The Cell may also conduct region-wise and statewide Innovation Challenges where the problems faced by the industry can be taken as challenge by the teams. The winning team shall be supported by the industry, posing the problem, to take up the solution for successful implementation. The IPRs shall be appropriately protected for innovative solutions. The emphasis will be on ideation to generate ideas and making products with own hands as marketable product, process and system.

e-Resources and Digital Media Lab

The Centre will build a digital media lab that shall record lectures in -TEDx format. Each lecture shall be for 15 minutes describing latest developments in the field. These videos shall be available on subscription to the students of all affiliated colleges. The revenue will be shared with the resource persons. The facility will be also used to streaming the lectures over internet to the seminars halls of the affiliated colleges. Extensive depository will be prepared of all project reports, lectures at several colleges and will be made available to students' community.

Responsibilities of Directors and Deans

Director- Academics

(1) The Director- Academics shall be responsible for

(i) Planning of academic activities in the University departments and affiliated colleges, conducted Institutions,
(ii) Curriculum development with support from Deans of faculties,
(iii) Formulate the policies and development program of the faculty
(iv) Training of teachers in University departments and affiliated colleges,
(v) Coordination and conduct of examinations, declaration of results in time,
(vi) Maintenance of academic standards in the University,
(vii) Accreditation of courses in the University departments and in affiliated colleges,
(viii) Admissions of students in courses,
(ix) Appointments and approval of faculty in affiliated colleges and University departments and conducted Institutes,
(x) Student's academic grievances,
(xi) Convocation and
(xii) any other matter related to Academics

(2) The Director- Academics shall convene meetings of the faculty, as and when required, in consultation with the Vice-Chancellor and shall preside over the same. He shall formulate the policies and development program of the faculty and present the same to the appropriate authorities for their consideration

(3) The Director- Academics shall be responsible for the academic development of the faculty and shall ensure proper implementation of the decisions of the Executive Council, Academic Council, and the Board of Examinations in respect to his faculty and the decisions of the faculty and the Boards of Studies under his purview.

(4) Subject to the superintendence, direction and control of the Vice-Chancellor, the Director-Academics shall, after taking such advice as he thinks necessary, decide upon the grievances of students regarding the enrolment, eligibility, migration, scholarships, studentships or freeships, grant of terms, admission to university examinations

(5) Director- Academics shall enquire, on being directed by the Academic Council, in to malpractice related to any academic program in his faculty by a University department, affiliated or conducted college or recognized institution and report the findings to the Academic Council.

(6) The Director-Academics shall monitor the quality of education by the way of accreditation of the programs by concerned authorities in the University, conducted colleges and Institutes, Centers, Schools and affiliated colleges.

(7) The Director-Academics shall conduct the surveys in the University, conducted colleges and Institutes, Centers, Schools and affiliated colleges of the students and faculty for feedback on the quality of education and recommend necessary remedial measures for implementation in the University and affiliated colleges

Director- Research and Development and Industry Relations

The Director- Research and Development and Industry Relations, shall be responsible, with support from Jt. Director-Industry coordination

(i) For promotion of research and technology development,
(ii) Undergraduate and post-graduate research projects,
(iii) Industry coordination and collaboration between the colleges under the University, and with other research and academic organizations,
(iv) Transfer of technology,

(v) Maintenance of research quality in university departments and affiliated colleges,
(vi) Coordination of resources for high quality research,
(vii) Interaction with industry,
(viii) Training of students/ Faculty in Industry
(ix) Training of Industry personnel in University/ Centres
(x) Patents and other intellectual property matters,
(xi) Extensional work and any other matter related to research and development in Technology and engineering.

Director/Registrar- Administration

The Director- Administration shall be responsible, with support from the Registrar and Dy. Registrar, for

(i) Administration of the staff and faculty,
(ii) General discipline in faculty, staff and students,
(iii) Welfare of staff, faculty and students,
(iv) Infrastructure development at the Main centre,
(v) Coordination with the Department of Higher and technical education of the Government of Maharashtra,
(vi) Security and maintenance of facilities at the center,
(vii) Coordination with regional and subregional centres,
(viii) Affiliation of colleges,
(ix) Appointments of staff,
(x) Contracts for outsourced services,
(xi) Maintenance of administrative records and
(xii) Any other administrative matter that the University might be dealing with.

The Director- Information & Communication Technology

The Director- ICT, shall be responsible for

(i) Establishment and maintenance of ICT infrastructure for smooth functioning of the University and regional centres and subregional centres,
(ii) Development and maintenance of State wide MIS system for affiliated colleges, university departments, the existing students, their academic profiles, Faculty profiles, Teaching and learning processes,
(iii) Conduct of online courses,
(iv) Maintenance of website,
(v) Maintenance of web related services for faculty, staff, students, alumni and industry,
(vi) Conduct of online examinations
(vii) Scanning of the answerbooks
(viii) Data management,
(ix) Submission of data to regulatory bodies such AICTE, UGC, NIRF, MHRD etc.,
(x) Data analysis of examination results,
(xi) Development and maintenance of network communication within University and between the Centres,
(xii) Development of ICT systems for functioning of the University and
(xiii) Any other matter requiring ICT expertise

Dean- Faculties(Engineering, Pharmacy, Architecture & HMCT)

(i) planning of academic activities in the University departments and affiliated colleges, conducted Institutions,
(ii) Curriculum development,
(iii) Maintenance of academic standards in the University,
(iv) Accreditation of courses in the University departments and in affiliated colleges,

(v) Admissions of students in courses,
(vi) Student's academic grievances,
(vii) Convocation and
(viii) any other matter related to Academics

Dean- Staff and Student welfare and Alumni Relations

(i) Training Need analysis of Students ad Finishing school
(ii) Counselling to students and communication with parents
(iii) training of faculty staff in University departments and affiliated colleges,
(iv) Coordination with Alumni,
(v) Alumni meetings,
(vi) Data maintenance of alumni
(vii) Students scholarships
(viii) Fee waivers
(ix) Transcripts, Mark-lists, Degrees
(x) Training and Placement
(xi) Verifications

Dean- Innovation and Incubation Centre

(i) IPR Cell
(ii) Innovation and Incubation Centre
(iii) Start Up Boot camps
(iv) Training in Finance, Business, marketing management
(v) Incubation and Competitions
(vi) Communication with investors
(vii) Training in entrepreneurship

Dean- National & International Collaboration

(i) Networking
(ii) MoUs with other organizations
(iii) Collaborative Projects
(iv) Information Processing
(v) Communications with organizations outside University

Jt. Director- Industry Relations

(i) Industry coordination and collaboration between the colleges under the University, and with other research and academic organizations,
(ii) Transfer of technology,
(iii) Training of students/ Faculty in Industry
(iv) Training of Industry personnel in University/ Centres

Jt. Director- ICT

(i) Maintenance of State wide MIS system for affiliated colleges, students, their academic profiles,
(ii) Conduct of online courses,
(iii) Maintenance of web related services for faculty, staff, students, alumni and industry,
(iv) Conduct of online examinations
(v) Scanning of the answerbooks
(vi) Data management,
(vii) Development and maintenance of network communication within the Centres,
(viii) Any other matter requiring ICT expertise

Jt. Director- Administration and Finance

(i) Administration of the staff and faculty,
(ii) Infrastructure development at the Regional and subregional centre,
(iii) Security and maintenance of facilities at the center,
(iv) Coordination with Main Cenre,
(v) Affiliation of colleges,
(vi) Maintenance of administrative records and
(vii) Any other administrative matter that the University Centre might be dealing with.

Jt. Director- Curriculum Development & Teachers' Training Centre

(i) Preparation of Modules for Teachers' training
(ii) E-learning resources
(iii) Time Table for Teachers' training program
(iv) Communications with external resource persons
(v) Planning and execution of Training programs
(vi) Training Need analysis of University teachers and teachers from affiliated colleges

Jt. Director-Examination

Each Jt. Director-Examination at Main Centre, Regional Centres and sub-Regional Centres shall be responsible for,

(i) Appointment of examiners for setting question papers and assessment of answer papers,
(ii) Printing and distribution of the question papers,
(iii) Conduct of the examinations in the University and affiliated colleges in the Regional Centres and Sub-regional Centres,
(iv) Coding and scanning answer books,
(v) Online evaluation of the answer books through examiners, and timely declaration of results and results analysis
(vi) Online examination for remedial measures
(vii) Revaluation
(viii) Student's grievances related to examinations and results
(ix) Compilation and Analysis of examination results

Infrastructure Developments

Regional Centres

Research Infrastructure

Academic Buildings

Hostels& Residences

Sports Complex

Infrastructure

The World Class universities have hall marks of abundant talent, flexible governance, supporting environment and team work. The University will have to travel miles to reach these milestones. The journey is difficult, if not impossible

Our Administrative block has been awarded a prize for Architecture but the University lacks significantly in necessary infrastructure today in terms of the Academic blocks, faculty offices, Residences and Hostels, PG laboratories and Research Centres. Investments are, therefore, necessary to build the infrastructure that can attract the best talents.

We have to attract academically talented students and give them intellectually demanding and research-informed education that can prepare them for life-long learning attitude and to contribute as global citizens without prejudices.

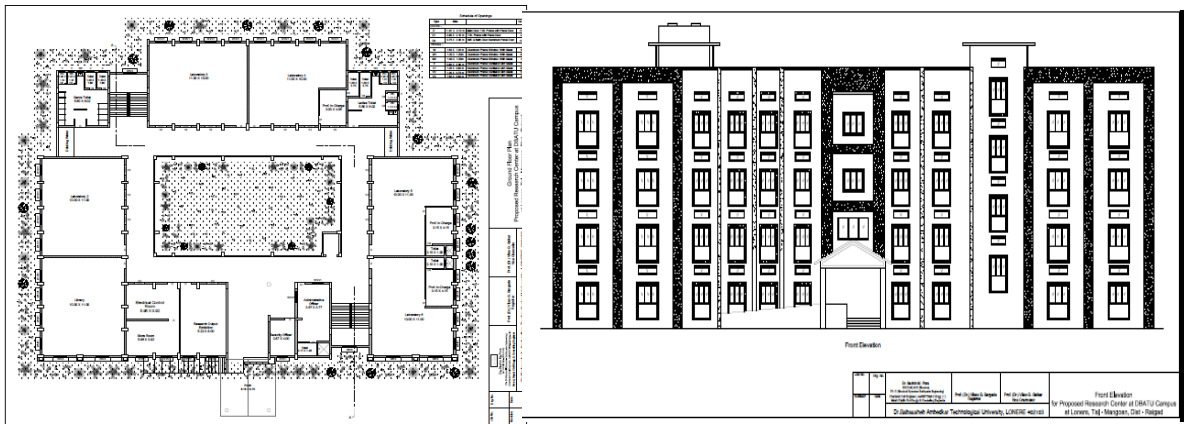
The University has prepared a master plan to augment its infrastructure many old. Investing in the future excellence and diversity of research culture should be priority of the State Government at this stage. We will also approach the industry and government agencies for additional support for research infrastructure.

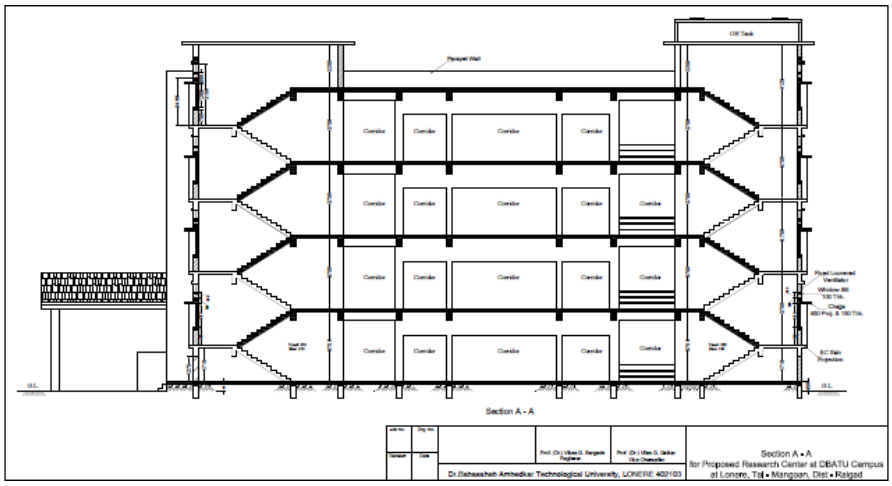
We will have to invest heavily in

- PG Laboratories
- Schools, Research Centre and Training Centre Buildings
- Research Infrastructure
- Regional and sub-Regional Centres
- Hostels and Refurbishment
- Staff residences
- Water management
- Solar energy generation
- Lecture theaters, Seminar Halls, Digital media classrooms, upgrades of laboratories, Video-Conferencing systems
- High end Computational Facility
- Informal learning spaces for students
- ICT and e-Governance Systems
- Health Care Centre
- Community Shopping Centre
- Day-Care Centre
- Sports and Recreation Facilities
- Kendriya Vidyalaya (upto XII).
- Community Kaushal Kendra

Academic and PG Centres

New Hostels





Regional Centres

Infrastructure & Facilities needed at Main Campus

Sr. No	Facility(No)	Details
01	Offices	
02	Vice-Chancellor (1) + VC's Secretariate	30x30 ft+ 20x20Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs, Kitchen table
	Pro Vice-Chancellor(1) + Pro-VC's Secretariate	30x30 ft+ 20x20 Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs, Kitchen table
03	Director(4) + offices	(20x20 +20x20)x4Each office Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs,
04	Jt. Director(3)	(20x20 + 15x15)x3Each office Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs
05	Deans(5)	(20x20 + 15x15)x5Each office Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs
06	Chief Accounts &Finance Officer(1)	(20x20+15x15)Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs
07	PG Centres / Research Schools (Nos. 08)	G+3 structures, at least 10000sqft area of each building, Research Lab facility, Computer servers, Maker's Lab Internet Connectivity
	Computer Network	1 GBPS fiber optics cabling
08	Curriculum Development & Teachers' Training Centre	G+3 structure, having offices of Jt. Director, Secretariate, offices of Centre, Reception lounge, Computer room with 30 desktops, Seminar Room (No.2) with multimedia projection facility, Library with e-resources, Simulation software, Discussion rooms, Cubicles for visitors Laboratory facility, Offices for faculty/resource persons, Stationary store, Kitchenate, Self serving Kiosks for serving meetings, Tea/Coffee/ cold drinks vending machines,
09	Hostels	Girls(05); Boys(07)
10	Residential Quarters	G+3 (No. 5) Structures

11	UG Heavy Laboratories / Workshops	G+2(No.3) structures
12	Convocation Hall cum Open Auditorium	1 for 1000 students
13	Solar Power Plant	To cater to the needs of the Campus
14	Sports Complex	Indoor games (Table tennis, Badminton, Squash)/ Outdoor games facilities (Lawn Tennis, Cricket ground, Football Ground, Futsal ground) Swimming Pool (?)
14	Security office	Near main gate, with CCTV security cameras all across the campus
15	Shopping complex for residents	For Routine shopping/ Recreational facility
16	School Facility for residents	CBSE/ Kendriya Vidyalaya
17	Medical facility	G+1 structure/ 5 bed hospital/ OPD
18	HMCT Building	G+3 structure with 45 rooms for training, supported by students of the HMCT
19	Water management system	Rain water harvesting, Water purification Plant(15000 lit/day)
20	ICT Infrastructure	Servers, Net Connectivity

Infrastructure & Facilities at Regional Centre/ Sub-Regional Centre

Sr. No	**Facility( )**	**Details**
	Offices	In a G+3 structure
	3rd Floor	
1	VC/Registrar and other Directors from main Centre	Office room for University officers on visit, with adjacent furnished Studio apartments (2 Nos.)
2	Director	(20x20 +20x20) on Ground floor Each office Equipped with office furniture, i7 processor Laptop/Desktop, printer-FAX, network connectivity, Working table, meeting table, Chairs
3	Examination Paper Cubicle	20x20 On top floor, access through biometric system. The entire floor to be under 24x7 CCTV surveillance Equipped with one Desktop without USB connectivity With only internet Connectivity, Printer Access through Double Biometric security for two people together.
4	Examination Office	Examination section of 30x30; equipped with 5 Desktops for office staff
5	Strong Room	30x30 for Storing answer-books with storage racks on wall Equipped with high speed coding system, scanner and Computers
6	Server Room	Equipped with Servers (2 Nos.)(Mirroring for Data of Cloud)
7	Control Room	Equipped with 10 Computers with high speed connectivity ICT Infrastructure
	2nd Floor	
8	Affiliation Section	Office with 5 desktops Data entry Section

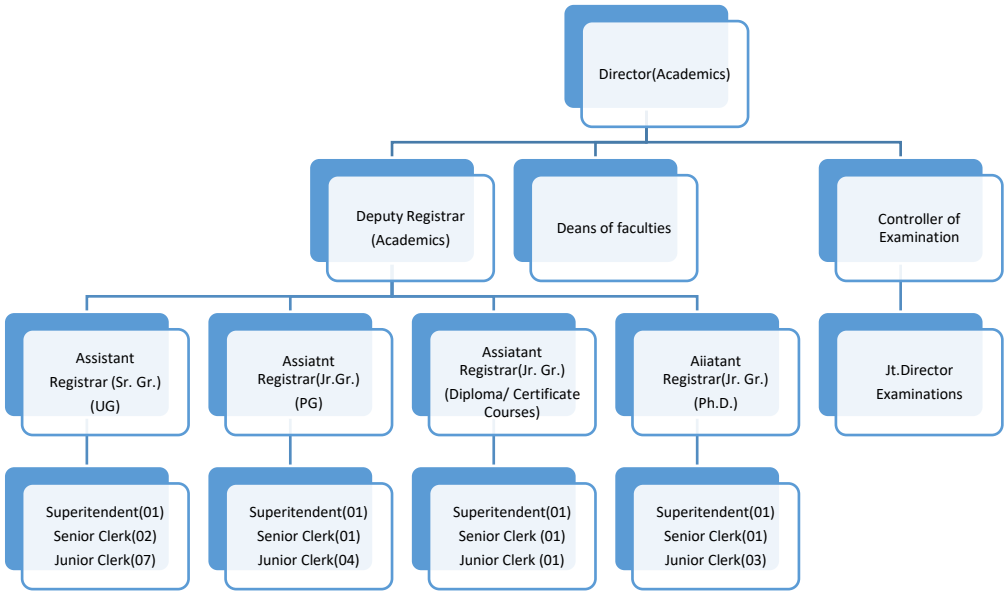
		Visitors' Lounge
9	Teacher's Training Centre	Jt. Director-Industry Relations (20x20) Director's Secretariate(20x20) Office of Centre, Reception lounge, Seminar Room (No.2; 30x30) with multimedia projection facility, Discussion rooms, Offices for faculty/resource persons Cubicles for visitors, Kitchenette for guests Tea/Coffee/ cold drinks vending machines
10	E-Learning Resources	Computer room with 30 desktops (40x30) e-Resources, Simulation softwares
11	Industry Relations Cell	Reception lounge,(10x10) Meetings Rooms(5 Nos)(15x15) Self-serving Kiosks for serving meetings Interview rooms(10x10) Technology displays Seminar Room for Pre-Placement Talks with Audio-Visual facilities(20x30)
	1st Floor	
12		Maker's lab(50x50) Technology Incubation Cell(20x20) IPR Cell (15x15) High end Laboratory facilities(5 Nos.)(30x20) Placement/ Internship Registration Cell(20x20) Skill Development Cell(30x30)
	Ground Floor	
13	Jt. Director(4) + Office Staff	(20x20 +15x15) x 4 Each office Equipped with office furniture, i5/7 processor Laptop/Desktop, printer-FAX, network connectivity Working table, meeting table, Chairs
14	Other Offices	Security office with security officer(15x15) Reception(20x20) Students' Grievances Cell/ Counselling Cell(20x20) Examination Registration of students Revaluation Section(20x30) Remedial Examination section(30x30) Stationary store Accounts and Stores Canteen area(?) Driver's area
15	Vehicles, Secure Van	(3 Nos.) for Answer-books to ferry to Centre
16	Power	Roof Top Solar Power with batteries
17	Water management	Water purification plant using RO, Rain Water Harvesting system
18	Waste management	Segregated Dry/Wet waste bins, Dry waste to recycle, wet waste to go in biogas system
19	Reprographic Facility	Printers, scanners

Academic Development Plan

The activities that are to be undertaken by the Academic Section of the University are grouped around some Key Performance Areas (KPA) viz *Accreditation, Teaching-Learning processes*, *Examination*, *Curriculum design and development*, *Student grievances* and *Program evaluation*. These activities are designed with a goal to maximize the use of technology and achieve a satisfactory performance against NBA/NAAC parameters. The report also presents the budget requirements for undertaking these activities.

Statutory Responsibilities for Academic Section

The Academics section shall be responsible for Planning of academic activities in the University Departments, Affiliated colleges and Conducted Institutions. The Academic Section shall be headed by the Director(Academics) and assisted by Jt. Directors(Examination) the Deans of faculties, UG/PG/Diploma Sections and Controller of Examinations.



The Academic Section shall perform following activities

1. Curriculum development with support from Deans of faculties,
2. Formulate the policies and development program of the faculty
3. Supervision of academic affairs such as hiring, promotion, tenure, and evaluation (with faculty input where appropriate)
4. Training of teachers in University departments and affiliated colleges,
5. Coordination and conduct of examinations, declaration of results in time,
6. Maintenance of academic standards in the University,
7. Accreditation of courses in the University departments and in affiliated colleges,
8. Admissions of students in courses,
9. Appointments and approval of faculty in affiliated colleges and University departments and conducted Institutes
10. Student's academic grievances,
11. Convocation and
12. Any other matter related to Academics

The Responsibilities of Director (Academics)

a. The Director- Academics shall be responsible for
   i. planning of academic activities in the University departments and affiliated colleges, conducted Institutions,
   ii. curriculum development with support from Deans of faculties,
   iii. formulate the policies and development program of the faculty
   iv. training of teachers in University departments and affiliated colleges,
   v. coordination and conduct of examinations, declaration of results in time,
   vi. maintenance of academic standards in the University,
   vii. accreditation of courses in the University departments and in affiliated colleges,
   viii. admissions of students in courses,
   ix. appointments and approval of faculty in affiliated colleges and University departments and conducted Institutes,
   x. student's academic grievances,
   xi. convocation and
   xii. any other matter related to Academics

b. The Director- Academics shall convene meetings of the faculty, as and when required, in consultation with the Vice-Chancellor and shall preside over the same. He shall formulate the policies and development program of the faculty and present the same to the appropriate authorities for their consideration

c. The Director- Academics shall be responsible for the academic development of the faculty and shall ensure proper implementation of the decisions of the Executive Council, Academic Council, and the Board of Examinations in respect to his faculty and the decisions of the faculty and the Boards of Studies under his purview.

d. Subject to the superintendence, direction and control of the Vice-Chancellor, the Director-Academics shall, after taking such advice as he thinks necessary, decide upon the grievances of students regarding the enrolment, eligibility, migration, scholarships, studentships or freeships, grant of terms, admission to university examinations
e. Director- Academics shall enquire, on being directed by the Academic Council, in to malpractice related to any academic program in his faculty by a University department, affiliated or conducted college or recognized institution and report the findings to the Academic Council.
f. The Director-Academics shall monitor the quality of education by the way of accreditation of the programs by concerned authorities in the University, conducted colleges and Institutes, Centers, Schools and affiliated colleges.
g. The Director-Academics shall conduct the surveys in the University, conducted colleges and Institutes, Centers, Schools and affiliated colleges of the students and faculty for feedback on the quality of education and recommend necessary remedial measures for implementation in the University and affiliated colleges

Responsibilities of the Deans of the University

The Deans (Faculties) and Dean (Research and Development) shall be responsible for implementation of the academic and research policies, respectively, as approved by the Executive Committee in respect of academic development, maintenance of standards of teaching and training of teachers and research within the Faculties.

The Deans shall be responsible for the academic development and research development of the Faculty in the University departments and the affiliated colleges and shall ensure proper implementation of the decisions of the Executive and Academic Councils in respect of the matters under the purview of the Dean.

Subject to the superintendence, direction and control of the Director-Academics, the Deans shall, after taking such advice as necessary, decide upon the grievances of students regarding the enrolment, eligibility, migration, scholarships, research, studentships or fee-ships and terms of admission to University examinations

1. Accreditation- NAAC/ NBA/ NIRF

The University's academic activities are subjected to regulatory compliance by bodies at the National level, such as NAAC, AICTE, NBA and from the last year by NIRF. It is expected that all Degree courses at UG and PG levels at the University be accredited by the NBA and the University be accredited by NAAC. At present, the University is having Accreditation with B grade by NAAC while pre-qualifiers have been filed with NBA for all UG courses in 2016.

The University shall insist on the affiliated colleges also for getting their courses accredited from NBA or other competent authorities such as Pharmacy Council of India and Council of Architecture. Typically within the first two years of affiliation, if the course is eligible for applying for the NBA accreditation, the college must apply for the same.

The main problem anticipated with NBA accreditation is the shortage of faculty at UG degree courses. For the PG level courses, there are no faculty positions approved by the State Government. The situation must be the same in all engineering colleges.

The University manages the shortage of the faculty by hiring ad-hoc faculty every year for a period of one year. Against all vacant positions, ad-hoc faculty are appointed by following standard procedure of appointing ad-hoc/ contract faculty members with necessary qualification. For NBA accreditation, the ad-hoc faculty members appointed by the University Departments and Affiliated colleges will have to approved by the University through its Academic Council. Since the ad-hoc faculty members are appointed at the beginning of the academic year, the University shall hold the Academic council meeting within the first month of the starting the academic session and approve the ad-hoc appointments made by the colleges by following UGC prescribed process for a period of appointment, if eligible. The colleges will have to send the details of the appointed ad-hoc faculty every year well in advance for approval. A university representative or nominee of vice-chancellor shall be co-chairman of the selection committee at the college to facilitate such requirement of approval.

There is strong need to analyze the criteria itself for NBA accreditation. There is distinction made by the NBA accreditation by separating UG and PG teachers. As such, most faculty members have MTech or PhD qualifications and thus each faculty member having sufficient number of years of teaching experience may be allowed to teach and guide MTech students.

Continuous monitoring and evaluation of NBA and NAAC parameters:
An online mechanism is planned to develop for monitoring and evaluation of NBA/NACC parameters. A database will be prepared with respect to these parameters and semester-wise evaluation will performed to identify the areas for improvement.

2. Student's Data Analysis,

The University has planned to have e-Governance using University Information Management System(UMIS). It is envisaged that information of each student, admitted to any affiliated college, shall be part of the UMIS. All the details of past academic record and current academic achievements will be logged into the UMIS and shall be accessible based on privileges of the account. The performance of students shall be evaluated college-wise, discipline-wise and region-wise. The analysis is likely to provide information on current trends of the input to the program as well as college-wise performance.

The progress of women candidates against men and that of socially disadvantaged groups against the other groups shall be tracked. This analysis should lead to redefining the syllabus and making available extra support that needs to be provided to these groups.

The data of students, particularly their availability in certain disciplines shall be mapped against need of the graduates in that discipline for industries throughout the State but keeping in mind that these graduates shall also be trained to meet the global demands of the skill.

3. Teaching-Learning Processes

The objective of teaching in higher education is to make the students ready for the challenges in the real world. The delivery of the content is the first step in the teaching process. Attracting the students to the classes is an equally important step. It is envisaged that each college shall have a biometric e-attendance system that shall send the information on student's attendance to the University. It will ensure timely delivery of the content to the student population.

There is flexibility built in the content delivery and learning process. The teacher can give upto 20% of the course credit to the students by conducting continuous assessment. The continuous assessment can be in the form of short quizzes, small projects, online tests, or presentations. There is complete freedom in designing the mode of the assessment but it should not degenerate into another set of examination. The basic objective of the continuous assessment is to keep the students in a continuous learning mode where they can apply the theoretical knowledge in the form of tutorial. However, it shall be mandatory for the teacher to upload his lecture notes and the method of the continuous assessment on the college portal. This may be accessed by the University on regular basis and shall be part of academic audit that the college will have to go through every year.

The teacher will carry the main responsibility in the continuous assessment and in the Mid term examination carrying another 20% of the credits of the course, that the college will be conducting as per the time table prescribed by the University. The assessed papers must be given to the candidates.

4. e-Learning Activities

Deployment of Moodle as a Learning Management System

A university wide learning management i.e. Moodle (Open source LMS) system capable of storing course specific information such as students registered, results of quizzes, examinations, conducting online examinations, distributing assignments, online submission of assignments, storing online course material is to be deployed.

Digital Content Repository:

A university-wide digital content repository is planned to deploy for archiving M. Tech. and PhD Dissertation and other scholarly articles published by university members with the aim to make it available in public domain. For this purpose, DSpace which is an open digital content repository will be used.

To increase student-teacher interaction through Piazza.

Piazza is a social networking platform which aims to increase the interactions among students and teachers. Teachers will be encouraged to create web-based course pages on Piazza for all the courses they conduct during the semester.

To modernize all class rooms for e-content delivery mode.

All the class rooms in the University will be equipped with video-recording and web streaming facility in phase wise manner. The lecture conducted at the University shall be video-streamed on the

intenet to the affiliated colleges and also stored in the e-depository for off line access at the University.

5. Practices, Projects & Experiments,

It is envisaged to redefine the practical training just before going in the field. The laboratory will be revamped for experiment based learnings. The experiments shall also use affordable infrastructure for demonstration of scientific principles and make the students interested in projects.

The Colleges may keep records of the student's practical notebooks for a period of one year and destroy later after digitizing the data. The entire laboratory part should be turned into fun filled and challenging practical learning experience. The departments must devise newer experiments and share the experience with others. There must be flexibility given to the teachers to create newer experiments and use them for case studies in class. There must be close correspondence between the theory taught in class and practical experiments designed in the laboratory. There shall be a depository of the newly designed experiments on the college web-page and in the University server. The students must be able to access them before coming to the class/laboratory.

At least one experiment must be open ended in the laboratory. The student shall be provided to work on one experiment setup and to design a new experiment using the same hardware or modifying it with additional input at moderate cost. Credit must be given to most innovative approach rather than just routinely conducting the experiments.

6. Motivating students- short term projects

The engineering education should rely strongly on practicing what has been taught in theory. From second year onwards, the students must take interest in working on small projects, i.e. at least one project in each semester. The project may be conducted individually or in a group. For a group the scope of every participant must be clearly defined and progress must be tracked. The group participant will submit their own evaluation of every other's contribution to create a matrix which ultimately shall assign the relative credit to individuals in the group.

The project may be related to the theory classes or it could be entirely new area. The newer techniques of simulation or use of computer software, preferably openwares, can be promoted for the students to work on their own. The work can be supervised to guide the students in newer areas. Molecular simulation, AutoDesk and Scilab programming can be activities that the students can undertake as additional learning activities and later on relate them to core subjects that they study.

The project may be defined for longer time but success will depend on getting fruitful results at frequent intervals. The faculty teaching 'Chemistry' can be encouraged to teach the subject with programs like GROMACS and GAMESS to teach chemistry with visualization. The engineering

graphics can be clubbed with AutoDesk training so that drawing and design can be done on computers. The IT students can be trained in webdesigns, and data analytics in their early stages. EXTC and Electrical engineering students can take up designing and creating sensing elements and signal processing. The efforts can be put up to use mobiles and tablets to develop many of these small scale and preferably interdisciplinary projects. There needs to be at least 5% of the courses offered by the university would be cross-departmental /functional/ college courses as this is the demand and need from the industry.

7. Final year projects

The final year projects are usually hypothetical and may not find practical applications. It is high time that these projects are designed as mini- research projects that can address problems that society is facing in general and industry in particular. A strong interaction with industry is needed to get industry perspective on the projects assigned to the students. The students can be encouraged to discuss with industry and define appropriately the problem. The project can draw attention of industry only if it has practical utility.

The University cannot remain oblivious to the needs of the society staying around it and so will be affiliated colleges. The faculty and students should identify the problems by conducting survey of the nearby regions for data on type of industry in the region, people staying in nearby towns, villages and checking on their needs that remain unfulfilled. The problems faced by the society and industry shall become opportunities for projects for the academia. Anyone with workable and affordable innovation should be promoted on competitive basis and supported by materials, funds and human resources alike.

8. Workshop and Maker's Lab

The workshop is where the engineering students should be working not only during the day but they must show willingness to work with their own hands if the university/college is willing to invest tin their efforts. The workshop facility can be built as supporting infrastructure for innovators to prepare prototypes. The workshop and Maker's lab must be equipped with all necessary equipments for preparing the first product. The workshop should be equipped with lathe machines, welding units, control systems and instruments that can be used to build any things afresh. The credit needs to be given to the innovators who create the products, prototypes and design systems.

The final year projects should be in open lab, accessible to the students for development of any new product, process or system.

9. Training of students in industry

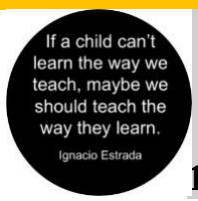
It is necessary that the students take extended training in industry. A six-week training in industry after the sixth semester examination should be mandatory. They should pick up at least one

industrially relevant projects from their stint in the industry and work on it in the following semester to come up with a workable solution. If the solution is pitched to the same company, it is likely to get a better acceptance from the industry also.

If the colleges can opt for a complete semester long industry training in the eighth semester, it can be brought in the University system as a practice. Instead of conducting the project in the college, the last semester can be on-job project by the student. However, the selection of the candidates for the training can be done in competitive manner.

The progress of the student however must be monitored on monthly basis by regular interaction with faculty members in colleges. The progress can be monitored for continuous assessment and final grading should be done in consultation with the industry experts from the same company.

Fortunately for the telecommunication discipline such as BSNL and MNTL provide the training for eight weeks on chargeable basis. Similarly, RCF provides training to Chemical and Petrochemical engineering students at a cost. These companies can be roped in for Faculty training too.



10. Pedagogy and Training for faculty

Regular and ad-hoc faculties will be encouraged and deputed to attend the training programs conducted under GIAN initiative undertaken by MHRD with an aim to provide an exposure to teaching by faculty members from US and other foreign countries. Every newly appointed teacher will have to undergo total four to six weeks of training in pedagogy at the Teachers' Training Centre within an year of appointment. The emphasis shall be on new methodologies of teaching and learning, evaluation, and continuous assessment, time management, emotional intelligence, project management and financial management. The training may be in phases as it has to be applied and shall be backed up by some mentoring support from the Centre.

Pedagogical training programs for Adhoc faculty:
University recruits a large number of adhoc teaching staff every year which are normally fresh graduates. A university level in-house training program is planned to provide pedagogical training by internal senior staff members and by inviting guest faculty members. The workshop will be of one week to be held in the first week of July/Jan every year.

11. Faculty Training in Industry

A survey of faculty members across the State covering all Universities, had thrown up a few startling facts. Almost 82% of faculty admitted to have no experience in Industry or exposed to corporate sector. The lack of such experience and no involvement in active research make these faculty members to rely on whatever information is available in open literature. However, the richness of actual experience cannot be captured by mere reading. It is necessary to provide avenues to the engineering faculty to have industrial experience at frequent intervals.

The faculty also must spend six weeks every three years in the industry or corporate sector, learning the new secrets of the trade so that on return to class after the visit, the teacher shall have a wider perspective and better means of dealing with it. The Director (Industry Relations) at the University and its Centres should facilitate the training and subsequent monitoring for level playing.

The Director (industry Relations) of the University will have to develop an ecosystem where the faculty and industry personnel can interact and develop symbiotic relations. The industry can offer opportunity to faculty member to spend upto eight weeks at their workplace with stipend as an intern. They faculty member can accompany the students going to the same industry and work with the students on problems of the industry. The industry can take advantage of the students and their teachers on their premises to address problems that industry alone cannot solve. A fresh perspective can be brought by the faculty member if he/she has requisite expertise.

12. Industry Relations

The AICTE and UGC rules permit appointment of industry persons as Adjunct Faculty. About 20% of the sanctioned strength of the faculty can be used to appoint adjunct faculty from industry. They bring their experience on table and practical knowledge. The adjunct faculty also brings latest knowledge on the table for benefit of the teachers and students alike.

Each department shall offer a course jointly with an adjunct faculty from industry. The adjunct faculty will deliver 20 hr of lectures scheduled over at the most five visits to the campus. The remaining 16 hr of lectures will be delivered by host faculties. The host faculty will be responsible for making travel arrangements, providing local hospitalities and setting conducting examinations.

It is envisioned that the Director (R&D) and Director (Industry Relation) at the Regional and subregional Centres can facilitate interaction of the colleges with local industry. The regional centres can also survey the industries in local regions and elsewhere in the state and the country and suggest changes in the curricula and introduce newer courses. The problems of the Industry can be brought to colleges for solving them and bringing innovators and industry together in a more meaningful manner.

The local small and medium scale industries may not be able to have full fledged laboratories and need to rely on the resources at the University and its regional centres. These developments can be done on partnership basis so that benefits gained by the industry can be shared with the colleges.

There must be meetings with industry persons to share their perspectives on the activities of the University and those affiliated colleges. The research outcome of colleges can be shared with industry under the confidentiality and if found suitable can be taken up for suitable technology developments and transfer. Regular lectures, and seminars can be held at the regional Centres for exchange of information and dissemination of knowledge to the stake holder. Exhibitions can be held every year at the Centres of products and processes developed by the University and affiliated colleges, keeping them open to industry personnel. It should generate enough interest among the industry to take up the research output of the University.

12. Soft skills/ training

Most engineering students have difficulty in communication and interpersonal communications. Formal training is expected from each college or informal activities that can help the students to sharpen their communication skills. These activities require additional expenditure using external experts. The cost will have to shared by the students as major beneficiaries. By the time, the student reaches to final year, he/she must be fluent in at least one foreign language. English is the most common language but German, French and Mandarin should be taught to the students.

The students must be taught team work, time management, financial management and emotional balance. These attributes enhance the employability of the students. There must be at least one area of expertise that the student must be able to claim. At the University, expertise in Chemical Process safety and Automation Technology are being planned because of proximity to Chemical Industry. At other places, expertise in other areas need to be built. We may want to integrate such developments with core courses and minimize add-on interventions.

13. Supervised Learning-

This is a new concept the University shall be experimenting with. A few courses will be offered in supervised learning mode in which a course faculty will act as supervisor. Students will learn the course through problem solving, field visit and carrying out projects. The course faculty will be responsible for conducting examinations, assigning projects and problems.

The classrooms should become cooperative learning experience. The students can access content on the internet and cluster around a concept to evaluate it. If the group has difficulty in grasping, it can approach second group. If the group can not find answers, they can approach the teacher who is supervising the entire exercise and pitch in with the explanation.

Flipped class room learning

Few courses will be assigned in flipped class room mode in which students will be asked to listen lectures at home and class room time will be utilized for more meaningful activities such as discussions, problem solving and application of theory. This approach may need a lot of hand holding from experts and the University to implement at college level.

Media classrooms

The classrooms can be equipped as media labs so that students can experiments on computers for better learning. The University auditorium can be turned into open learning space where a course can be beamed from Coursera, IEEE courses, MIT Open Courseware, NPTEL courses or Khan Academy lectures. These lectures, as specified by a time table, can be attended by the students who have taken

those courses. With media labs, these can be shared with affiliated colleges simultaneously. This will make the network bandwidth free as only one connection shall be used. The same space can be used to project lectures of Nobel Laurates and other visitors to the University to all affiliated colleges.

The credits can be assigned to the courses taken online provided the tests are conducted in supervised conditions. The Departments and affiliated colleges can identify these courses as electives and offered to the students, even as audit courses. Once the lecture is projected, the students can revisit the course at their own time for further studies.

Technology oriented courses during vacation time.
Technology oriented courses from the domains of ICT, industry safety and regulation, entrepreneurship and automation will be offered as vacation courses to interested students. A special cell will be formed to organize such courses.

Making it mandatory requirement to complete at least one MOOC
Successful completion of at least one MOOC will be made as a mandatory requirement for awarding B. Tech and M. Tech. degrees. Students will be asked to enroll for free courses on Coursera/Edx/NPTEL/ACADS.

14. Feedback from students:

The biggest contributor to the growth of the University shall come from the alumni. Their feedback as well as that from the current batches will be useful. The syllabus can be kept dynamic one where the faculty is empowered to initiate the course provided enough faculty is available. The Content of the course structure is also too much but electives from the second year to final year, can be designed to reduce the lecture load on the students as well as on faculty.

The system shall be developed for e-attendance system for automatic attendance recording by a biometric device and server to keep the record. The Board of Studies and Academic Council may take final call.

There is apprehension among the students who do not do well in examination. Many of these students have to skip the year to appear for the semester examination. Instead if supplementary examination can be done using ICT infrastructure and having an objective type questions. The student need to score minimum 40% in the on-line test. With automatic screening of answers against the answer keys, the evaluation also will be done online, reducing substantially the backlog. The student needs to a score or above 40% in the test to get pass class and promotion to next semester.

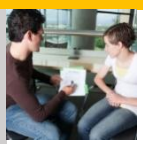
We can bring in online course work for the students who fail again and again to teach them at their own pace. We may require professional counsellors , who may assess suitability of the student for the course and if required counsel him to change the program. The digital depository of the University can be used to prepare them with practical projects so that they can earn their credits over time on their own. They can accumulate credits for the courses by appearing for the online tests more frequently. Once the student earns 40% in the test, he should get the pass credit and promoted to the next level.

Online courses can be also opted for by the regular students as audit courses or where the students wish to get additional qualification. Minor degree can be offered to the students with online tests for

online courses. The online course attendance shall be recorded whenever the student completes the modules and takes online tests.

The question bank for the on-line tests can be prepared and used as necessary. Enough data-bank must be prepared for the tests so that they do not become stereotype. The student cannot move on until he complete previous modules since mostly those modules will requires prerequisite knowledge.

15.Feedback from teachers



It is also essential that feedback is obtained from the faculty members of all disciplines. The inclination of current generation is towards digital content. The faculty, if old, have difficulty in adjusting to the newer means of communication. Their needs must be balanced against the digital system. The course content must be developed with more practical content and students can be clustered for the learning processes.

16.Program Evaluation from Employers and Alumni

Determination of base case of DABTU as on today in terms of perception of stakeholders, i.e. Students, Teachers, Staff, Alumni, Industry in particular and society in general. An online survey shall be conducted in the next three months for input. These will be analyzed to develop future modules of courses.

17. Staff Development

In order to implement the new pedagogy, digital evaluation and e-governance we need to develop training programs for the non-teaching staff at all levels. Regular programs will be conducted in skill development, communication skills. For the support staff and for training and placement officers of the institutes the following programs are envisaged

- People management
- Infrastructure/Resource Management
- Time Management/ Stress management
- Quality and Audit of activities
- Ownership and Relationship Building
- Self Improvement and Accountability
- Skill Improvement and qualification improvement

BOARD OF EXAMINATION

The Board of Examination will consist of the following members

(i) Director-Academic, Chairman

(ii) Controller of Examinations
(iii) Jt. Directors-Examination for Main campus and all Centres
(iv) Dean-Faculties

The Board will have the major responsibility of smooth conduct of examination and declaration of results in time and addressing the grievances of the students related to the examinations.

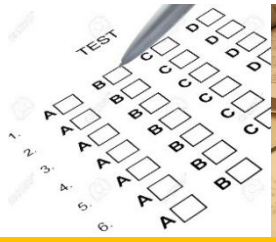
Controller of Examination

The Controller of Examinations shall be overall incharge of the all examinations of the University. His office at Main campus shall coordinate with Jt.Directors at Regional Centres and Dy.Directors at sub regional Centres throughout for smooth conducting of examinations.

Jt.Director- Examinations

Each Jt. Director-Examination at Main Centre, Regional centres and sub-regional Centres shall be responsible for,

- Appointment of examiners for setting question papers and assessment of answer papers, printing and distribution of the question papers,
- conduct of the examinations in the University and affiliated colleges in the Regional centres and Sub-regional centres,
- coding and scanning answer books,
- online evaluation of the answer books through examiners, and timely declaration of results and results analysis
- Reevaluation
- Student's grievances related to examinations and results
- Compilation and Analysis of examination results



Examination System

Continuous Assessment

The continuous assessment will be conducted by the teacher that he/she teaches throughout the semester after declaring the mode of assessment at the beginning of the semester and it must be visible on the College website for the knowledge of all stake holders. The marks must be sent to the University before Mid-Term examination and final semester examination online. The teacher and the management shall be responsible for timely submission of the CA marks to the University portal. Candidate cannot appear for the Mid-Term and final semester examinations without fulfilling attendance and CA assessment.

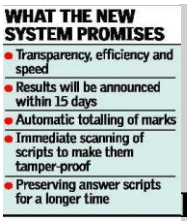
Mid-Term examination

The management of the college shall conduct the Mid-Term examination at its own premises and using the faculty in respective subjects. The papers must be evaluated by the concerned faculty in a week's time. After the papers are evaluated the corrected answer books must be shown to the candidates and corrections made if necessary. The marks of the Mid-term examination must be uploaded by the management of the college on the University's portal in two weeks of the examination**.** In order to bring uniformity in the evaluation and grading, the Mid-Term examination may be set up by the Regional/ subregional centre and examination maybe conducted by the colleges as per pre-declared time table. The answerbooks should be corrected by the faculty of college. The assessment shall be monitored by the Regional Jt. Director or Dy. Director-exam for quality. Colleges with consistent record of conducting assessment in error-free manner and keeping quality of students without inflating the marks shall be given authority of the conducting examination.

End Semester Examination

The end-semester examination shall be conducted by the University as per time table declared well in advance. The examiners shall be appointed from a panel of examiners approved by the Academic Council for respective subjects. The papers or sections of papers can be designed by the panel individually or together. The three sets of the papers shall be set up for every subject in confidence. The Board of examination with help of Director(examination) shall be responsible for conduct of the examination at designated Examination Centres. The Chief Conductor of the examinations at each examination centre shall receive the paper by electronic means 60 min in advance. The Centre in-charge shall be responsible for printing the paper and making copies of the same for distribution to the examinees.

In case of any untoward incidence of leakage of examination paper, the central examination board can set up fresh examination paper from the question bank and conduct the examination. The entire process can be made online to avoid human intervention.



Digital Evaluation System

The University is planning for online digital evaluation system. The Question banks will be strengthened and continuously updated through expert examiners. Once the examination is over, the answer-books can be brought to the Reginal Centre and scanned with utmost secrecy. The scanned papers shall be sent to designated 'Assessment Digital Centres'. The examiners shall be expected to assess the papers online and upload the marks at the same time. There will be complete secrecy on the candidates and the examiners.

External Examiners for Laboratory and Projects

For each laboratory examination, there must be involvement of outside examiners. The examiners can be called from other colleges in the vicinity. Each external examiner is expected to submit a confidential report on the laboratory examination separately to the University. The upkeep of experimental setup, innovativeness, and obsolescence of the experiments shall be informed to the University

Open examinations for B. Tech Projects.

B. Tech. project examinations will be conducted by organizing exhibition of projects and asking visitors to rate the project in addition to evaluating projects by expert examiners.

Quality of Evaluation

There needs to be strict monitoring of the question papers for quality. The papers shall be regularly checked for the repetitions, vagueness and weightages. The faculty members may need training in designing questions, developing case studies, using internet resources for online assessment and evaluations, analysis of the results and data for developing more effective teaching methodology

Remedial Examination

It is unlikely that all students shall pass the examination in one go. There is small section of students who find it difficult to pass the examination. They have difficulty to clear the tests and many cannot cope with the pressure of expectations. Since the examinations are conducted only at the end of semesters, some of the students may lose out on the time and most importantly, they cannot concentrate on the next semester courses because of backlog. It is proposed that such students shall be given supplementary examinations which shall be conducted online in the form of objective type multiple choice questions. The students appearing for the supplementary test and scoring minimum 40% in the test shall get pass grade in the subject. This will reduce substantially the number of students with backlog and ATKT. Those who cannot clear the supplementary examination, will have to appear the semester examination in the said subject a year later.

Revaluation of the answer book

The re-evaluation of answer books , if demanded by the students, shall be conducted online. The same examiner shall not be given the responsibility of reassessment. The Regional director (Students Grievances) shall be responsible for addressing the revaluation.

Deployment of and test various question paper generation algorithms

The Department of Computer Engineering of the University is currently developing various algorithms for generating question papers from the question bank which need to be tested and deployed.

The objective is also to bring uniformity in the quality of question papers across courses in terms of Bloom's Taxonomy levels, minimal passing requirements and English presentation.

The University plans to conduct on-demand tests to challenge students' higher-order thinking skills (HOTS) and specialized knowledge beyond regular semester examination.

Academic Audit

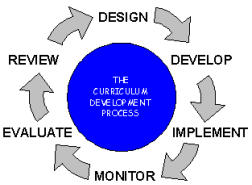
We will have a robust Academic Audit system for every university department and affiliated colleges. The academic assessors themselves shall be trained first who shall audit the colleges for well defined parameters as per a published calendar and audit results shall be available on website of the University. The purpose of the audit is to identify areas of improvement and plan the developmental programs. At present, the Advisory Committee members audit the departments at the University. The Audit of the courses for the odd semester of 2016-17 has been completed.

The Academic Audit is a peer review process that involves self-study and then an audit visit by peer group from outside the Institution. The process emphasizes self-reflection and self-improvement rather than mere compliance with predetermined standards. The purpose of an academic audit is to encourage Institutes to evaluate the quality of 'Teaching-Learning processes" – the key activities required to continuously improve the quality of teaching and learning.

The academic audit framework covers activities and quality assurance processes which might be expected as fundamental in an institute of good standing. For each academic activity, Institutes should address not just whether they do undertake the activities or processes identified in the guiding framework, but also evaluate how well they do so, and on what evidence they base their own self-evaluation. From own self-evaluation, the Institutes must be able to identify the areas for improvement and develop strategies to address those concerns.

An audit begins with a process of self-review that the Institute uses to report on its progress towards achieving the goals and objectives of the audit. The audit panel verifies the self assessment through documentary evidence and interviews of stake holders during the site visit. An academic audit checks how the faculty in the institute organize their work to approach educational decisions and how they, using the resources available to them and working together, provide a quality education in the best interests of the discipline and students. The final audit report shall be made public on the website of the Institute and of University. The report has to appreciate good practices which can be emulated by other Institutes and make recommendations to assist the Institute in continuous improvement.

In the following year, a report on progress in implementing the recommendations of the previous audit forms a part of the self-review process. Unless otherwise stated, all activities and processes relate to both postgraduate as well as undergraduate programs of studies and it is assumed that processes discussed apply to all students similarly.



CURRICULUM DEVELOPMENT & TEACHERS' TRAINING CENTRE

"No nation can rise above the quality of its educational system and no educational system can rise above the quality of its teachers."

The above maxim aptly expresses the role of good quality teachers in building a nation. And good quality teachers would become available when there is an appropriate education and training mechanism for teachers in place. It is therefore necessary to pay adequate attention to teachers' training at all levels of education.

A brief review of training facilities for technical teachers in the country, at large, and in the state of Maharashtra, in particular, is presented here. The review leads to identifying gaps in the technical teachers' training system in the state of Maharashtra.

Technical Teachers' Training: Current Status

At present, the technical teachers' training needs in the country are addressed in different ways. Some of them are as follows:

- National Institutes for Technical Teachers' training and Research (NITTRs) are located at Bhopal, Chandigarh, Chennai and Kolkata. These institutes mostly cater to the needs of polytechnic teachers and are not adequate to meet the training needs of vast number of teachers from technical degree colleges in the country.
- UGC's Academic Staff Colleges (ASCs): There are 66 such colleges in the country. Except Academic Staff College at JNTU, Hyderabad, all other colleges mostly cater to the needs of non-technical teachers.
- Continuing Education Programmes (CEPs) of IITs: Each IIT has its own CEP unit that conducts training programmes for industry and academia. However, the cost of the training is not affordable for the colleges and teachers only from TEQIP institutes are promoted to participate in these programmes.
- Summers schools, winter schools in subject domain and pedagogy which are organized off and on under the support of funding agencies such as AICTE, ISTE, BCUD, etc. But the number of teachers which are covered by way of such programmes is negligible considering the total population of technical teachers.

A survey conducted under Rashtriya Uchchatar Shiksha Abhiyan showed that a majority of college teachers in Engineering Institutes is having Master’s degree or Bachelors’ degree. Teachers without research experience disseminate information but have difficulty in knowledge generation. Most technical teachers, i.e. almost 82% of surveyed teachers in higher education sector, also have no exposure to industry or corporate practices. Lack of knowledge in current practices hinders the growth of the teachers as well as of the students taught by them.

In view of the large number of teachers in the need of training, and abysmally poor facilities for training of technical teachers almost all over the country including the state of Maharashtra, there is a huge gap between demand and supply of quality teachers. The quality of education can be improved only by providing timely and adequate training to the teachers. An exposure to real life problems shall train the trainers. Since students form transient population, they leave the system after getting the training but their training does not percolate to the teachers’ community. It is therefore necessary that adequate training programs are developed for the teachers’ themselves.

Teachers' Training Centre of DBATU

In view of the dire need for training of the teachers of its affiliated colleges, a special provision has been made in the above Act in the form of Section-44 for establishing a separate 'Centre'.

Section-44: Teachers' Training and Curriculum Design and Development Centre

(*1*) The University may establish the Teacher's Training and Curriculum Design and Development Centre in the manner prescribed by Statutes.

(*2*) The Curriculum Design and Development Centre shall be planning, designing, coordination, development and evaluation authority, for Curriculum and Teacher's Training, of the University.

(*3*) It shall be the duty of the Curriculum Design and Development Centre-

(*a*) to develop the curriculum of various subjects in the sphere of technological education, keeping in view the overall priorities, perspectives and needs of the society and expectations from industry;

(*b*) to develop Learning Resources for the University;

(*c*) to take steps to identify the demands of society and expectations from industry and design the curriculum and training of students and teachers accordingly;

(*d*) to develop methodology for training of teachers and to create training materials for the same;

(*e*) to coordinate with and empower Regional centres and sub-centres for conducting Teacher's Training and such other training as directed by the University.

(*4*) The Curriculum Design and Development Center shall be headed by a Joint Director of the University.

Thus, there is a clear-cut mandate for Dr. BATU to establish the above centre to cater to the training needs of teachers of its affiliated colleges. Besides, this Centre will also have additional responsibility of developing need-based and forward-looking curricula so as to cater to the entire State.

Organizational Structure of the Proposed Teachers' Training Centre (TTC)

Based on the Act, the University has prepared a 'Strategic Plan' that has been approved by its Executive Council. The Curriculum Development & Teachers' Training Centre (CD& TT Centre) will be headed by a Joint Director, who will be reporting to the Director (Academics). The Joint Director will be sitting in the CD&TTC located at the university's main campus.

As per Section 44(3)(e) of the Act, the CD&TTC will have regional centres and sub-centres which will cater to the training of teachers belonging to the respective regions. Further, these centres and sub-centres will also provide training to supporting staff (technical/non-technical) of affiliated colleges and polytechnics. On request, the training shall be also given to teachers of colleges affiliated to other Universities.

The Activities of the TTC

The main activities of the TTC will be training of teachers/supporting staff and design and development of curricula.

***The Activities*:**

The training of teachers and supporting staff will be of following types:

- Subject domain based training
- Pedagogical training
- Research methodology
- Technology Enabled Learning (TEL)
- Management capacity development
- Training related to Academic Audit

- Industrial Training
- Curriculum Design Workshops/Meetings
- Development of Learning Resources (Animations, Videos, Spoken Tutorials, etc.)
- Training for supporting staff (technical/non-technical)

Training Need Analysis (TNA):

Each sub-centre will carry out Training Need Analysis (TNA) of teachers and supporting staff members in affiliated colleges in its jurisdiction and identify training needs of each teacher at the beginning of every academic year. Based on the TNA, the centre/sub-centre will design training programs and then publish its 'Training Calendar' at the beginning of every academic year and then conduct the training programmes as per the calendar. These training programmes will usually be of a duration form 1 week to 4 weeks. In exceptional cases they will be of six weeks.

The Resource Persons

The TTC will identify resource persons related to all the above areas from all over the country and prepare a panel. All the centres and sub-centres will usually utilize the services of the resource persons from this panel. A suitable honorarium will be paid to these resource persons commensurate with their expertise.

The resource persons may be regular or retired persons from academia, research laboratories, industry and profession. It may be noted here that many "Colleges of Education" in the country offering B.Ed./M.Ed. programmes have eminent faculty members who are experts in pedagogy. Such experts will be included while preparing the panel of resource persons. Sometimes, foreign experts may also be invited from time to time through MHRD schemes like GIAN.

The Requirement of Human Resources

It will be necessary to provide sufficient manpower to run the TTC and its 9 centres/sub-centres. This manpower will consist of the following positions:

The Infrastructure at CD&TTC

It is proposed to house the TTC and its regional centres and sub-centres in self-contained buildings with all state-of-the-art facilities and amenities. These buildings will contain following the facilities and amenities:

Sr. No	Facility	Expected cost	2020-21	2021-22	2022-23	2023-24
01	**A G+3 structure of the Training Centre at main campus**	**600**		**400**	**100**	**100**
02	Refurbishing Office of Jt. Director, Associate Deans and Director's Secretariat	100		50	25	25
3	Offices of Centre (Accounts/ Technical amenities)	10		5	3	2
4	Reception lounge	1		1	0	
5	**Computer Centre with 50 desktops and A server, and digital connectivity, printers**	**50**		**40**	**5**	**5**
6	High End Digital Media Room with Audio/Video recording facility	50		40	5	5
6	**Well equipped SMART Seminar**	**5**		**3**	**1**	**1**

	Room (No.2) with multimedia projection facility					
7	Library with e-resources, Simulation softwares	50		25	10	15
8	**Furnishing Discussion rooms, Cubicles for team tutorials**	**17**		**10**	**2**	**5**
9	Maker's Lab cum Workshop	70		50	10	10
10	Advanced Automation Training Center	70		70	0	0
11	Chemical Process Safety Training Centre	275		100	100	75
12	Electronic Sector Skill development Training Center	180		100	80	
13	**Faculty Guest House**	**500**	**0**	**423**	**37**	**40**
14	**Offices for faculty/resource persons**	**10**		**5**	**1**	**4**
15	Stationary store	6		2	2	2
16	Kitchenette (self-serving)	6		2	2	2
17	Self-serving Kiosks for serving for meetings, Tea/Coffee/ cold drinks vending machines	20		10	5	5
18	Reprographic machines	7		5	1	1
19	**Solar Roof power generation**	**54**		**50**	**2**	**2**
	Total	2081	0	1391	391	299

Projected Capital Cost of Project (in lakhs) over the next five years for ALL Centres

Sr. No		2020-21	2021-22	2022-23	2023-24	2024-25
1	**CD&TTC at Main Campus**		**1391**	**391**	**299**	
2	**Building at Regional Centres**					
2.1	Aurangabad			200	400	200
2.2	Mumbai/ Navi Mumbai			600	200	200
2.3	Nagpur			200	200	400
2.4	Pune			200	400	450
3	**Building Sub-regional Centres**					
3.1	Amravati			100	200	300
3.2	Jalgaon			100	200	300
3.3	Kolhapur			100	200	300
3.4	Nanded			100	200	300
3.5	Solapur			100	200	300
	Total	0	1391	2091	2499	2750

It is assumed that every newly recruited faculty member shall undergo at least one training program in one year. Also the training programs shall be counted for career advancement scheme

Projected Training Programs and corresponding Trained Teachers

Sr. No		2021-22		2022-23		2023-24		2024-25	
		No of colleges	Number of Teachers trained	No of colleges	Number of Teachers trained	No of colleges	Number of Teachers trained	No of colleges	Number of Teachers trained
1	Main Campus CD&TTC	0	300		300		300		300
2	Regional Centre								
2.1	Aurangabad	13	130	20	130	25	150	25	100
2.2	Mumbai/Navi Mumbai	0		10	100	20	150	50	150
2.3	Nagpur	6	60	12	60	16	100	20	100
2.4	Pune	3	30	10	30	20	100	50	150
3	Subregional Centres								
3.1	Amravati	2	20	5	20	10	50	20	100
3.2	Jalgaon	10	100	16	160	20	100	20	100
3.3	Kolhapur	12	120	16	120	20	100	20	100
3.4	Nanded	3	30	5	50	5	50	10	50
3.5	Solapur	3	30	6	60	5	60	10	50
	Total	50	730	90	1030	140	1160	225	1200

Budgetary Requirement

Thus, the funding for the TTC and its 9 Centres will have **'Recurring'** and **'Non-Recurring'** components as given below.

The **recurring expenses** will mainly consist of:

a. Salary of administrative staff
b. Remuneration and TA/DA to the resource persons
c. Maintenance and depreciation of buildings and equipment, AMCs for equipment and wi-fi
d. Maintenance & upkeep of Computer Centre, Seminar Rooms & Library

The **non-recurring expenses** will mainly consist of:

e. Construction of the buildings for TTC and its 9 centres
f. Procurement of state-of-the-art equipment/software/wi-fi facility
g. Library: Procurement of handbooks and reference books

The estimated expenses for the above items are as follows:

INTERNAL REVENUE GENERATION

In the long run, all these centres are supposed to be run on self-supporting basis. In view of this, all the participants will be charged course fees to cover all the recurring expenses and also to create a surplus for expansion. The fees to be charged to the participants will be decided by the Finance Committee and Executive Council. It is expected that the each Centre shall be Conducting twenty 5 days workshops in a year having maximum 25 participants in each workshop.

Information and Communication Technology Infrastructure Developments

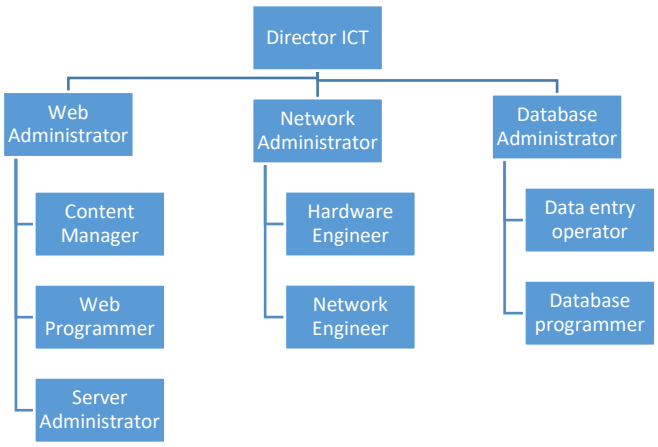
We are in the era of Information Technology and Communication Technology. The recent developments in electronics, communication tools and big data analytics, with faster communication means have reduced the need to travel. At the same time, the data security, and its management have become important. The University has decided to adopt the information and communication technology in its functioning. The University and Centres shall work through the e-Governance system and MIS with robust State-of-the-Art ICT infrastructure. Our major value shall come from e-enabling all systems and processes to the extent possible from affiliations, examinations, fee, college administration etc. Else it will not be possible to manages 500+ colleges and half a million students using physical resources.

The University will have a digital Portal for dissemination of knowledge among all the stake holders, and a MIS for e-governance. The Students, faculty, staff, and parents will have secure access system for getting information as and when required. The University plans to develop e-content for its own students which can be available for on-line distant education. The portal will also provide information about faculty members, their research contributions and available expertise for collaboration and tie-ups

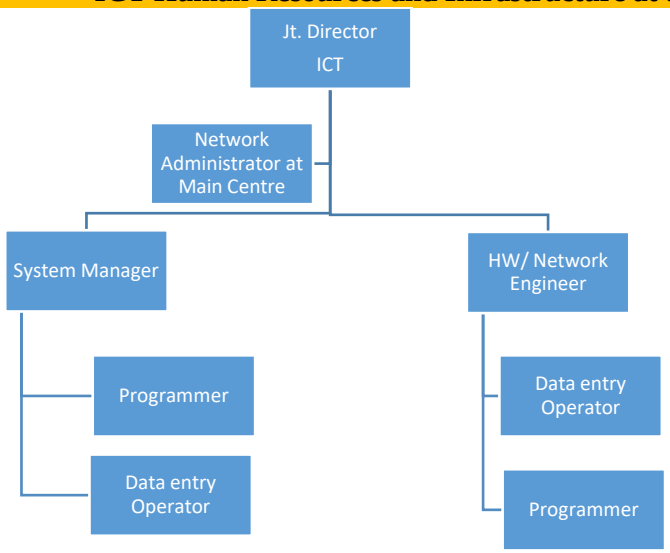
The University is developing plans to entre into e-education system with development of e-content generation using its resources at the University and affiliated colleges. The content shall be made for enjoyable self-learning experience for anybody who wishes to learn. The portal will also allow Industries to post their challenges to youngsters and organizations looking for innovative solutions and ideas for new disciplines. Innovation shall be the key for the future developments at the University.

The University administration structure has the Directorate of Information and Communication Technology for e-Governance of the University. The Director at main campus shall oversee the entire ICT infrastructure of the University throughout the State. He shall be supported by Jt-Director(ICT) at regional centre and Dy. Director(ICT) at subregional centres.

ICT Human Resources and Infrastructure at the University



ICT Human Resources and Infrastructure at the Centres



The Functions of the ICT Directorate shall be

- Establishment and maintenance of ICT infrastructure for the University and regional centres and subregional centres
- Development and maintenance of State wide MIS system for affiliated colleges, university departments, for academic profiles of students and staff
- Tracking Teaching and learning processes and data analysis
- Maintenance of web related services for faculty, staff, students, alumni and industry
- Conduct of online examinations and evaluations
- Submission of data to regulatory bodies such AICTE, UGC, NIRF, MHRD etc
- Data analysis of examination results
- Development and maintenance of network communication within University and between the Centres
- Development of ICT systems for functioning of the University

The Director- ICT, shall be responsible for

i. establishment and maintenance of ICT infrastructure for smooth functioning of the University and regional centres and subregional centres,
ii. Development and maintenance of State wide MIS system for affiliated colleges, university departments, the existing students, their academic profiles, Faculty profiles,

Teaching and learning processes,

iii. conduct of online courses,
iv. maintenance of website,
v. maintenance of web related services for faculty, staff, students, alumni and industry,
vi. conduct of online examinations,
vii. scanning of the answerbooks,
viii. data management,
ix. submission of data to regulatory bodies such AICTE, UGC, NIRF, MHRD etc.,
x. data analysis of examination results,
xi. development and maintenance of network communication within University and between the Centres

Activities to be carried out under ICT

1. Digitizing all activities of the Universities such as affiliation and publishing day-to-day activities to bring transparency in the administration.
2. CCTV installation at University and all its Centers and Sub-Centers for distance monitoring
3. Installation of facility for video conferencing for administrative meetings and reporting to Main Center
4. Creation of virtual classrooms at Main Center and providing access to all affiliated institutes for seminars, webinars, STTPs, Workshops, Conferences
5. Creation of e-storage for providing NPTEL video lectures, video lectures of faculties, notes, assignments, e-book and similar e-contents.
6. Recording and editing rooms for creation of e-course contents by distinguish industry and academia experts
7. Setting up server for maintaining students, staff and faculty database of University and all its affiliated institutes.
8. Keeping the e-records of all affiliated institutes such programmes, intake, date of affiliation, NBA and NAAC details, results, placements, deficiencies.
9. Development and time to time updation of website for issuing circulars, notices, rules and regulations, examination schedules, results
10. Setting of cloud for sharing resources among the affiliated institutes.

Action Plan for setting up ICT infrastructure

Activity	Duration	Action Plan
1. Digitizing all activities of the Universities such as affiliation and publishing day-to-day activities to bring transparency in the administration.	One Year : Oct 2016-Oct 2017	For affiliation it is proposed to have online interface application, document submission and verification and the status of application can be shown on individual login. For day to day activities, it is proposed to have biometric login system and publishing same on the website as well as on user login. Various application forms like leave application can be submitted and acknowledged through portal and a interface can be provided for complaints, discussion about administration. Minutes of various meeting conducted can be displayed online Procurement of required setup for digitization of all activities. Procurement includes servers, required software, scanners, printers, storage devices, ACs. Appointment of manpower includes Programmer, Network Engineer, and Data operators.
2. CCTV installation at University and all its Centers and Sub-Centers	Main Center : One Year : Oct 2016-Oct	University can monitor the activity of its centers and sub centers for various security and administrative purposes by installing CCTV in the respective places.

for distance monitoring	2017 Center and Subcenter : Five Years	Finalization of drawing for wiring layout and Installation of cameras, digital video recorders (DVRs), monitors and storage devices. Procurement of all these devices based on the above requirement for Main center.
3. Installation of facility for video conferencing for administrative meetings and reporting to Main Center	Two years	A special meeting/conference room can be can be build for conducting meetings between the university and centers and subcenters for fast processing and smooth operations this can be done by installing PA systems and interactive displays with superfast internet connections Procurement of mikes, cameras, screens, control unit, leased line, speaker,
4. Creation of virtual classrooms at Main Center and providing access to all affiliated institutes for seminars, webinars, STTPs, Workshops, Conferences	Main Center : One Year Center and Subcenter : Five Years	To setup digital/virtual classroom thing for conducting distance learning seminars, webinars can be done by building classroom with PA systems, interactive displays and internet connectivity at each center. Audio-video systems, Multimedia board, white board, webcams, broadcast device. Audio video processing unit with trained operator.
5. Creation of e-storage for providing NPTEL video lectures, video lectures of faculties, notes, assignments, e-book and similar e-contents.	One Year	Procurement of server, storage device, intranet facilities.
6. Recording and editing rooms for creation of e-course contents by distinguish industry and academia experts	One Year	To provide the competitive edge and advance knowledge to students, University can develop the video content by various Industry and Academia Experts through talks, workshops and Seminar. For implementation of this we need recording room, with high end audio video processing tools/software with trained full time operator for the same
7. Setting up server for maintaining students, staff and faculty database of University and all its affiliated institutes.	Center and Subcenter : Five Years	Procurement of Server and storage device. Appointment of data operator.
8. Keeping the e-records of all affiliated institutes such programmes, intake, date of affiliation, NBA and NAAC details, results, placements, deficiencies.	One Year	For maintaining affiliation and accreditation related records it is required to have server, storage system and data operators.
9. Development and time to time updation of website for issuing circulars, notices, rules and regulations, examination schedules, results.	One Year	For the updating and circulation of notices it is required to have a chat interface between the faculties and staff. For this web development and management is needed.
10. Setting of cloud for sharing resources among the affiliated institutes.	Two Year	In order to facilitate sharing of resources and study material as well as online storage of content it is required to set up a cloud. This can be done by procuring a server and storing devices with cooling system.

ICT Directorate's Perspective Plan

A. **Perspective plan for next one year**:

1. To develop campus wise intranet facility.
2. To appoint department/section/centre wise coordinator for information gathering and upload on the intranet portal.
3. To ensure that all the necessary and sufficient information about the various activities/ meetings etc must be available online.
4. Digitization of day to day activity to create a paperless administration.
5. To prepare the budget estimates for the establishment of data centres at each regional centre and sub regional centre.
6. To provide secured login IDs to each stakeholders of this University (Lonere Campus) for access of information.
7. To create, maintain and develop a curricular data repository for the student.

B. Perspective Plan for next five years:

1. To establish and develop the 4 regional centres and Lonere campus ICT infrastructure.
2. To establish and develop the sub regional centres of the University.
3. To conduct workshops to create awareness about the use of the ICT among the conducted institutes faculty and students and other stake holders.
4. Identification of key/ thrust area of University administration and digitize it.
5. Up gradation and maintenance of data centres at campus of the University.
6. To start a shot term industry oriented diploma on **ICT and its Applications.**

Action Plan:

(a) **For 1st year**:

Sr. No.	Activity	Target of completion
1.	To develop campus wise intranet facility.	Within next 3 months
2.	To appoint department/section/centre wise coordinator for information gathering and upload on the intranet portal.	Within next 3 months
3.	To ensure that all the necessary and sufficient information about the various activities/ meetings etc must be available online.	Within next 6 months
4.	Digitization of day to day activity to create a paperless administration.	Within next 12 months
5.	To provide secured login IDs to each stakeholders of this University (Lonere Campus) for access of information.	Within next 6 months
6.	To create, maintain and develop a curricular data repository for the student.	Within next 8 months

(b) For next Five years:

Sr. No.	Activity	Target of completion
1.	To establish and develop the 4 regional centres and Lonere campus ICT infrastructure.	Within next 12 months
2.	To establish and develop the sub regional centres of the University.	Within next 15 years
3.	To conduct workshops to create awareness about the use of the ICT among the conducted institutes faculty and students and other stake holders.	Within next 2 years
4.	Identification of key/ thrust area of University administration and digitize it.	Within next 3 years

5.	Up gradation and maintenance of data centres at campus of the University	Within next 5 years
6.	To start a shot term industry oriented diploma on **ICT and its Applications.**	Within next 5 years

Designation	**Work Place**	**Job Responsibilities**
Director-ICT	Main Campus	Overall responsibility of ICT services at University and University's jurisdiction
Web administrator	Main Campus	• *To manage web environment design, deployment, development and maintenance activities.* • To collaborate with development teams to discuss, analyze, or resolve usability issues. • To develop or implement procedures for ongoing web site revision. • *To perform testing and quality assurance of web sites and web applications.* • To check and analyze operating system or application log files regularly to verify proper system performance. • To test backup or recovery plans regularly and resolve any problems. • To ensure that the web servers, hardware and software are operating correctly. *To* monitor health of web servers and overall website environment. • To Recommend web site improvements • To develop budgets to support recommendations. • To implement updates, upgrades, and patches in a timely manner to limit loss of service. • To Identify, standardize, and communicate levels of access and security. • To inform web site users of problems, problem resolutions or application changes and updates. • To provide training or technical assistance in web site implementation or use. • To correct testing-identified problems, or recommend actions for their resolution. • To develop testing routines and procedures. Evaluate testing routines or procedures for adequacy, sufficiency, and effectiveness. • To identify or document backup or recovery plans. • To gather, analyze, or document user feedback to locate or resolve sources of problems. • To develop web site performance metrics. • To back up or modify applications and related data to provide for disaster recovery. • To test issues such as system integration, performance, and system security on a regular schedule or after any major program modifications. • To install or configure web server software or hardware to ensure that directory structure is well-defined, logical, secure, and that files are named properly. • To collaborate with web developers to create and operate internal and external web sites, or to manage projects • To administer internet/intranet infrastructure, including components such as web, file transfer protocol (FTP), news and mail servers.
Network administrator	Main Campus	• To design, organize, modify, install, and support organization's computer systems

		• To design and install LANs, WANs, Internet and intranet systems, and network segments. • To install and support LANs, WANs, network segments, Internet, and intranet systems. • To install and maintain network server hardware and software. • To analyze and isolate issues. • To monitor networks to ensure security and availability to specific users. • To evaluate and modify system's performance. • To determine network and system requirements. • To maintain integrity of the network, server deployment, and security. • To ensure network connectivity throughout a University's LAN/WAN infrastructure is on par with technical considerations. • To design and deploy networks. • To perform network address assignment. • To assign routing protocols and routing table configuration. • To assign configuration of authentication and authorization of directory services. • To maintain network facilities in individual machines, such as drivers and settings of personal computers as well as printers. • To maintain network servers such as file servers, VPN gateways, and intrusion detection systems. • To administer servers, desktop computers, printers, routers, switches, firewalls, phones, personal digital assistants, smart-phones, software deployment, security updates and patches. • To identify, standardize, and communicate levels of access and security. • To evaluate or recommend server hardware or software.
Database administrator	Main Campus	• To perform the task of maintaining the database environment to ensure its availability and that it runs smoothly using database tools to monitor, fix and maintain the physics of the database software and the hardware on which it runs. • To maintain and monitors database systems using replication, log-shipping, backup/recovery, performance monitor. • To perform tests and evaluations regularly to ensure data security, privacy and integrity • To monitor planning, development and troubleshooting • To monitor performance and managing parameters to provide fast query responses to 'front end' users; • To map out the 'conceptual design' for a planned database in outline; • To refine the 'logical design' so that it can be translated into a specific data model • To interact with user teams to understand project requirements • To minimize database downtime and manage parameters to provide fast query responses • To monitor and optimize the performance of the database • To use high-speed transaction recovery techniques and backup data • To provide proactive and reactive data management support and training to users • To build database systems of high availability and quality depending on each end • To establish and maintain sound backup and recovery policies and procedures • To back up and restore databases. • To maintain archived data

		• To implement and maintain database security • To create and maintain users and roles, assign privileges • To perform capacity planning • To plan growth and changes • To ensure compliance with database vendor license agreement • To modify the database structure, as necessary, from information given by database programmer • To install and upgrade the database server and application tools.
Content Manager	Main Campus	• To oversee the content presented on websites. • To make sure the website is working properly and respond to website feedback. • To monitor the site's statistics, such as user demographics, traffic flow and search engine placement. • To work with the site's content producers, determining the type, quality and quantity of content needed for the website. • To proofreads new content • To ensure that all documents meet established content standards and works with developers to assess any technical challenges in displaying the content. • To ensure that content changes regularly and remains relevant • To ensure content remains updated and relevant • To post multimedia content on the website, including audio and videos; and optimize photos for online publishing;. T o create banners, images, promotions etc for display on the website • To generate and update website content
Web programmer	Main Campus	• To build and maintain websites and web applications to meet their client's needs. • To write well designed, testable, efficient code by using best software development practices • To create website layout/user interface by using standard practices • To integrate data from various back-end services and databases • To gather and refine specifications and requirements based on technical needs • To create and maintain software documentation • To maintaining, expanding, and scaling web site • To use emerging technologies/industry trends and apply them into operations and activities • To work with web content managers to match visual design intent • To perform user testing or usage analyses to determine web sites' effectiveness or usability. • To Fix errors or issues on the websites in a timely manner • To coordinating repair of broken links
Server administrator	Main Campus	• To oversee the performance and condition of multiple servers • To design, install, administer, and optimize servers hardware and software and related components to achieve high performance • To oversee the physical security, integrity, and safety of the data center/server farm. • To ensure the availability of client/server applications, • To develop processes and procedures for ongoing management of the server environment • To Monitor server performance
Hardware Engineer	Main Campus	• To design, organize, modify, install, and support University's computer systems

		• To install and maintain network server hardware and software. • To administer desktop computers, printers, phones, personal digital assistants, smart-phones, software deployment, security updates and patches. • To test and re-test parts to ensure they work properly. • To identify and isolate defects. • To integrate components into the final design. • To estimate cost, reliability, and safety factors. • To generate specifications for parts. • To build, test and modify product prototypes. • To analyze information and recommend appropriate hardware • To specify power supply requirements and configuration. • To retrieve data for analysis of system capabilities.
Network Engineer	Main Campus	• To design, implement, maintain, and support network infrastructure. • To configure and install various network devices and services (e.g., routers, switches, firewalls, load balancers, VPN, QoS) • To perform network maintenance and system upgrades including service packs, patches, hot fixes and security configurations • To monitor performance and ensure system availability and reliability • To monitor system resource utilization, trending, and capacity planning • To provide Level-2/3 support and troubleshooting to resolve issues • To work within established configuration and change management policies to ensure awareness, approval and success of changes made to the network infrastructure • To select and implement security tools, policies, and procedures in conjunction with the organization's security team • To liaise with vendors and other IT personnel for problem resolution
Database Programmer	Main Campus	• To perform database programming for new and existing systems. • To write scripts, stored procedures and functions for database system. • To perform quality assurance tests for ensuring data integrity and quality. • To resolve database problems, queries and error reports in accurate and timely manner. • To coordinate with team members to perform database programming based on project requirements. • To assist in planning and implementing the data integration and data migration activities. • To provide valid inputs in database architectural discussions. • Assist in identifying process improvements for database performance, reliability and stability. • To troubleshoot complex database issues in a timely fashion. • To provide programmatic guidance and support to team members when needed. • To provide project updates and metrics to Managers on regular basis. • To assist in preparing database functional and design specifications. • To test database systems and perform bug fixes. • To maintain accurate and complete database programming documentations. • To design and implement database in accordance to end users information needs and views • To implement and control security procedures to protect the database from accidental or intentional damage or loss
System manager	Center	Overall responsibility of ICT services at Center and center's jurisdiction

programmer	Center	• To perform database programming and system programming • To troubleshoot complex database issues in a timely fashion. • To provide programmatic guidance and support to team members when needed. • To maintain accurate and complete database programming documentations • To implement and control security procedures to protect the database from accidental or intentional damage or loss • To create and maintain software documentation • To back up or modify applications and related data to provide for disaster recovery. • To test issues such as system integration, performance, and system security on a regular schedule or after any major program modifications.
HW/Network Engineer	Center	• To design, implement, maintain, and support network infrastructure. • To configure and install various network devices and services 2. To select and implement security tools, policies, and procedures in conjunction with the organization's security team • To design, organize, modify, install, and support organization's computer systems • To install and maintain network server hardware and software. • To administer desktop computers, printers, phones, personal digital assistants, smart-phones, software deployment, security updates and patches
Data entry operator	Main Campus	• To enter data from source documents into prescribed computer database, files and forms within time limits • To compile, verify accuracy and sort information according to priorities to prepare source data for computer entry • To transcribe information into required format • To scan documents into document management systems or databases • To review data for deficiencies or errors, correct any incompatibilities if possible and check output • To make Necessary Changes or Corrections • To apply data program techniques and procedures • To generate reports, store completed work in designated locations and perform backup operations • To maintain logbooks or records of activities and tasks • To respond to requests for information and access relevant files • To comply with data integrity and security policies
Data entry operator	Center	

Research and Development and Industry Relations

Being a Technological University, Dr. Babasaheb Ambedkar Technological University has a major mandate of developing not only human resources for the industry but the University should devote considerable time on technology development and engineering aspects for future development to match the emerging socio-economic growth needs in the country. Needs of both, Industry and Society should be focus of the R&D at the University. Also more PG and PhD level courses must be emphasized for knowledge generation for increasing demands of the current era.It is essential that we develop and support research activities that have local relevance but global reach. We need to invest heavily in our research infrastructure and improve our internal processes to attract the best talent to be a University at the forefront of the cutting edge research.

The continuation in the school shall be linked to performance in terms of funds generated, number of PhDs, research publications in indexed journals as API, interaction with industry and professional bodies, laurels brought to the University and of course quality of innovation in pedagogy

The Director (Research and development & Industry Relations) and his team at the University and at its Regional Centres should focus on emerging areas of application, levels of technological needs, possible contribution of affiliated colleges in deciding the pathways for R&D as well as for development.

The Director- Research and Development and Industry Relations, shall be responsible, with support from Jt. Director-Industry coordination for

- promotion of research and technology development,
- undergraduate and post-graduate research projects,
- industry coordination and collaboration between the colleges under the University, and with other research and academic organizations,
- transfer of technology,
- maintenance of research quality in university departments and affiliated colleges,
- coordination of resources for high quality research,
- interaction with industry,
- patents and other intellectual property matters,
- extensional work and any other matter related to research and development in Technology and engineering.

The Directorate shall prepare a yearly document on technological needs and submitted to Planning and Monitoring Board and thereby the Executive Council for its consideration. The document should ascertain the status of new technological developments, financial needs and may advise the State government, Industries at local level as well as at the State level, and other stakeholders of possible fields of application and the methodology of application of such technology.

Students in the University and in the affiliated colleges are the great human resources. These young minds in the engineering and technology should be inspired through project support for undergraduate, postgraduate and research level students in engineering institutions as well as those who are conducting specially designed courses. Specific project support from concerned industries should be identified and tried for the students.

Technology Identification and Awareness

The Directorate of R&D should devote time on technology identification for future developments to match the emerging socio-economic needs in the country. Its interaction with the captains of the industry and entrepreneurs in continuous dialogue is an essential part of the University to discuss the emerging technology needs and at least one meeting in a year should be devoted exclusively for discussing and determining the emerging knowledge with industry organizations such as FICCI and DICCI. There can be development of a White Paper with the assistance of knowledgeable persons in their respective areas.

Technology Development

The University shall strive to strengthen the Industry linkages with its Curriculum Development and Teachers' Training Centre to take up major R&D projects in product and process development and in other industrial and socioeconomic applications. R&D Centres should also be established at Regional and subregional Centres. Besides strengthening R&D capability, efforts should also be made to support collaborative R&D activities in other technical institutions which are, at present, at the forefront of providing cutting edge technologies

The University shall initiate R&D programme at B.Tech, M.Tech and Ph.D levels, under guidance of faculty members, to pursue their innovative research projects. Financial support for the same may be provided, but at a limited level and on highly competitive basis. Only the best can win the race. The University shall make strong case to access government funds and to channel them to its programmes to induct engineering students on the innovative path.

Innovation and entrepreneurship

This decade has been declared by the President of India as the decade of innovation with a focus on inclusive growth. The 12th Five Year Plan has identified three distinctions of the emerging Indian approach to innovation. First, finding affordable solutions should be the focus for the needs of people, i.e. for health, water, energy and transport, without compromising quality. Secondly, the desired outcomes are produced by innovations in organizational and process models that deliver to people the benefits of technologies developed in scientific laboratories. Thirdly, there are innovations in the process of innovation itself to reduce the cost of developing the innovations.

While the emphasis is laid on current needs at ground level, it is also necessary that research in emerging areas of engineering and technology is also pursued with the ultimate aim of sustainable development. This can be executed by accessing funds from various agencies, including international funding agencies, and fully utilizing technical manpower. The University shall develop a Policy Framework for the Approach to Research, Development and Innovation. The R&D directorate shall also develop a framework for collaboration with and accessing funds from national and international institutions/ organisations. The University should be able to develop futuristic vision for the role of engineering in development of the state by brain-storming of its highest talent in a time frame coinciding with international and national targets. A 'Vision-2025' document may be prepared to present a Road Map for growth of engineering education and application leading to national and international socioeconomic development that is inclusive.

Infrastructure Development

Currently, the University has no PG Centres and no faculty for teaching PG courses, although the faculty is qualified for the same. As a University, the DBATU should be at the forefront of the generation of new knowledge and its dissemination to interested stake holders. To augment the research activities, the University is planning to build at least three PG Centres to house all the research activities at its main campus. Two more PG centres should be added over the next five years to initiate research and development in areas related to Pharmacy, Biotechnology, Marine Science and Food engineering. It is envisaged that these centres should function in interdisciplinary manner and the faculty members shall be entrusted with the responsibility of building research capability of the Centres.

Research Schools and Centres

The University's perspective plan for the next five years included building the following Centres and Schools at the main campus. The Schools and Centres shall promote interdisciplinary culture with focus on PG courses and research.The appointments in the Schools shall be tenure based, initially for three years and subsequently five years, and performance linked. The faculty members in the Schools have to contribute to the growth of the School and Centres in terms of research projects, generation of funds from government agencies and industry.

- Curriculum Development and Teachers' Training Centre
- School of Interdisciplinary Technology Development
- School of Hotel Management and Catering Technology
- School of Business Management
- School of Interdisciplinary Sciences
- School or Earth Sciences and Marine Sciences
- School of Architecture
- School of Health Sciences
- Center for Innovation, Product design and Entreprenurship
- Incubation Centres

We will have to demand strong research culture and effective leadership in every Department and affiliated colleges. We will have to establish performance based incentives to the faculty in all disciplines

and celebrate excellence in innovation. We need to push boundaries of science and technology to be relevant.

The areas of research should be interdisciplinary. The Schools of the University shall provide access to research project teams of state of art research facilities, which the research teams have to contribute to during their stay in the Schools. We need to exchange knowledge with others where we do not have the expertise, to strengthen the activities of the Universities and affiliated colleges
The continuation in the school shall be linked to performance in terms of funds generated, number of PhDs, research publications in indexed journals as API, interaction with industry and professional bodies, laurels brought to the University and of course quality of innovation in pedagogy

The emphasis shall be on development of products, prototypes, processes and services that will have an immediate impact on the society and globally. The benefits of the research should reach to the local society in short term and to the state in longer terms.

The Schools shall have mandate of developing technologies for potable water, health care, and green energy at affordable cost, maintaining biodiversity and to improve the global competitiveness of the Indian economy with spirit of entrepreneurship in young engineers and technologists.

We'll also encourage research networks that bring together researchers to develop their common interests in a strategically significant research theme. Such networks will help build research communities, establish external presence at national and international presence and apply for funding.

We need to expand our post-graduate community and attract the best talent for post-graduate research, even from international sectors. We need to develop endowment funds to award scholarships that support out research priorities.

ntellectual Property Rights Cell

The University should be involved in research, innovation, design, development, and dissemination of technologies, processes, and products. In view of this and considering the importance of formally protecting the intellectual property of the teachers, staff and students, it is necessary to have institutional arrangement.
The purpose of the IPR cell is to:

- Facilitate, encourage, promote and safeguard scientific inquiry, research pursuits and the academic freedom of its faculty, researchers and students.
- Provide a clear understanding of the rights and responsibilities of the faculty staff, and students to protect their research work.
- Create an Innovative culture which fosters the creation and development of IPR at the Institute.
- Establish an IPR management policy and procedural guidelines for converting the knowledge generated to wealth.
- Enable the Institute to make beneficial use of intellectual property (IPR) so as to confer maximum benefit to the inventors, the Institute and the society at large.
- Any other as required

Structure of IPR Cell

The cell shall have the following structure:

- Chairman: Vice-chancellor shall be the Chairman head of IPC
- Member secretary – Director or Dean of (R&D) who will be responsible for smooth functioning of the IPR Cell
- Members (Two): Heads of two departments from the University
- Members (Two): Professors / Associate Professors of the University
- Member (One): Professor from law school specialized in IPR or legal expert
- Members (Two): JRF / SRF research students
  IPR Cell should have a provision to have an external attorney on call
  If any other special member required e.g. IAEC – Institutional Animal Ethical Committee, etc.

Objectives of the IPR Cell

The IPR cell aims to:

- Arrange for the speedy processing and filling of applications for patents and to effectively implement the policy and guidelines in respect of Intellectual Property Rights.
- Facilitate protection and valorization of intellectual properties generated by its faculty, staff and students as results or their intellectual and scientific pursuits at the University and affiliated colleges during the tenure of their employment/engagement at the University and thereby offer scope for wealth generation, alleviation of human sufferings and betterment of human life.
- Usher in prudent IP management practices in University so as to promote IPR awareness and culture among its faculty, staff and research students. And provide a comprehensive single window reference system for all IPR related issues.
- Proactively create an environment for generating new knowledge through research and innovations in the universities.

Responsibilities of the University toward IPR Cell

- The responsibility of the University is to make sure that the IPRC functions smoothly. The functions of the IPRC shall include but would not be limited to the following:
- The above mentioned members shall constitute the quorum of IPR Cell.
- Meeting: The meetings of IPRC shall be convened quarterly by the Member Secretary.
- Assigned Responsible Person: Minimum one assigned person shall be in IPRC office to operate it regularly. This person could be the Member Secretary, Dean R& D or any other person assigned the responsibility.
- Infrastructure: There shall be a separate space within the Universities for IPR Cell office; and for Universities where technology transfer centers are established. IPRC will be established at those centers. The required minimum infrastructure for proper functioning of the IPRC shall be made available.
- IP Counseling: IP cell will counsel and interact with inventors of potential inventions / intellectual properties / products and assist them in identifying / assessing the IPR potentials.
- IP Management: Filing, maintaining and monitoring and managing of patents and coordination between attorneys, faculty inventor, and other authorities.
- IP Transactions: Advising, drafting and monitoring of all IPR related MOUs
- IP Policy Formulation: Framing of IP policy and amendments from time to time according to need. The IPRC shall lay down its own procedure for conduct of its works

- Promoting IP Awareness: The IPRC will undertake such measures which promote awareness of IP rights and strive to develop an IPR culture within.
- Assistance in Technology Transfer: The Cell shall handle transfer and licensing of all IP developed in the University and at the technology transfer centre.
- Reporting on IP Assets and IPR Management: IPRC will periodically submit reports on IP assets to the University for consideration and advice.
- The IPRC shall make any other IP related recommendations to the Vice-Chancellor.
- The University shall provide adequate support for smooth functioning of the IPR cell.
- IPRC shall act to redress any conflict, grievance regarding ownership of IP, processing of IP proposals, procedures adopted for implementation of IPR policy and interpretation of various clauses of IPR policy.
- Investigate the matters of violation / infringement of any intellectual property rights.
- IPRC shall approach funding agencies, venture capitalists etc. for funds for promotion of IPR activities, tie-up with organizations for filing, licensing / assigning of IPR on revenue sharing basis, to provide waivers and release of IPR to Inventor(s) and / or Third party(ies) within the framework of IPR policy.

Institution–Industry Interaction

Dr. B. A. T. University is located at remote location but closer to a Chemical Industry belt. Despite this proximity the University has not been able to develop synergistic relationship with the industries. The major cause seems to be very low visibility on the knowledge generation front. Most faculty members are involved in undergraduate teaching while no positions are sanctioned by the State Government for Master's program or PhD programs. As a result, there is no significant output on research front and subsequently no visibility on the industrial linkages. The University has initiated several activities so far which can be promoted at affiliated colleges too in similar or modified manner.

A major effort would be needed in this area through personal visits, invitation to seminars, holding joint conferences in the premises of the industry, running continuing education programmes in areas of industry's needs in collaboration with experts from educational institutions, industry as well as research laboratories, and honouring leaders of Industry on a regular basis.

Outreach Programmes

Every effort should be made to make industry, along with local governments, the partners in the activities of the University. The programme should also reflect the components providing inputs for the industries. Each Department of the University has an Advisory Committee consisting of three industry experts and three experts from academia. The presence of industry experts in the University bodies ensures their input in development of course curricula and revision of syllabus.

Recognize Industrial Leaders

The University shall recognize contribution of engineers through its various Centres by inviting eminent engineers on different committees. The alumni from the industry may also be mentioned for their contribution on Universities' website, publications and other awareness means. The AICTE has permitted involvement of industry experts as adjunct professors. The University as planned to induct at least one Adjunct Professor on the faculty of the departments by invitation.

Collaborative R&D Activities

The University is planning promotion of R&D at all levels to undertake collaborative research funded by government and other funding agencies. In the 12th Five Year Plan, the government is trying to encourage industries to contribute for R&D at the same level as that by the government. Part of the funding shall come from the collaborating industries.

Skills Development Centres

Skills Building Programmes to Improve Employability in Industry

The University is already conducting skills building programmes to cater to the employment needs of the industry. The government has launched a massive programme for developing skills and needs institutions to undertake this work under PMKVK of the Central Government. The University has been selected under this theme.

Skills Development Centre can be established in each regional and sub-regional Centres of the University to support skills formation to fulfil the national needs. Curriculum for skills development has to be re-oriented on a continuing basis to meet the demand of the employers/industries and align it with the available employment opportunities. The University may take sector-wise approach with special emphasis on those sectors that have high employment potential. The quality of training modules will have to be in conformity with the industrial sector. The University need tocapitalize by launching large scale Skills development programme and become an important part of vocational education and training

Seminars, Workshops and other Interactive Activities

Seminars and workshops should be developed considering the central/state government programmes as well as the needs of the industry and social sectors so that the professional competence of faculty of the University and at affiliated colleges could be put to productive use.

The workshops should focus on training requirements of industry and government agencies through short term, mainly 2-3 day courses on different aspects. This can include safety, disaster management, project management, etc. The seminars and conferences should focus on wider national and state level policies and implementation issues

Distance Learning Programme

It is necessary to improve functioning of the distance system. The University has planned to create infrastructure for developing courses in specific areas of management like, project management, personal management, financial management, etc. These packages may be of shorter duration and job-oriented. These management courses will fulfill the need for expanding manpower in the service sector and in the industrial sector.

Data Centre of the University needs to be strengthened and upgraded to the international standard by establishing linkages with leading technical libraries in the world. Industries should be encouraged to use this facility at a nominal cost.

Undergraduate Research and Innovation

The engineering students at various levels shall prove to be the future leaders and policy makers in the development sector. They have to be groomed by inculcating in them the innovative problem solving

approach. The thrust areas for support of research at education levels need to be identified from time to time, in conformity with the national requirements. There should be a compulsory course / foundation course for all the university students on "learning how to learn"

ALUMNI RELATIONS

DBATU will continue to build mutually beneficial relations with its alumni during 2016–2021 so that a range of modes of engagement can be explored.

Steps that will be taken to achieve this objective include the following:

- Increasing the presence of the Institute in social media to promote engagement between alumni, students and faculty members
- Tele-calling and other personalised efforts to actively engage with alumni
- Increasing the number of face-to-face meetings
- Creating more opportunities for alumni to spend time on campus and engage with students and faculty.
- Alumni will be encouraged to support activities of the University in multiple dimensions: nurturing University–industry relations,
- facilitating interactions between aspiring students, faculty entrepreneurs and alumni entrepreneurs, transforming fund-raising to a professionally managed development effort and, in the case of alumni faculty members of foreign universities, catalysing collaborations.
- Fund-raising will have multiple strands, foci and strategies for India and other countries. Professional management is to be brought in to increase endowments and donations.
- Regional and Sub regional Centre offices are being opened throughout the State, with appropriate staffing and incentive structures. The entire approach to fund-raising will be highly systematic:
- A 'Development Plan' will be linked to the Strategic Plan, and well-delineated projects will be defined for funding.
- A single consolidated database will be compiled.
- Industry linkages will be cultivated to attract corporate social responsibility (CSR) funding.
- Foundations will be profiled to match their giving interests and the Institute's aspirations

National and International Collaborations

BATU's efforts shall be recognized as a Centre of Excellence in Technical education and research resulting in increased international interest in the University. The University seeks to initiate exchange of research scholars with National and International Organizations. The emphasis will be on joint innovative student projects, and collaborative research for the latter. Through Research & Development efforts and Technology Transfer, the University aims to develop its brand value at the State Technical University.

Every individual in the organization shall be brand ambassador of the University and can take up steps to enhance the image of the University.

The University also has the goal of increasing the level of faculty exchange. Faculty members with proven record of research and Innovation and participating in international collaborations will be involved in exchange programmes. The Dean -National and International networking shall provide sharper focus and greater visibility to the University's programmes in these verticals. The Dean's Office will take a series of well planned steps to meet these objectives:

Research interest mapping.
Faculty across leading academic institutions will be paired with University faculty based on overlapping research interests in order to collaborate and co-supervise the research work of exchange scholars. Joint Ph.D. programmes will be set up with other universities that have an exchange programme with financial support. Such programmes will serve as magnets for research scholars.

Engagement with industry.
This will be in the form of three-way interactions (DBATU, academic partner and industry) and joint projects.

Formation of 'account teams'.
The teams will comprise the faculty members involved with specific universities and Dean's staff members. These teams will manage relations with strategic partner institutions.

Facilitation of faculty and research scholar mobility.
Funding mechanisms to facilitate exchanges of scholars and faculty will be identified. Support will be enlisted from industry and alumni sources. Improvements will be made continuously on campus to make DBATU more welcoming to long-term foreign visitors

Planning, Evaluation and Monitoring of the University and Affiliated Colleges

The following parameters shall be used to monitor and evaluate the progress of the University and that of affiliated colleges using the status of 2015-16 as the base case.

Key Performance Parameters for Monitoring and Evaluation Framework	percentage
1. Curriculum	**20%**
1. Quality of the curriculum	
2. Regular curriculum revision in line to technological developments	
3. Focus on mix of theory, lab. work, case study	
4. Industry participation in curriculum design	
2 Teaching and Pedagogy	**20%**
1. Qualification and Competence of the Teaching Staff	
2. % of permanent teaching staff on roll	
3. Healthy teacher/student ratio	
4. Teaching methodology	
5. Use of modern learning aids and methodology	
6. Utilization of Feedback on teaching and pedagogy	
7. Attendance and Timely evaluation Processes	
4. Physical Infrastructure	**10%**
1. Adequacy of classrooms, laboratories and other facilities	
2. Adequacy of libraries and availability of digital content	
3. Hostels and residential facilities for faculty and staff	
4. ICT Infrastructure and E-learning resources	
5. Recreational facilities	
5. **Learning Resources**	**10%**
1. Library and Modern Learning resources	
2. Institute Publications and Case Studies	
3. E-Learning Modules developed	
4. Availability of e-courses and % therereof	
6. Organization, Governance and Management	**10%**
1. Quality of Governing body and leadership	
2. Appointment of faculty and staff as per AICTE and State Government norms	
3. Transparency and efficiency in functioning of the institute	
4. Regular Audit of Process, System and Finance	
5. Internal Revenue Generation and development expenditure	
6. Sustainability of operations and Financial Position	
7. Long term Vision and Mission	
8. Grievance Redressal System	
9. Students' Involvement	
10. Industry Linkages	**10%**
1. Industry sponsored projects for faculty	
2. Visiting/Adjunct faculty from Industry	

3. Placement of students in industry	
4. Number of Scholarship from Industry	
5. Number of Joint projects with industry	
6. Number of Industry Chairs in University	
7. Industry Participation in Governance	
8. Training of Industry personnel	
11. National & International Linkages	**5**
1. Faculty exchange program, if any	
2. Student exchange program, if any	
3. MoUs with reputed international institutions	
4. Joint Research projects	
5. Joint educational programs	
6. Joint publications and patents	
7. Joint development programs	
12. Research and Innovation	**10**
1. Research facilities and promotion of research culture	
2. Number of publications in SCI indexed journals by faculty	
3. Number of patents filed, granted and commercialized	
4. Number of Research Projects	
5. Amount of Research funding and % utilization	
6. Number of Innovation products, Patents and value addition	
7. Number of Entrepreneurs and Start ups from University	
8. Joint projects with industry and value of revenue	
13. Satisfaction Index (from Surveys)	**5**
1. Students	
2. Staff	
3. Faculty	
4. Industry	
5. Society	