

# Institute Strategic Development Plan



Submitted by

**Government College of Engineering, Karad**

(An Autonomous Institute of Government of Maharashtra)

2017-2027

# **Government College of Engineering, Karad**

(An Autonomous Institute of Government of Maharashtra)

## **Institute Development Plan (IDP)**

### **INDEX**

<b>Sr.</b>	<b>Title</b>	<b>No.</b>	<b>Page</b>
01	Executive Summary	1-7	
02	Sources of Funds for the proposed Institutional Development Plan		8
03	Implementation Strategy	9-18	
04	Annexure II	19-23	
05	Appendix A	24-81	
06	Appendix B- Detailed RUSA components		82-152

# Govt. College of Engineering, Karad

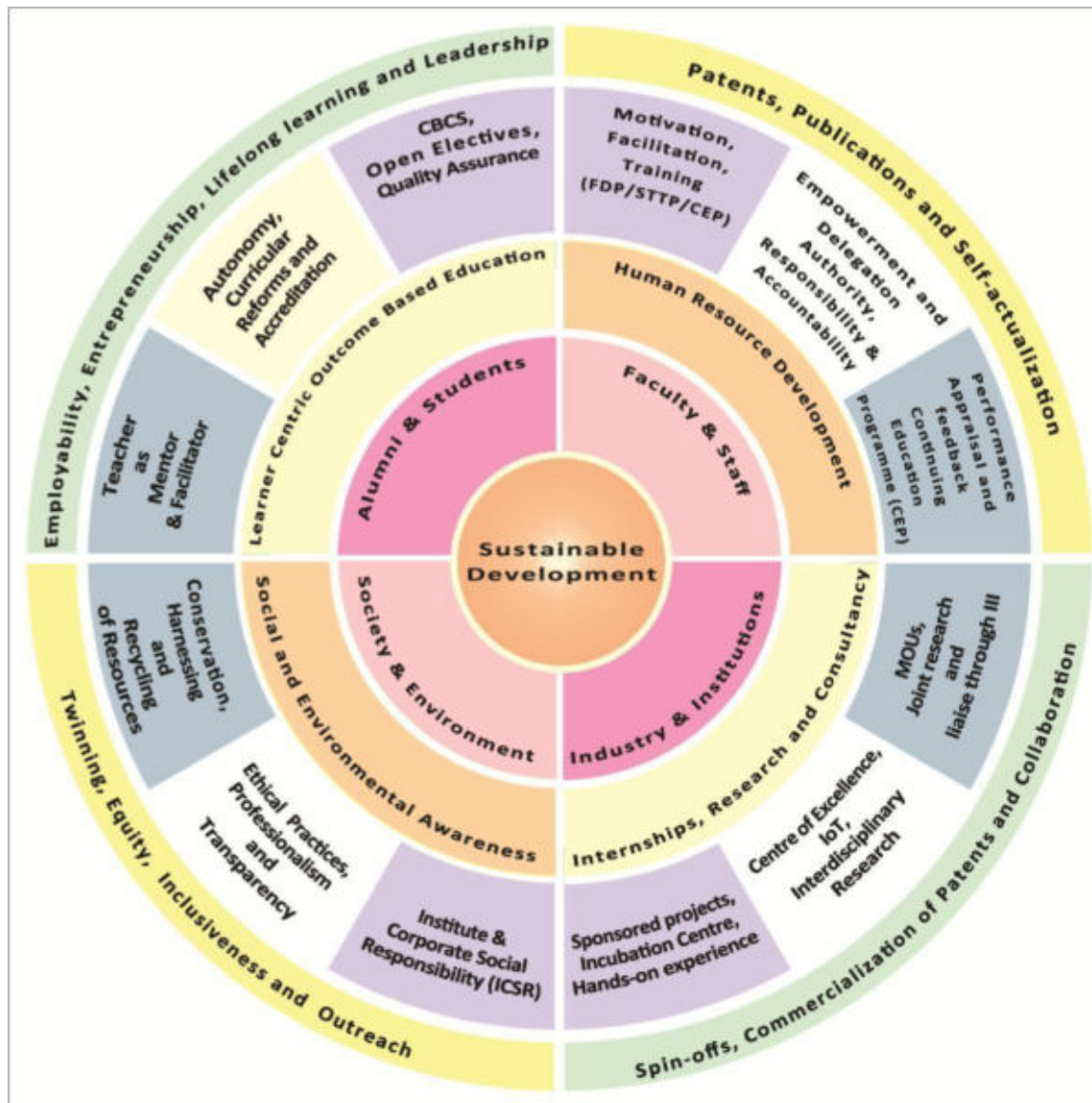
(An autonomous institute of Govt. of Maharashtra, accredited by NBA, New Delhi)

## Executive Summary of the IDP

After celebrating its golden jubilee in the year 2011, **GCEK** has acquired the highly sought after status of an **Autonomous institute** from the academic year 2015. Since then, eleven out of the twelve of its academic Programmes have been **accredited by the National Board of Accreditation (NBA)**, New Delhi adding a feather in its cap. This stands as a proof of the fact that Outcome Based Education (**OBE**) is being implemented in a vibrant academic ambience. GCEK looks forward to achieve a high level of excellence in education and research with its vision statement,

***“To emerge as a technical institute of national repute, driven by excellence in imparting value based education and innovation in research; to face global needs of the profession”***

The strategic action plan for the sustainable development depicted below outlines a roadmap for realizing this vision.



### **Embedding Sustainability- A 360° View of Strategic Institute Development Plan (IDP)**

Paradigm shifts in education and engineering are underway, and massive online courses and search engines make knowledge readily available. At this juncture, it is appropriate to retrospect as well as visualize the future. A realignment of educational edifices appears inevitable and the Board of Management at GCEK intends to provide dynamic leadership that is dedicated to educating engineers of the future. Rashtriya Uchchatar Shiksha Abhiyan (RUSA) will serve as a crucible to develop new pedagogical methodologies to enhance the learning experiences of students; advance the state of the art of engineering pedagogy; and be an intellectual resource for engineering faculty to enhance their pedagogical skills.

The stake holders, viz., the alumni & students, faculty & staff, industry & institutions and the society & environment will work together for institute building and self development.

The strategic plan designed by the institute is based on four pillars of Institutional development.

- i) Learner centric outcome based education
- ii) Human resource development
- iii) Social and environmental awareness
- iv) Internships, Research and consultancy

The stakeholders are committed to successfully implement this plan by overcoming challenges that come in the way.

#### **Key challenges**

To realize this dream it is necessary to overcome a few challenges that have been an integral part of the institute's constitution. So far there was very little academic, administrative and financial freedom on the part of the head of the institute. This lack of flexibility and freedom used to put tremendous restrictions in the development and change process. However, with the state Government's policy of encouraging the institute to become autonomous has made a paradigm shift in the governance of the institute in the recent past. This has given huge impetus to implement new ideas and systemic changes at all levels. Amongst the major challenges that need to be overcome are-

- Faculty/staff shortage and transfers
- Outdated recruitment and appraisal system
- Shortage of building/academic area
- Obsolete and inadequate machinery and equipment
- Ill maintained campus, hostel and residential facilities

The autonomous status acquired in 2015 has provided leverage to implement necessary changes in policies and procedures and find solutions to these challenges. By overcoming these challenges the institute is developing and establishing itself as one of the premier autonomous institutes, imparting excellent technical education, carrying out research and development in thrust areas and contributing to the needs of the industry. The students graduating will be industrious and more employable with perpetual learning abilities and adaptability towards the needs of the industry.

The overall development is focused on long lasting benefit to all stakeholders. The strategic plan lays emphasis on “Sustained Development” of the reforms introduced for the overall quality improvement of technical education. Action plan is laid out and well defined to achieve the general and specific objectives through a concerted approach. The short-term, medium-term and long-term goals are chalked out as under,

### **The short-term goals**

- ✦ To get the Electronics & Telecommunication (E&TC) programme accredited by the NBA
- ✦ Initiation of process to start New Post graduate Programme in
  - Design Engineering at Mechanical department
  - Computer Science & Engineering at IT department
- ✦ Apply for QIP centre for Ph D and Post graduate programs to Government of India in Civil, Mechanical , Electrical and IT department
- ✦ Offering piping engineering course under CEP
- ✦ To undertake institutional reforms and effective governance
- ✦ To fill up vacant faculty positions
- ✦ To enhance the knowledge competence of faculty by participating in various FDPs, STTPs to disseminate the same to students through courses.
- ✦ At least one publication by each faculty in reputed Journal/conference
- ✦ Revised Training Need Analysis is to be conducted for faculty and staff
- ✦ Training on advanced skills based on industrial environment to be arranged for the faculty, staff and students of the department
- ✦ Faculty development through qualification, publication, training, study tour, short term courses
- ✦ To upgrade laboratories and teaching-learning infrastructure
- ✦ Development of virtual laboratories in the institute
- ✦ To setup new laboratories for advance courses
- ✦ Development of 02 smart classroom with smart board, video lecture recording and learning material development facility
- ✦ To refurbish existing amenities with adequate space and appropriate place
- ✦ To establish campus wide network with intranet
- ✦ To increase employability of graduates
- ✦ Number of expert lecture by industrial / field experts shall be enhanced
- ✦ Number of industrial visits of student and faculty shall be enhanced

- ✚ To develop spirit of entrepreneurship, industry and diligence
- ✚ To promote awareness of Intellectual Property Rights (IPR)
- ✚ To enhance liaison with industry and undertake collaborative activities
- ✚ To create conducive atmosphere to undertake R & D activities
- ✚ To organize National/International Seminars & Conferences
- ✚ Implementation of 5S concept in the institute

#### **The medium term goals**

- ✚ To establish state-of-the-art laboratories
- ✚ Establishing Centre of Excellence in
  - (1) Waste Water Characterization and Testing
  - (2) Non-Destructive Testing
  - (3) Industrial Measurement, Testing and Calibration Centre
  - (4) Power Electronics Drives and Renewable Energy Lab
  - (5) Condition Monitoring of Plants and Machineries (up gradation of existing facility)
  - (6) Thermal, Fluid and Energy Engineering
- ✚ Establishing NABL accredited lab
  - Mechanical Dept: Metrology lab
  - Electrical Dept : Electrical Measurement and Calibration
- ✚ To establish Incubation Centre
- ✚ To establish Internet of Things (IoT) hub
- ✚ To establish strong Industry Institute Interaction
- ✚ Employability enhancement program through CBCS curricula, credit transfer to online completed course, soft skill courses, industry visits, trainings, internships, entrepreneurship development programs and short terms courses
- ✚ To establish state of the art library
- ✚ To establish a 2000 capacity auditorium
- ✚ To establish student activity centre (SAC)
- ✚ Industry sponsored Research /Application development Laboratories in the institute.
- ✚ Support centre for higher studies, preparation for competitive exams, etc. ✚ Information Technology enabled Community services for general Society.
- ✚ Re applying for NBA for accreditation for all UG and PG program.
- ✚ Development of infrastructure for above activity, clean room, video recording theatre
- ✚ Ban Wi-Fi in the campus to address bio degradability issue and promote wired connection only.

#### **The long term plan**

- ✚ To achieve deemed university status
- ✚ To become financially autonomous
- ✚ Achieving self-reliance by enhanced testing, consultancy an industrial sponsored projects
- ✚ Installing Industrial chair at least one in each department
- ✚ Collaborative research with Industries and academia



These plans will be implemented with the focus on the students. Priority will be given to create excellent academic ambience, high-tech community based educational infrastructure, state-of-the-art facilities for curricular, co-curricular and extra-curricular activities.

The mission of the institute is-

***“To create professionally competent engineers driven with a sense of responsibility towards nature and society”***

This mission will be accomplished with a multi pronged strategy and different aspects of development will be dealt with a pragmatic approach. An elaborate action plan for different areas of development is in sight and activities are initiated in that direction as under.

#### **Governance**

The institute has a highly experienced Board of Management (BoM) comprising of educationists, entrepreneurs and industry experts. Effective governance shall ensure continuous growth of GCEK. It is very essential that in the days to come effective and modern governance structure and processes will be in place. A transparent and participative decision making process will be followed. Effective governance will be ensured through the process of automation by implementing intranet and MIS/ERP software in all administrative and academic processes. The decision-making process can also use the IT tools. The agenda and issues of several committees such as BoM, Academic council, Building and Works Committee (BWC), Finance committee, APEC and BoS, etc. can be discussed on video conferencing. This will reduce the burden of administrative load on faculty members and will improve the efficiency of decision making.

#### **Undergraduate education**

The institute is improving the environment of undergraduate education in the first phase of autonomous curricula started from the year 2015-16. The goal of this endeavour is to make the curriculum more flexible. Students feel motivated to acquire skills, learn principles and imbibe a spirit of innovation.

The following action plan is suggested to sustain this process

The institute will undertake a review of the undergraduate academic environment on regular basis. This review will include the academic process such as examination pattern, hands-on experience, grading system student counselling as well as curriculum contents. The review will be based on students' feedback, industry inputs as well as best practices adapted by other universities and institutes.

The laboratories are being improved considerably in the recent past and the process will continue further. A new complex of core laboratories will be set up soon. More emphasis will be placed on the concept of “learning by doing”. Students will be provided ample opportunities to innovate and implement their ideas in an environment which distresses the present concept of earning marks either by mathematical problem-solving or memorizing facts. Every student should be able build a portfolio of work done at the institute.

Special efforts are being taken to improve student faculty relations by way of Induction Programme. Students interact with faculty on a residential campus at occasions outside the class room. This provides an experience of “learning outside class rooms”. In order to facilitate such an atmosphere, professional student bodies and various clubs are made active with several events and programmes.

The spirit of research is a key element of any institute. This spirit needs to be fostered not only in the post-graduate students but also in the undergraduate students. Project exhibitions, participation in project competitions are being encouraged through generous funding. Summer research school, special credits for research work and involvement of students in sponsored research projects are some of the activities that need to be enhanced.

### **Postgraduate education**

The institute is committed as a mission to transform the complexion of the post-graduate education in the next 5 years at GCEK. The following action plan is suggested.

- To encourage final year UG students to work along with PG students on seminar and projects to give these students a glimpse into research activity.
- Faculty members are encouraged to undertake promotional programmes and showcase their research to attract PG students from other institutes and universities.
- Institute level assistantship is provided to Non-GATE PG students.
- Each department will have a research retreat (in-house workshop) every year.

### **Student activities**

It is to be emphasized that the education at GCEK wishes to make students multidimensional and all round.

With the growth of student population in the campus, the planning of facilities, management of hostels, the organization of events, the maintenance of student relations are very sensitive and crucial issues. The involvement of faculty in many student-related activities such as culture, sports, workshops, seminars, industrial visits, in-plant trainings, community services, etc. needs considerable improvement. The fee structure also needs a careful review. The fees should be commensurate with the quality as well as expenditure incurred. The student counselling service needs to be strengthened. It is necessary to provide career counselling, academic counselling, personal counselling and professional counselling. Further it is necessary to provide training on soft-skills, motivation and other aspects of behaviour & attitude. It is necessary to provide guidance for higher studies in India and abroad. Those having a flair for entrepreneurship need to be encouraged and given support.

All the above mentioned issues will be addressed in a rational, logical and realistic manner. Further, it is expected that sports and cultural activities will be strengthened in the coming years for the students with a corresponding strengthening of the infrastructure for these activities.

### **Human Resource Development**

The faculty strength of the institute has decreased considerably. The quality of technical and administrative staff needs to be improved considerably. A comprehensive HRD policy is required for this purpose. All staff members must undergo continual training and appraisal.

The institute has started more privatization of various support activities such as house-keeping, building maintenance, electrical maintenance, campus wide network, computer laboratories, security, cleanliness, etc.



## **Sponsored Research**

It should be made clear in an emphatic manner that sponsored research activity is as important as well as an integral part of the academic activity of the institute. Every faculty member is expected to participate in this activity. A fair amount of internal revenue will be generated through this activity.

The areas of research, particularly of interest to institute, can broadly be classified as

- Disaster mitigation and earth quake engineering
- Remote sensing
- Computational and experimental fluid/thermal engineering
- Condition monitoring
- Precision manufacturing and engineering

The institute will strive to set up interdisciplinary research groups where postgraduate and PhD students will work closely with industry.

## **Alumni association**

A new lease of life will be injected in the alumni association to derive benefits of the rich experience and positions that our alumni hold in India and abroad. The institute would establish a vibrant alumni relationship and regular meets will be arranged to enhance industry institute interactions, and inculcate entrepreneurship and leadership qualities in the student community.

## **Social Responsibility**

Community Service Programmes (CSP) will be undertaken on regular basis with the participation of students, faculty and staff of the institute. These services will be provided to the under privileged sections of the society, farmers, personnel of small scale industries, etc.

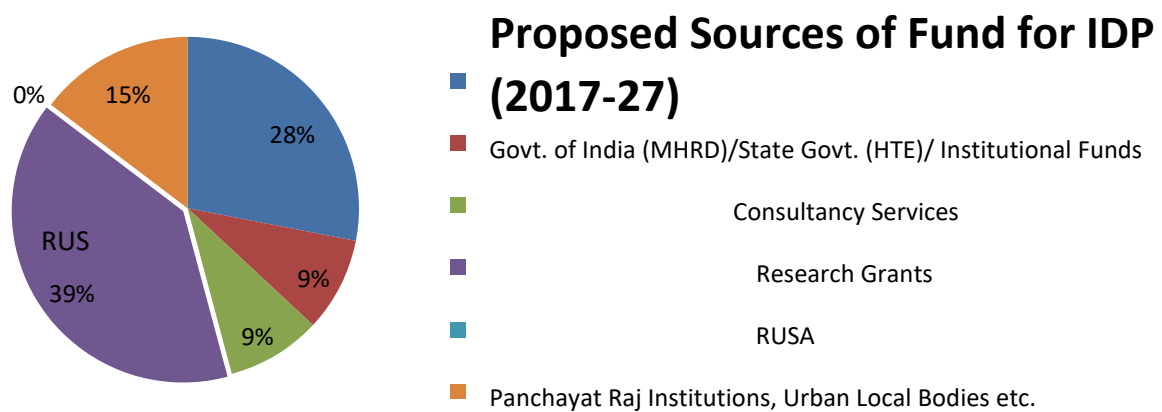
## **Environment and Ecology**

A general awareness for environment and ecology will be created in the campus community by undertaking various programmes.

Green campus will be developed by undertaking plantation. The concept of rain water harvesting and waste water treatment and recycling will be implemented.

All buildings will be built with these concepts and existing buildings will be refurbished accordingly.

To realize the vision of development of the institute a comprehensive budgetary plan has been prepared for carrying out these developmental activities in a phased manner over next decade. The financial autonomy of the institute has given access to internal revenues collected from all types of student fees, IRG from testing and consultancy, etc. In addition, the institute obtains funding from various other agencies such as AICTE, DST, UGC, etc. Efforts are being made to get funding from private industries, alumni, local bodies, etc. In spite of all these, there is a short fall of fund to maintain and sustain the momentum of institutional development. In this regard, we look forward to a generous funding from Rashtriya Uchchatar Shiksha Abhiyan (RUSA). An overview of Sources of Funds for the proposed Institutional Development Plan (IDP) is presented as under and the details are given in the following sheet.



Consultancy, Research, Curriculum Development, CSR

## Sources of Funds for the proposed Institutional Development Plan (All figures in Rs. Lakh)

Sr. No.	Name of the RUSA Component	Proposed source of funds						
		Government				Local Community	Industry	Total
		Govt. of India (MHRD)/State Govt. (HTE)/ Institutional Funds	Consultancy Services	Research Grants	RUSA	Panchayat Raj Institutions, Urban Local Bodies etc.	Consultancy, Research, Curriculum Development, CSR	
1	Infrastructure	1958.12	489.53	489.53	1491.54	0	979.06	5407.78
2	Research & Innovation	79.0425	79.0425	79.0425	587.17	0	79.0425	903.34
3	Equity Initiative	210.00	62.70	62.71	349.38	0	62.71	747.50
4	Faculty Recruitment Support	70.875	70.875	70.875	526.50	0	70.875	810.00
5	Faculty Improvement	50.925	50.925	50.925	378.30	0	50.925	582.00
6	Vocationalization of Higher Education	6.40	0	0	11.90	0	0	18.30
	<b>Total Rs (in lacs)</b>	<b>2375.3625</b>	<b>753.0725</b>	<b>753.0825</b>	<b>3344.79</b>	<b>0</b>	<b>1242.6125</b>	<b>8468.92</b>

Detailed components of RUSA are attached Separately in Appendix B



## Preamble

The proposed IDP will be implemented in a systematic manner over the next decade. Funding received from RUSA will be utilised as per the directives of RUSA over following six components-

1. Infrastructure
2. Research & Innovation
3. Equity Initiative
4. Faculty Recruitment Support
5. Faculty Improvement
6. Vocationalization of Higher Education

The implementation strategy involving objectives, important activities and expected outcomes is presented in brief as under.

## Implementation Strategy

### 1. Infrastructure

A master plan of the campus of Govt. College of Engineering, Karad, spread over 40 acres, has been prepared for next decade by taking into consideration current infrastructural deficiencies and future growth. All major stake holders have contributed in the process of planning green, clean and smart campus. The Building Works Committee (BWC) is steering and executing the plan in consultation with architects and professionals in the field. These plans are implemented with the focus on the needs of the students. Priority is given to create excellent academic ambience, high-tech community based educational infrastructure, state-of-the-art facilities for curricular, co- curricular and extra-curricular activities. attention has been given to provide Adequate space and appropriate place for all facilities and amenities. The salient features and landmark activities are,

- **Academic infrastructure:** Lecture complex, Central library, ENTC building, Building for centre of excellence(s), Incubation centre, and Lecture theatre with video recording facility, *etc.*
- **Basic amenities:** Hostels for under privileged (SC/ST girls), Auditorium, Student's Activity Centre (SAC) are planned to ensure equity and all round development.
- **Extension of existing building:** PG Education and Research Centre, PG hostel, Academic/Examination Centre are planned.
- **Smart campus features:** A single integrated application that automates all processes on the campus for better efficiency and lower costs is envisaged to have following feature



**Smart Campus:** Integrating administrative and academic functions

- Smart Card and Biometrics based access, configurable to comply with the rules and regulations
- Secure role based access – control who should see what information
- MIS modules covering – Admissions, Fees, Academics, Examinations, Library, Hostel, HRMS and Payroll to name a few
- Dynamic report dashboard – to easily create or view different reports
- Automation of everyday functionalities like – Time-Table, Attendance, Book Issue / Return, Dues Collection, etc.
- To provides the Principal and Management more control over the operations of all the processes in the campus and facilitates better informed decisions
- Students & Staff can view their personal, financial and academic information using the smart card within the campus
- To facilitate the academic departments to configure the academic calendar and lesson plan that help them monitor academic progress during the entire term
- Information accessible online or via information kiosks
- Calendar scheduling and collaborative features for connecting all stakeholders – via online, Email and SMS functions

○ **Eco-friendly and energy efficient campus:** Rain water harvesting, Recycling of resources, Solar roof tops for major buildings, Waste to energy, Biogas plants, Sewage treatment plant (STP), etc.

## 2. Research and Innovation

At Govt. College of Engineering, Karad our goal is to foster an institutional culture which recognises and supports the development of the widest possible range of high-quality research and innovation activities to which staff and students contribute. It should be made clear in an emphatic manner that sponsored research activity is an important as well as an integral part of the academic activity of the institute. Every faculty member is expected to participate in this activity. A fair amount of internal revenue will be generated through this activity. The institute will strive to set up interdisciplinary research groups where postgraduate and PhD students will work closely with industry. Major initiatives and expected outcomes in this direction are as under:

- Collaborative research with Industries and academia: the areas of research, particularly of interest to institute, can broadly be classified as
  - Disaster mitigation and earth quake engineering
  - Remote sensing
  - Computational and experimental fluid/thermal engineering
  - Condition monitoring
  - Precision Manufacturing and Engineering
  - Internet of Things (IoT)
  - Renewable energy and Power system quality
  - Non-destructive testing and structural health assessment



**Internet of Things (IoT):** Innovation hub for integration of systems, devices and operations

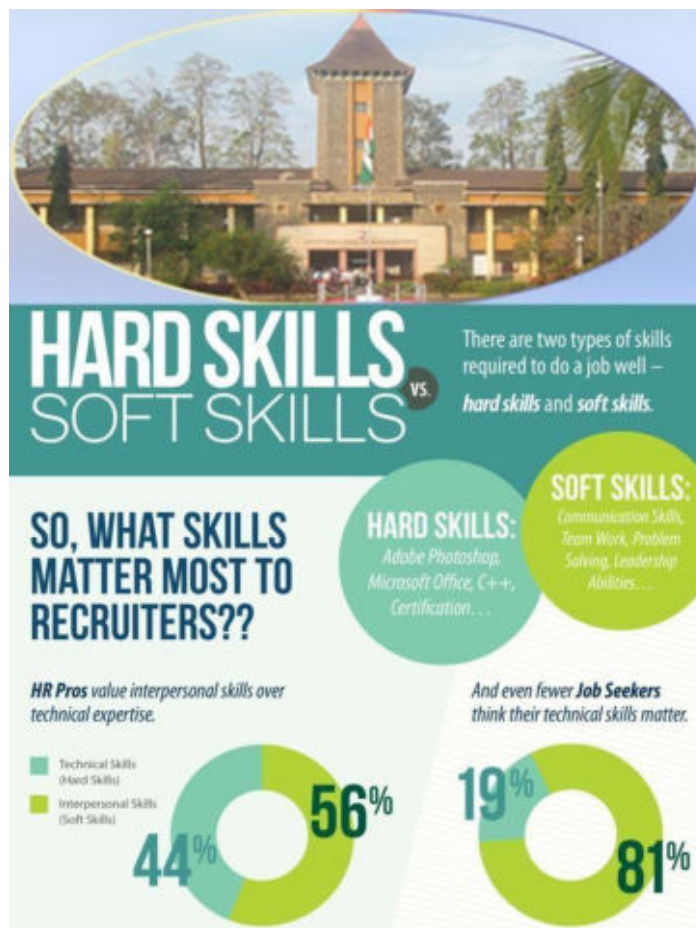


- Starting up an Incubation centre fully equipped with facilities.
- Expand our postgraduate research student numbers, enhancing their contribution to our research community and preparing them for rewarding careers.
- Adopt clear principles outlining how we define research and innovation activity among faculty across the institute, and integrate these principles into workload allocation, performance appraisal reviews, promotion criteria, and future strategic investment planning.
- Direct significant levels of funding to drive strategic initiatives, with effective prioritisation, support and monitoring to ensure an appropriate return on investment.
- Provide an infrastructure that improves the capacity and capability of our researchers to seek competitive research and innovation grants (AICTE, DST, MHRD, private and public sector Industries, etc.) and engage with end users of research, both nationally and internationally.
- Ensure staff research and innovation interaction with external organisations enhances the experience of our students by building partnerships in sectors of prime relevance to students' programmes of study and future careers.
- Embed research and innovation expertise within undergraduate and taught postgraduate curricula wherever appropriate, and develop channels for student input into research and innovation activities and culture.
- Improve our postgraduate research culture and enhance our supervision capacity to support increased numbers of postgraduate researchers.
- Introduce new excellence awards for staff, celebrating success in bringing together teaching, research and innovation.

### 3. Equity Initiative

We respect and celebrate diversity and equal opportunity through an inclusive culture at the institute. As per Government reservation policy, Govt. College of Engineering, Karad admits students from socially and economically underprivileged strata of society, addressing gender equality, equality without any bias of cast, creed, religion and ethnicity of students from all over Maharashtra including northeast states and Jammu-Kashmir. Following initiatives are undertaken for equity,

- Provision for concession in academic fees as per Govt. norms is made, in addition some genuine cases of economically weaker students are partially supported from institute fund.
- Extension of hostel capacity is planned to accommodate all such students
- Remedial classes are arranged for academically weaker students Employability enhancement by imparting soft-skills, subject specific training and



**Equity Initiatives:** Soft skills and selective intensive hard skills to suite aptitude of students

- industrial exposure
- Industrial internship as an essential part of curricula
- 100% assistance in placement
- Enhancing technical capabilities and aptitude through special coaching

## 4. Faculty Recruitment Support

The faculty strength of the institute has decreased in the recent pass, particularly due to termination of services of the contractual faculties. A comprehensive HRD policy is being formed to ensure adequate availability of quality faculty at all levels (UG, PG and PhD) and ensure capacity building at all levels of employment.

Over and above traditional methods of recruitment (newspaper advertisement, response, scrutiny, rounds of interviews and then joining) wherein both the recruitment cost and recruitment cycle time are getting very high day by day, it is necessary to take support from technology in faculty recruitment process.

Technology is finding increasing presence in recruitment all over the world. Ease of handling technology, availability of latest customized versions, increasing comfort level of end users are some of the features of modern day technological usage. Candidates also find value in technology. Candidates develop positive perception of an organization that employs

technology tools as part of the recruitment process. The reason being that the candidates are also techno-savvy these days and are reluctant to undergo routine process mentioned above. Technology makes the interview process more efficient which is need of the hour. Also it addresses personal biases of selectors.

We can consider three technology interventions being online interviews—skype/ google hangout, behavioural & technical online assessments, followed by automated calling apps which are well within reach

Availability of these technology tools makes it definitely easier to find and apply for jobs today, and social and professional networks are the most effective channels through which one can find a job, over and above job portals and employee referrals. This combination can work out in favour of the Institute.

Various measures are undertaken to mitigate this issue as under,

- Recruitment of visiting, adjunct and emirates faculty from industry experts, retired teachers and professionals is undertaken.
- Young faculty is motivated to undertake qualification enhancement by providing research facilities in-house.
- Financial support is provided to faculty members for participation in workshops, symposia, conferences at national and international level for presenting research papers.
- Career Advancement Scheme (CAS) is implemented to promote faculty

The institute looks forward to ***Rashtriya Uchchatar Shiksha Abhiyan*** (RUSA) for faculty recruitment support activity.

## 5. Faculty Improvement

Various initiatives are being undertaken to implement Outcome Based Education (OBE) as per ABET and NBA guidelines. In addition to knowledge up-gradation by way of FDP/STTP, various other practices are followed for faculty improvement and, thereby, achieving enhancement of teaching learning process. Faculty of the institute engage themselves in various activities to steadily improve teaching and learning over time. Following is a gist of some of the self-development activities

### ○ Feedback on Teaching

- Use of online student rating results to make course improvements.
- Collection of mid-semester student feedback (e.g., Class monitor meeting).
- Student counselling on learning difficulties by Teacher-guardian scheme
- Analyze student assessment data to identify trends in student performance and problems to be remedied by changing teaching strategies, course content, and learning activities, etc.



**Faculty Improvement:** Motivation, facilitation and empowerment

#### ○ Development of Instructional Skills and Materials

- Compare your course plan with someone teaching the same or a similar course.
- Share and discuss your teaching strategies and materials with another instructor.
- Improve the quality of your exams and other assessments tools, rubrics, etc.
- Write an article for a professional teaching and learning improvement journal in your discipline, highlighting an innovative course design or approach to teaching.

#### ○ Improve Course/Program Design and Alignment

- Invite student feedback on the congruency of course objectives, learning activities, assessments and evaluation of outcomes.
- Discuss with the department chair the alignment of course learning objectives (CLO) with program outcomes (PO) and the programme educational objectives (PEO).
- Share and discuss course learning objectives and materials with those teaching other courses in the same curriculum sequence.
- Discuss course improvement plans with appropriate curriculum committees or department chair.

#### ○ Learn More About Teaching and Enhancing Student Learning

- Subscribe to a publication on college teaching and discipline-specific journals.
- Attend a research conferences
- Write a book
- For newer faculty: induction programme, Teaching Tips and Tools

## 6. Vocationalization of Higher Education

Skill training activities are undertaken to develop practical skills of various engineering disciplines at different levels such as ITI, Diploma, Graduates as well as Post graduate students. In addition, community service programmes (CSP) are undertaken on regular basis with the participation of students, faculty and staff of the institute. These services are provided to the under privileged sections of the society, personnel of small scale industries, etc.

Vocational Education and Training (VET) is an important element of nation's education initiative. For Vocational Education to play its part effectively in the changing global environment, it is imperative to redefine the objectives of vocational education and training and to make it flexible, contemporary, relevant, inclusive and creative. It is important to recognize that with more than 35% of citizens aged below 15 years, 700 million young people below 35 years and population growing at 1.8% per annum, India is expected to become the global powerhouse of human resource by 2025. This large population can reap rich dividend for the country through a focus on providing quality vocational education and training.

In the changing global scenario, employment possibilities of graduates and postgraduates are becoming increasingly limited. The education imparted at degree level is not oriented to the market needs and neither is it skill based. Due to this changing nature of work and employment, individuals now look for more flexible and multi-skilling learning opportunities for mobility across employment sector and geographic locations. The general education system has not been able to provide these opportunities. The functioning of the educational institutions, as well as the educational choice of the youth, has remarkably been influenced by the market economy. The lack of employment opportunities to conventional graduates has led to the shifting of focus on the skill based, industry oriented teaching learning pedagogy. Traditional education which only creates knowledge, although important for basic development of a person, is fast losing its role as a means for human and societal growth. In our country, the growing unemployment amongst the educated youth is posing a serious concern to the value of traditional education in the context of leading a better quality of life. The inability for our youth to apply what they have learnt to improve their daily life or generate gainful employment is causing them to question the very essence of such an education system. It is thus imperative that as a society we must re-look at what should be the objective or outcome of our education system. In present economy, the objectives of a society have also changed from fulfilling the basic needs of all round development to empowerment. The education system instead of going by text-book teaching needs to be promoted by skill based teaching learning pedagogy. The human resource instead of being unskilled or semi-skilled needs to be knowledgeable, self-empowered and flexibly skilled.





### **Vocationalization of Higher Education: Bridging the gap**

We can consider starting short term certification courses (duration 1 month- 3 months) in following areas-

#### **○ Skill Development Programmes**

- Mechatronics and SCADA
- Solid Modelling and Engineering Analysis
- CNC/VMC Courses
- CAD/CAM Courses
- Supply Chain Management
- Enterprise Resource Planning (ERP)
- Electrical Measurement and Testing
- Maintenance and Repair of Electrical Domestic Appliances
- Civil Construction/Maintenance
- Building and Road Construction
- Building Maintenance
- Android Application Development

- Ethical Hacking
- Mobile technologies, etc.
- Community Engagement and Outreach Efforts
  - NSS
  - Unnat Bharat Abhiyaan
  - NASCOM Digital Literacy Programme (MoU)

The new initiatives are being implemented with cooperation and collaboration with all the stake holders. The impact of these initiatives will be assessed on a regular basis and corrective measures will be taken to ensure that the vision is realized in letter and spirit.

---



# Annexure II

## Institutional Plan

### 1. Institutional Basic Information

#### 1.1 Institutional Identity:

- **Name of the Institution** : Government College of Engineering, Karad
- **Is the Institution approved by regulatory body** : Yes
- **Furnish approval no.** : 1. 740-89-217 (E)/RC/95, dt. 02/05/2008  
2. F. NO. Western/1-3329003204/2017 EOA dt. 10/04/2017
- **Type of Institution** : Autonomous
- **Status of Institution** : Autonomous Institutes declared by University

#### Name of Head of Institution and Project Nodal Officers:

Head and Nodal Officer	Name	Phone	Mobile	E-mail
Head of Institution	Dr. A. T. Pise	02164-272414 (Ext- 101)	9422526362	ashokpise@yahoo.com
RUSA Institutional Coordinator	Dr. Y. M. Ghugal	02164-272414 (Ext- 251)	9028353030	ghugal@rediffmail.com
<b>Nodal Officers for</b>				
Academic Activities	Dr. U. V. Patil	02164-272414 (Ext-175)	9403090395	patil_uv@yahoo.com
Civil Work including Environment Management	Prof. U. L. Deshpande	02164-272414 (Ext-255)	9422039569	umeshdeshpande2000@gmail.com
Procurement	Prof. N. V. Sali	02164-272414 (Ext- 307)	9423036382	nvsali@rediffmail.com

Financial aspect	Prof. V. S. Jadhav	02164-272414 (Ext- 304)	9970821973	vijay.jadhav@gcekarad.ac.in
Equity Assurance Plan	Dr. P. M. Joshi	02164-272414 (Ext- 601)	9545450880	dr.pmjoshi@gmail.com

## 1.2 Academic Information :

### • UG/PG/PhD programs offered in Academic year 2016-17

Sr. No.	Title of Programs	Level (UG/PG/PhD)	Duration (Years)	Year of Starting	Sanctioned annual in take	Total student strength
1.	Civil Engineering	UG	04	1960	60	299
2.	Mechanical Engineering	UG	04	1960	60	292
3.	Electrical Engineering	UG	04	1960	60	287
4.	Information Technology	UG	04	2001	60	301
5.	Electronics and Tele-Communication Engineering	UG	04	2007	60	292
6.	Civil Engineering(Construction Management)	PG	02	2005	25	38
7.	Civil Engineering(Structural Engineering)	PG	02	1967	25	29
8.	Mechanical Engineering (Heat Power Engineering)	PG	02	2005	25	27
9.	Mechanical Engineering (Production Engineering)	PG	02	1967	25	24
10.	Electrical Engineering (Power System)	PG	02	2005	25	24
11.	Master of Computer Applications (Under Engineering Faculty)	PG	03	1992	30	80

### • Accreditation Status of UG programs:

Title of UG programs being offered	Whether eligible for accreditation or not?	Whether accredited as on 31 <sup>st</sup> March 2017	Whether "Applied for" as on 31 <sup>st</sup> March 2017
B. Tech Mechanical Engineering	Yes	Yes	Not Applicable
B. Tech Civil Engineering	Yes	Yes	Not Applicable
B. Tech Electrical Engineering	Yes	Yes	Not Applicable
B. Tech Information Technology	Yes	Yes	Not Applicable

B. Tech Electronics & Telecommunication	Yes	No	Not Applicable
---	-----	----	----------------

• **Accreditation Status of PG programs:**

Title of PG programs being offered	Whether eligible for accreditation or not?	Whether accredited as on 31 <sup>st</sup> March 2017	Whether “Applied for” as on 31 <sup>st</sup> March 2017
M. Tech Mechanical-Heat Power Engineering	Yes	Yes	Not Applicable
M. Tech Mechanical-Production Engineering	Yes	Yes	Not Applicable
M. Tech Civil-Construction Management	Yes	Yes	Not Applicable
M. Tech Civil-Structural Engineering	Yes	Yes	Not Applicable
M. Tech Electrical-Power Systems	Yes	Yes	Not Applicable
Master of Computer Application	Yes	Yes	Not Applicable

**1.3 Faculty Status (Regular/on-contract Faculty as on March 31<sup>st</sup>, 2017)**

Faculty Rank	No. of sanctioned Regular	Present Status : Number in Position by Highest Qualification												Total No. of Regular Faculty Position	Total Vacancies	Total No. of Contract Faculty Position
		Doctoral Degree				Masters Degree				Bachelor Degree						
		Engineering		Other		Engineering		Other		Engineering		Other				
		R	C	R	C	R	C	R	C	R	C	R	C			
1	2	3	4	5	6	7	8	9	1	11	12	13	14			
Prof.	19	7	-	-	-	1	-	-	-	-	-	-	-	8	11	-
Asso. Prof.	33	5	2	1	-	6	3	-	-	-	-	-	-	12	21	-
Asst. Prof.	57	-	-	2	-	26	34	3	1	-	-	-	-	31	26	40
Total	109	12	2	03	-	33	37	3	1	-	-	-	-	51	58	40

Prof=Professor, Asso. Prof= Associate Professor, Asst Prof= Assistant Professor, R=Regular, C= Contract

**1.4 Baseline Data (all data given for the following parameters to all disciplines)**

Sr. No.	Parameters	
1	Total strength of students in all programs and all years of study in the year 2016-17	1693
2	Total women students in all programs and all years of study in the year 2016-17	604
3	Total SC students in all programs and all years of study in the year 2016-17	235
4	Total ST students in all programs and all years of study in the year 2016-17	70
5	Total OBC students in all programs and all years of study in the year 2016-17	361
6	Number of fully functional P-4 and above level computers available for students in the year 2016-17	548
7	Total number of textbooks and reference books available in the library for UG and PG	77336
8	Student-teacher ratio	23.19
9	% of UG students placed through campus interviews in the year 2016-17	62.89 %
10	% of PG students placed through campus interviews in the year 2016-17	00
11	% of high quality undergraduates(>75% marks) passed out in the year 2016-17	01
12	% of high quality postgraduates(>75% marks) passed out in the year 2016-17	01
13	Number of Research publications in Indian refereed journals in the year 2016-17	6
14	Number of Research publications in International refereed journals in the year 2016-17	21
15	Number of patents obtained in the year 2016-17	00
16	Number of patents filed in the year 2016-17	1
17	Number of sponsored research projects completed in the year 2016-17	1
18	The transition rate of the students in percentage from 1 <sup>st</sup> year to 2 <sup>nd</sup> year in the year 2016-17 for: (i) all students No of students admitted for first year in 2015-16= 404 No. of students transmitted to second year in 2016-17= 389	
19	IRG from students fee and other charges in the year 2016-17 (Rs. in lakh)	499.68
20	IRG from externally funded R & D Projects, consultancies in the year 2016-17	46.24
21	Total IRG in the year 2016-17 ( Rs. in lakhs)	545.92
22	Total annual recurring expenditure of the institution in the year 2016-17 (Rs. in lakhs)	2491.03



Total / Aver age																		
---------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

# Appendix A

Government College Of Engineering, Karad  
(An Autonomous Institute of Government of Maharashtra)



Dist. Satara, Maharashtra, India, PIN: 415124

Tel.: 91- 02164- 271711, 272414, 272415(P), 271712(R)



Ref No:

Date: 03 Nov. 2017

## Institute Level Minutes of Meeting

**Subject:** Meeting of committee members to prepare IDP for RUSA

Agenda 1: Presentation of Departmental proposal for RUSA.

Agenda 2: Compilation of reports and policy decision for making IDP.

Agenda 3: Creation of solar campus.

Agenda 4: Proposal for new post graduate course M. Tech in Energy Engineering.

Agenda 5: NAAC framework may be followed.

Agenda 6:

- Expected outcome shall be identified
- Proposal for new course as per demands.
- Feedback from all stakeholders.
- Induction of internship concept.
- Curriculum design.
- To initiate startups
- Creation of Research publication cell.

Following members are present for meeting:

Prof.(Dr). S. S. Mohite

Prof.(Dr). S. K. Hirde

Prof.(Dr). R. K. Shrivastava

Prof. V. B. Waghmare

Prof. (Dr). U. V. Patil

Prof. P. H. Zodape



# Institute level Meeting - IOP-RUSA

- |                           |                    |
|---------------------------|--------------------|
| 1. Prof S. S. Mohite      | <u>ss Mohite</u>   |
| 2. Prof (Mrs) S. K. Hirde | <u>sk Hirde</u>    |
| 3. Prof V. B. Waghmare    | <u>vb Waghmare</u> |
| 4. Prof U. V. Patil       | <u>uv Patil</u>    |
| 5. Prof P. H. Zopade      | <u>ph Zopade</u>   |
| 6. Prof. R. Shrivastav    |                    |
| 7.                        |                    |
| 8.                        |                    |
-

# GOVERNMENT COLLEGE OF ENGINEERING KARAD

(AN AUTONOMOUS INSTITUTE OF GOVT. OF MAHARASHTRA)

VIDYANAGAR, KARAD 415124 DIST SATARA



No: GCEK/ Mech /2017/

Dated: Nov 2, 2017

## Minutes of meeting

A meeting of faculty of mechanical engineering, Government College of engineering Karad was convened.

Venue: HOD Office, Department of Mechanical Engineering

Date & Time: 3 pm to 4:30 pm October 31, 2017

Following faculty members were present:

1. Dr S S Mohite
2. Dr R K Shrivastava
3. Dr L P Dhole
4. Prof V S Jadhav
5. Dr A R Acharya
6. Prof N V Sali
7. Prof V B Raka
8. Prof Ms Dhende
9. Prof Ms K S Gharge
10. Prof S S Jadhav
11. Prof S R Kazi
12. Prof S M Bhosale
13. Prof A A Sapkal
14. Prof V H Karande
15. Dr N H Deshpande
16. Prof P R Wani

Following faculty members were granted leave for absence:

1. Dr M Sonpimple
2. Prof Ms Yadav

## Agenda # 1

### *Departmental development plan for "IDP" to be submitted to Rastriya Uchchatar Siksha Abhiyan ( RUSA)*

Dr S S Mohite, Head of department has briefed about RUSA and opportunity for multi-faceted development of the institute. This has initiated thought process for making Short-term plan, medium term plan and long-term plan for the department. Road map for 10 years development plan is evolved with participation of all faculty members as per vision and mission of the department.

### **Short Term Plan (up to March 2018)**

- Initiation of process of started New Post graduate Programme with Mechanical Design as specialization based upon industrial need and ample opportunity for employment. Department has expertise and equipment available for the Programme.
- Implementation of 5S concept in the department
- Apply for QIP center for Ph D and Post graduate programs to Government of India
- Development of 02 smart classroom with smart board, video lecture recording and learning material development facility.
- Arranging international conference or recent development in mechanical engineering
- Revised Training Need Analysis is to be conducted for faculty and staff
- Number of industrial visits of student and faculty shall be enhanced.
- Number of expert lecture by industrial expert shall be enhanced
- Offering pipe engineering course under CEP

### **Medium Term Plan (up to March 2020)**

- Establishing center of excellence
  - (1) THERMAL Engineering - Equipment up to 1 Cr
  - (2) Energy Engineering - Equipment up to 1 Cr
  - (3) Condition Monitoring - Equipment up to 1 Cr  
(up gradation of existing facility)
- Faculty development
  - (1) Upgradation of academic qualification of faculty
  - (2) Enhancing publications in peer reviewed journal
  - (3) Facility of seed money for doctoral/ post-doctoral research to faculty up to 40 lacks each
  - (4) Training as per TNA in house, within country and abroad
  - (5) Study tour to reputed organization within India / abroad
  - (6) Provision for sabbatical leave for increasing outreach
  - (7) Organizing demand driven ( social- industrial) short term courses
- Development of virtual laboratory



It is proposed to develop six experiments, which are controlled by Ethernet to provide hands on experience to various students at their own institute.

- Re applying for NBA for accreditation for all UG and PG program.
- Employability enhancement program:
  - (1) Development and adoption of CBCS curricula with participation of all stockholders as per UGC/ AICTE guidelines
  - (2) Permission of credit transfer for course completed online, other approved institutes.
  - (3) Arranging soft skill courses
  - (4) Enhancing industrial exposure by increase in number of visits, training and internship in semester break.
  - (5) Demand driven short term courses
- Development of infrastructure  
It is necessary to provide additional furnished space to accommodate above activity. Infrastructure for clean room, Video recording theater, CoE shall be arranged.

It is proposed to ban Wi-Fi in the campus to address bio degradability issue. We can go for green campus using wired connection only.

#### **Long Term (up to March 2027)**

- Achieving self-reliance by enhanced testing, consultancy an industrial sponsored project
- Installing Industrial chair at least one in the department
- Establishing NABL accredited lab in Metrology
- Center of Excellence in digital manufacturing
- IoT
- Collaborative research with Industries and academia
- Starting Incubation center

# Attendance Record for IDP

Dept. meeting.

Oct 31, 2017.

Time: 3.00 PM to 5:50 PM

	name	Sign
1.	S. J. Kanase	Kanase
2.	S. S. Jadhav	Jadhav
3.	S. R. Kaji	Kaji
4.	P. R. Wani	Wani
5.	S. M. Bhosale	Bhosale
6.	N. M. Deshpande	Deshpande
7.	S. H. Patil	Patil
8.	N. V. Sali	Sali
9.	V. S. Jadhav	J
10.	A. P. Acharya	A
11.	L. P. Dhole	Dhole
12.	K. S. Gharge	Gharge
13.	A. A. Sapkal	Sapkal
14.	V. H. Karande	Karande
15.	Prof R. K. Shrivastava	Shrivastava

Sandip  
Professor and Head of the  
Dept. of Mechanical Engineering  
Govt. College of Engineering, KARAD

## **Department of Mechanical Engineering**

### **Centre of Excellence for Thermal Engineering**

Thermal engineering is a major interdisciplinary emerging field deals with energysystems lifecycle management, development of hybrid energy systems, energy services, environment impact and deployment of eco-friendly systems Scope of thermal engineering is exhaustive. Major sub areas are power generation systems, renewable energy system – solar, wind, tidal, wave, Geo-thermal, bio-gas, bio-mass, magneto hydro dynamic, nuclear, combustion and propulsion, clean fuel development, energy converters, fossil fuel systems, chemical engineering systems, heat exchangers – steam generators, steam and gas turbine, Refrigeration systems, heating systems, air conditioning, Cryogenic systems, etc. List is incomplete and exhaustive.

There is dire need of improving efficiency of heat exchangers in thermal systems to reduce carbon footprint and overall life cycle management. Interdisciplinary inputs are required to improve the performance of thermal system.

Proposed CoE has following Objectives:

- Developing state-of-art laboratory of thermal systems, so as to offer proper exposure to under graduate students
- Development of experimental facilities to promote demand driven research to improve system efficiency including life cycle management issues.
- Provide facility (experimental and computational both) for post graduate and doctoral research.
- Developing self-sustainable model for CoE by catering local industrial need for revenue generation

Expected outcomes are:

- ✚ Revenue generation due demand driven research leads to self-reliance
- ✚ High quality post graduate and doctoral research
- ✚ Employability enhancement of Post graduate students
- ✚ Solution provider for local industries for technical issues
- ✚ Development of synergy among stakeholders

In addition to above, the CoE will be useful in development of energy awareness in society, supporting adjoining engineering institutions.

Expertise in thermal engineering and allied area is available in-house. There are large no of MoU with allied industries to support the activities of centre of excellence.

#### **Core group of faculty members**

- 1) Dr. R. K. Shrivastava (Ph.D. – RAC from I I T Roorkee)
- 2) Dr. A. R. Acharya (Ph.D. –Heat Transfer from Shivaji University)
- 3) Prof. N.V. Sali (M.E. –Heat Power)
- 4) Prof. K.S.Gharge (M.E.-Heat Power)



## Budgetary Requirement

Sr.No	Expenditure Head	Approximate Cost	Expected Outcomes
A	Non-Recurring Expenditure		
1	Solar PV Training and Research System	225000/-	Experimentation for UG student and Dissertation work of PG student
2	Solar PV Grid Tied Training System	370000/-	Experimentation for UG student and Dissertation work of PG student
3	Solar PV Emulator	490000/-	Experimentation for UG student and Dissertation work of PG student
4	Thermal Energy Storage Training System	500000/-	Experimentation for UG student and Dissertation work of PG student
5	Solar Concentrator Training System	520000/-	Experimentation for UG student and Dissertation work of PG student
6	Wind Energy Training System	750000/-	Experimentation for UG student and Dissertation work of PG student
7	Wind Emulator	820000/-	Experimentation for UG student and Dissertation work of PG student
8	Thermal Energy Storage Training System	675000/-	Experimentation for UG student and Dissertation work of PG student
9	Solar And wind powered hybrid power	300000/-	Experimentation for UG student and Dissertation work of PG student
10	Solar distill plant	60000/-	Experimentation for UG student and Dissertation work of PG student
11	Solar Parabolic cooker	150000/-	Experimentation for UG student and Dissertation work of PG student
12	Solar water heating system test rig	150000/-	Experimentation for UG student and Dissertation work of PG student
13	Solar Pump Test Rig (AC & DC)	1000000/-	Experimentation for UG student and Dissertation work of PG student
14	Precision Pyranometer with data logger and shading ring	100000/-	Experimentation for UG student and Dissertation work of PG student
15	Pyrrliometer with solar tracks data logger	500000/-	Experimentation for UG student and Dissertation work of PG student
16	Small working model of Gassier	365000/-	Experimentation for UG student and Dissertation work of PG student
17	Digital sunshine recorder	120000/-	Experimentation for UG student and Dissertation work of PG student
18	Solar radiation sensor	60000/-	Experimentation for UG student and Dissertation work of PG student
19	Wind speed and direction meter	65000/-	Experimentation for UG student and Dissertation work of PG student
20	<b>Space Requirement</b>		
	Research Lab for Post graduate students. Furnished space (@ Rs 2000 per square meter) 250 Sqmeter = Rs 5 lakhs	500000/-	
	Centre of excellence of Thermal Engg, furnished space	500000/-	

	(@ Rs 2000 per square meter) 250 Sq meter = Rs 5 lakhs		
	Total of A	8220000/-	
B	<b>Recurring Expenditure</b> per annum		
	Maintenance, consumables, sundry items etc.	200000/-	
	Salary for skilled Lab staff -01, @ Rs 30,000/	360000/-	
	Subtotal of B per annum	5,60,000/-	
	Total of B for three	16,80,000/-	
	<b>Grand Total (A+B)</b>	<b>99,00,000/-</b>	



**GOVERNMENT COLLEGE OF ENGINEERING, KARAD**  
**DEPARTMENT OF CIVIL ENGINEERING**



No: GCEK/ Civil /2017/39

Date: Nov 6, 2017

**Minutes of meeting**

A meeting of faculty members of Civil department was conducted on 2nd November 2017 at 3 P.M. in HoD cabin Civil department. The meeting was chaired by Hon. HoD Dr. S. K. Hirde.

Following faculty members were present:

1. Dr S. K. Hirde
2. Dr. Y. M. Ghugal
3. Prof. B.A. Konnur
4. Dr. M. N. Hedao
5. Prof. U.L. Deshpande
6. Prof. V. M. Bogar
7. Prof. S. V. Joshi
8. Prof A. A. Bhondwe
9. Prof. A. P. Phadtare
10. Prof. S. R. Gaikwad
11. Prof. S. S. Yadav
12. Prof. R. P. Ambike
13. Prof. P. B. Shinde
14. Prof. A. S. Kulkarni

*Prof R. Shrivastav  
for n.a. pl.  
[Signature]*

The meeting was started by brief introduction about RUSA by Hon. HoD. The Minutes of the meeting are as follows

### **Agenda**

#### **Departmental development plan for "IDP" to be submitted to Rastriya Uchchatar Siksha Abhiyan ( RUSA)**

Dr. S. K. Hirde initiated meeting by explaining the scope of departmental development under RUSA scheme of Central Government. She invited suggestions from all faculty members in preparation of Short term goals, Medium term goals and Long term Goals of Civil Engineering Department. The following is the proposed development plan for department

#### **A. SHORT TERM GOALS (MARCH 2018)**

- Start up Activities for development of Villages under Unnat Bharat Abhiyan
- Strengthening of resources for existing Courses
- Improvement in teaching learning and research competence
- Consultancy and Revenue generation activities
- Training to supporting staff

#### **Road Map:**

- Activities for development of Villages under Unnat Bharat Abhiyan through UG project and PG dissertation
- Strengthening of resources for existing Courses by purchasing equipment and infrastructure development
- Improvement in teaching learning and research competence by deputing faculty for training program/ workshops, arranging training programs in department, deputing the faculty to reputed institute such as IITs to understand teaching learning process
- Procurement of equipment required for consultancy in specialized field
- Improvement in competency of Supporting Staff by deputing Supporting Staff for training program/ workshops at reputed institute

**Physical Resources:**

- Equipment
- Relevant software

**Financial Resources:**

- AICTE, TEQIP-III
- State Government funds,
- Institute level fund

**B. MEDIUM TERM GOALS (TILL MARCH 2020)**

- Starting new PG courses in Environmental Engineering
- Modernizing and strengthening of existing UG and PG laboratory, academic support facilities
- Modernization of classrooms and smart classrooms including A-View
- Applying for research proposal funded by central or state agencies
- Collaboration with various IITS, NIT CSIR Labs like CSIR-CBRI, CSIR- SERC, CSIR-NEERI, IRC, IWWA, NHRC, ISH
- Setting up Smart classrooms inclusive of MOOCs like Swayam, Swayam Prabha, Flipped Classroom, Virtual lab.
- Offering Projects on Socio economical need of Society
- Providing Internships to the students in Concerned Government departments.
- Establishing centre of excellence in Non- destructive Testing and Structural Audit, Advanced Concrete composites, Water and Soil testing
- Upgradation of Environmental laboratory for air and water quality analysis
- Commencement of consultancy services for High end equipment such as Destructive and Non-destructive testing
- Starting consultancy services for sugar industries
- Self-sustainable campus and villages
- Implementation of green technology
- Organizing Faculty training program, Expert lectures, Course specific Software trainings



- Setting up Faculty exchange program with other universities

### **Road Map:**

- For setting up new PG Program, Seeking permission from State Government followed by Preparation and Submission of the proposal to Government of Maharashtra and AICTE
- Recruitment of faculty and supporting Staff as well as Infrastructure Development in order to facilitated commencement of New PG course.
- Signing MoU with various IITS, NIT, CSIR Labs like CBRI- Central Building Research Institute, CSIR- SERC, CSIR- NEERI, IRC, IWWA, NHRC, ISH
- Submission of R&D Proposal to concern authority every year
- Subscription of Reputed Journals and Books for which subscription is not available.
- Procurement of equipment in order of upgradation of laboratories as well as starting up of new consultancy services.

### **Physical Resources:**

- Infrastructural development like Classroom Complex, Laboratories, Seminar Hall, Tutorial Room, Furniture and equipment
- Setting up Smart classroom including A-View supported classroom
- Recruitment of faculty and supporting Staff
- Procurement of resources Laboratories and equipment and Relevant software

### **Financial Resources:**

- RUSA - Central Government,
- AICTE,
- State Government,
- Institute fund,
- Alumni,
- CSR,
- Industry,

- Consultancy Services

### **C. LONG TERM GOALS (TILL MARCH 2027)**

- Starting new PG courses in 1. Geotechnical Engineering, 2. Town and Country Planning
- Starting Sewage farming in campus
- Establishment of Smart campus
- Faculty exchange program with other international universities
- Starting Consultancy/ Research in Nano technology
- Establishing centre of excellence in Earthquake Resistant structure
- Starting Finishing School courses
- To have collaboration with reputed Foreign University

### **Road map**

- For setting up new PG Program, seeking permission from State Government followed by Preparation and Submission of the proposal to Government of Maharashtra and AICTE
- Recruitment of faculty and supporting Staff as well as Infrastructure Development to facilitated commencement of New PG course.
- Submission of R&D Proposal to concern authority every year
- Subscription of Reputed Journals and Books for which subscription is not available.
- Procurement of equipment in order of upgradation of laboratories as well as starting up of new consultancy services.

### **Physical Resources:**

- Infrastructural development like Classroom Complex, Laboratories, Seminar Hall, Tutorial Room, Furniture and equipment for new PG course
- Recruitment of faculty and supporting Staff
- Procurement of resources Laboratories and equipment and Relevant software's for consultancy work as well as for New PG course.

### **Financial Resources:**

- RUSA - Central Government,
- AICTE,
- State Government,
- Institute fund,
- Alumni,
- CSR,
- Industry,
- Consultancy Services

Meeting ended with vote of thanks to chair in congenial environment.



HoD  
Civil Engineering Department  
Govt. Vollege of Engineering, Karad

To,  
Dr. S. S. Mohite  
Chairman, JDP Committee



# GOVERNMENT COLLEGE OF ENGINEERING, KARAD

VIDYANAGAR, KARAD 415 124 DIST. SATARA



Phone No. (02164) 271711, 272414, 272415 Fax No. (02164)

271713

## DEPARTMENT OF CIVIL ENGINEERING

Departmental Meeting on Preparation of Ten Year Institutional

Development Plan

Date : 01/11/17

### Attendance

Sr. No.	Name	Sign
1	Dr. Y.M. Ghugal	H. Ghugal
2	Dr. S.K. Hinde	S.K. Hinde
3	Prof. B.A. Konnur	B.A. Konnur
4	Dr. M.N. Hedao	M.N. Hedao
5	U.L. Deshpande	U.L. Deshpande
6	V.M. Bogan	V.M. Bogan
7	S.V. Joshi	S.V. Joshi
8	A.A. Bhondwe	A.A. Bhondwe
9	Prof. Yadav S.S.	S.S. Yadav
10	Prof. Patil K.B.	K.B. Patil
11	P.B. Shinde	P.B. Shinde
12	A.S. Kulkarni	A.S. Kulkarni
13	S.R. Gaikwad	S.R. Gaikwad
14	A.P. Phadtare	A.P. Phadtare

Department of Civil Engineering

Centre of Excellence

## **WATER AND WASTEWATER CHARACTERIZATION AND TESTING**

**Necessity:** Nowadays, scarcity of pure water is one of the prime concern. Water quality should be ascertained in order to get rid of water-borne diseases is a basic need. Wastewater developed through various industry and sewage should be treated before its disposal. Therefore characterization water and wastewater is necessary. Based on the characterization of water and wastewater, the advanced, economical and efficient treatment technologies can be developed to meet the requirement of society.

**Scope:** There wide scope of research in this advanced field to cater the need of potable water and pollution free water streams. Advanced, efficient and economical testing and treatment technologies can be developed

**Present State of art:** The Government College of Engineering, Karad is established in 1960 is the only Government institute in Western Maharashtra. The institute is well known for its services in water and waste water testing and its characterization. In near future the institute is planning to offer post graduate course in Environmental Engineering. Hence it will be very useful to have state of the art equipment related to water and waste water testing so as make the budding engineers competent to face the challenges in Environmental Engineering and provide the consultancy services in management of waste water of the Industries.

### **Objectives:**

1. To provide advanced research in the field of Environmental Engineering with special concern to the water and wastewater testing and treatment technologies
2. To develop facilities for testing the water for physico-chemical and bacteriological parameters to meet the desired drinking water standards by adopting specific treatment and characterization of wastewater to meet the disposal standards.
3. To provide the efficient and economical water and wastewater treatment technologies

### **Outcome:**

1. Development of patents through advanced research and software for modelling
2. Publication- Research papers in indexed journal and conferences, Books
3. Revenue generation through the water and wastewater testing and consultancy
4. Development of efficient and economical testing and treatment technology for the society

### **Group of faculty:**

1. Prof.Dr. M.N.Hedao (Ph.D. Environmental Engineering)
2. Prof. B. A. Konnur (M.E. Civil Engineering)
3. Prof. S.V. Joshi (M.E. Civil Engineering appeared)



# Budgetary Requirement

Sr.No	Expenditure Head	Approximate Cost	Expected Outcomes
A	Non-Recurring Expenditure		
	<b>Atomic Absorption Spectrophotometer</b>	10,00,000	UG, PG, project, Research and development work, Water and wastewater Testing and Consultancy
	<b>TOC analyser</b>	15,00,000	
	<b>Gas Chromatography</b>	10,00,000	
	Space Requirement		
	Total of A	<b>35,00,000</b>	
B	Recurring Expenditure	<b>10,00,000</b>	
	Total of B	<b>10,00,000</b>	
	Grand Total (A+B)	<b>50,00,000</b>	

## Department of Civil Engineering

### Centre of Excellence

#### NON-DESTRUCTIVE TESTING AND STRUCTURAL AUDIT

**Preface** (Present state of art, objectives, scope, outcome, Sustainability, Revenue Generation, etc.)  
Not more than 150 words

The Government College of Engineering, Karad is established in 1960 is the only Government institute in Western Maharashtra. The institute is well known for its services in testing of construction material and consultancy related to structural analysis and design. The department is extending its services in non-destructive testing which is the need of construction industry and required to test concrete structures after the concrete has hardened to determine whether the structure is suitable for its designed use, quality control of pre-cast units or construction in situ etc. The institute also offers post graduate course in Structural Engineering which includes the courses related to non-destructive testing. Hence it will be very useful to have state of the art equipment related to non-destructive testing so as make the budding engineers competent to face the challenges in construction industry and extend the services to the society.

**Objectives** – Groom our students towards responsibility of society as well as to provide state of art solution to the existing field of NDT and structural audit and also inculcate culture of research and achieve the excellence

-To develop the interdisciplinary culture

**Scope** – Nowadays most of the structures showing deteriorated, 50-70% life is completed. So it is necessary to increase the strengthening. Structural audit is important tool for increasing the service life of civil structures. Non- destructive testing is the easiest way to calculate existing capacity of life line structures without disturbing the occupants.

**Outcomes** – Institute will be able to carry out structural audit and give the solution with appropriate technology to make it affordable and to inculcate culture of taking socio-technical responsibilities for country.

-To generate the revenue through testing and consultancy

Core group of faculty (2-3 Names, Designation, High. Qualification)

1. Dr. Y. M. Ghugal (Professor), PhD (Structural Engineering)
2. Dr. S.K. Hirde (Professor), PhD (Structural Engineering)
3. Prof. U. L. Deshpande (Assistant Professor, M.E Civil)



### Budgetary Requirement

Sr.No	Expenditure Head	Approximate Cost	Expected Outcomes
A	Non-Recurring Expenditure		
	Equipment Name 1 Rebound hammer	2,00,000/-	UG, PG, project, Research and development work, Testing and Consultancy
	Equipment Name 2 Ultrasonic pulse velocity	2,38,000/-	
	Equipment Name 3 Rebar locator (Profometer)	3,30,000/-	
	Equipment Name 4 Corrosion meter	5,56,875/-	
	Equipment Name 5 Geo scanner	20,00,000/-	
	Equipment Name 6 E- meter	10,00,000/-	
	Equipment Name 7 Concrete core cutter	2,38,888/-	
	Equipment Name 8 Data Acquisition	7,00,000	
	Equipment Name 9 SERVO control UTM 100 tonne	1,00,00,000	
	Equipment Name 10 SERVO control UTM 10 tonne	15,00,000	
	Space Requirement		
	Total of A	1,67,63,763/-	
B	Recurring Expenditure		
		17,00,000/-	
	Total of B		
	Grand Total (A+B)	1,84,63,763/-	





# GOVERNMENT COLLEGE OF ENGINEERING KARAD

(An Autonomous Institute of Government of Maharashtra)

Vidyanagar, Karad – 415124 (Dist. Satara)

Phone No. : +91 2164 271711, 272415 (Ext. : 402)

No: GCEK/ EED/2017/

Dated: Nov 6, 2017

## Minutes of Meeting

A meeting of faculty of Electrical Engineering, was convened to discuss and propose IDP for the Department and Institute development.

Venue: Conference room, Electrical Engineering

Date & Time: November 6, 2017; 04:00 pm

Following faculty members were present:

- |                         |                               |
|-------------------------|-------------------------------|
| 1. Prof. V. B. Waghmare | 7. Prof. Mrs. P. R. Jadhav    |
| 2. Prof. P. M. Joshi    | 8. Prof. Mrs. U. S. Patil     |
| 3. U. V. Patil          | 9. Prof. Mrs. K. K. More      |
| 4. Prof. S. H. Pawar    | 10. Prof. Mrs. S. K. Morkhade |
| 5. Prof. S. K. Patil    | 11. Prof. S. K. Mahendrak     |
| 6. Prof. S. V. Patil    |                               |

**Agenda of the meeting :** Departmental development plan for "IDP" to be submitted to Rashtriya Uchchatar Siksha Abhiyan ( RUSA)

Prof. V. B. Waghmare, Head of Department has briefed about RUSA and opportunity for multi-faceted development of the department and institute. Prof. P. M. Joshi briefed about plans and ideas for overall development. This has initiated thought process for making Short-term plan, medium term plan and long-term plan for the department. Road map for 10 years development plan is evolved with participation of all faculty members as per vision and mission of the department.

### Short Term Plan (up to March 2018)

- Development of 02 smart classroom with smart board, video lecture recording and learning material development facility.
- Apply for QIP center for Ph D to Government of India
- Arranging international conference or recent development in Electrical Engineering
- Number of industrial visits of student and faculty shall be enhanced.
- Number of lectures by industrial / field experts in Electrical Engineering shall be enhanced
- Training on advanced skills based on industrial environment to be arranged for the faculty, staff and students of the department

### **Medium Term Plan (up to March 2020)**

- Establishing center of excellence
  1. Power Electronics Drives and Renewable Energy Laboratory – equipments up to 1.25 cr
  2. Electrical Calibration Laboratory – calibration equipments up to 1.00 cr
- Faculty development
  1. Upgradation of academic qualification of faculty
  2. Enhancing publications in peer reviewed journals
  3. In-house training for faculty and staff, within country and abroad
  4. Study tour to reputed organization within India / abroad
- Re-apply for NBA for accreditation for all UG and PG program.
- Employability enhancement through curriculum program:
  1. Development and adoption of CBCS curricula with participation of all stockholders as per UGC/ AICTE guidelines
  2. Credit transfer for courses completed on-line, MOOCs, other approved institutes with MoUs
  3. Industrial exposure by increase in number of visits
  4. Training and internship in semester break for the students
  5. Arranging entrepreneurship development programs
- Development of infrastructure

It is necessary to provide additional furnished space to accommodate above activity, especially for the Power Electronics and Calibration Laboratories.

### **Long Term (up to March 2027)**

- Development of state-of-art laboratory in the field of Power Electronics Applications in Electrical Engineering and other application areas
- Establishing NABL accredited lab in Electrical Measurement and Calibration (with facilities for calibration of analog, digital measuring instruments, temperature sensors, oscilloscope etc.)

Meeting ended with vote of thanks to chair in friendly environment.

1. Prof. V. B. Waghmare
2. Prof. P. M. Joshi
3. U. V. Patil
4. Prof. S. H. Pawar
5. Prof. S. K. Patil
6. Prof. S. V. Patil

7. Prof. Mrs. P. R. Jadhav
8. Prof. Mrs. U. S. Patil
9. Prof. Mrs. K. K. More
10. Prof. Mrs. S. K. Morkhade
11. Prof. S. K. Mahendrakar



## Center of Excellence, Calibration Laboratory facilities and Training center

### **Power Electronics Drives and Renewable Energy Systems Center**

Power Electronics is one of the emerging and developing field in Electrical Engineering. This has many applications in industrial and research environment. This state-of-art technology is offering solutions to control

- Industrial Drives,
- answer to Power Quality Issues,
- FACTs controllers
- Development and Enhancement of Renewable Energy System and Control for Smart-Grid
- Interdisciplinary application area in Electronics Engineering
- *Training and Research center to facilitate surrounding industries and educational institutes*

and many more....

To enhance awareness and promote research in Power Electronics, the Department of Electrical Engineering proposes upgradation and development of Power Electronics Drives and Renewable Energy Laboratory. This need following equipments

1. DC-DC converters with controllers, like
  - a. Buck converter
  - b. Boost converters
  - c. Buck-Boost converters
  - d. Advanced DC-DC converters
2. AC-DC converters, like
  - a. 1-ph controlled converters
  - b. 3-ph controlled converters
3. DC-AC inverters, like
  - a. 1-ph and 3-ph voltage source inverters (simple 2-level)
  - b. Multilevel Inverter with different topologies
  - c. Modular Multilevel Converters
4. Controller / Control kits with software for above converters, like
  - a. FACTs controllers
  - b. FPGA
  - c. DSpace
  - d. Digital Signal Processor laboratory trainer kits
  - e. Digital Storage Oscilloscopes with power measurement probes
5. Renewable Energy Sources for laboratory prototypes and simulators, like
  - a. Solar Panel prototype and solar power simulator
  - b. Wind Energy prototype and wind power simulator

The above equipment cost estimates approximately Rs. 1.25 crores. Space / laboratory building is also a need for this laboratory.

## Electrical Measuring Instruments and other Instruments Calibration Center

Calibration of various measuring instruments and equipments is one of the basic needs of the industries. Most of the calibration laboratories facilities are concentrated in metro-city areas. The waiting period for calibration of equipments is more and industries need the work-done at the earliest possible with greater reliability.

Establishment of calibration facility and made available to nearby industries will helpful them

- to save the time, money, and manpower.
- Department and institute will able to generate funds through such consultancy and become self-reliance.
- Small certificate courses can also be run to train the neighboring personals
- *This will become Center of Excellence in the field of calibration*

The laboratory set-up need following precision equipments / instruments to develop such facility

1. Precision Analog Instruments, like
  - a. Voltmeters
  - b. Ammeters
  - c. Energy meters
  - d. Temperature measuring instrument
  - e. Oscilloscope and  
many more....
2. Precision Digital Instruments, like
  - a. Digital Voltmeters
  - b. Digital Ammeters
  - c. Digital Energy meters
  - d. Digital Temperature indicator and  
Many more....
3. Precision Standard Sources, like
  - a. Voltage source (AC and DC source)
  - b. Current source (AC and DC source)
4. Precision Standard transducers, like
  - a. Thermocouples
  - b. RTDs
  - c. Shunts and  
Many more....

The above equipment cost estimates approximately Rs. 1.00 crores. Space / laboratory building is also a need for this laboratory to maintain standard calibration environment conditions.

*The total estimate for establishment center of excellence, calibration laboratory and training center is approximately Rs. 2.25 cr. This does not include estimate for building / space requirements.*



## Department of Electrical Engineering

### Centre of Excellence

#### Power Electronics Drives and Renewable Energy Systems Centre

##### Preface

Power Electronics is one of the emerging and developing field in Electrical Engineering. This has many applications in industrial and research environment. This state-of-art technology is offering solutions to control

- **Industrial Drives,**
- **Power Quality Issues**
- **Development and Enhancement of Renewable Energy System**
- **Smart-Grid**
- **Interdisciplinary application area in Renewable Energy Engineering**
- *Training and Research center to facilitate surrounding industries and educational institutes*

and many more....

To enhance awareness and promote research in Power Electronics, the Department of Electrical Engineering proposes upgradation and development of Power Electronics Drives and Renewable Energy Laboratory.

##### Core group of faculty (2-3 Names, Designation, High. Qualification)


1. Dr. P. M. Joshi – Professor in Electrical Engineering (PhD)
2. Dr. U. V. Patil – Associate Professor in Electrical Engineering (PhD)
3. Prof. S. H. Pawar – Associate Professor in Electrical Engineering (pursuing PhD)
4. Prof. S. K. Patil – Associate Professor in Electrical Engineering (pursuing PhD)
5. Prof. S. V. Patil – Associate Professor in Electrical Engineering (pursuing PhD)
6. Prof. Mrs. P. R. Jadhav – Assistant Professor in Electrical Engineering (M. E.)

##### Budgetary Requirement

Sr. No.	Expenditure Head	Approximate Cost	Expected Outcomes
A	<i>Non-Recurring Expenditure</i>		
	<b>DC-DC converters with controllers</b> a. Buck converter b. Boost converters c. Buck-Boost converters d. Advanced DC-DC converters	Rs. 5.00 lakh	<ul style="list-style-type: none"><li>• UG, PG and PhD students for experimentation</li><li>• Experimental validation of solution for industrial problems in the field of Drives and Power Quality issues</li><li>• Interdisciplinary applications development</li></ul>
	<b>AC-DC converters</b> a. 1-ph controlled converters b. 3-ph controlled converters	Rs. 10.00 lakh	<ul style="list-style-type: none"><li>• Experimental validation of solution for industrial problems in the field Renewable Energy sources interface, Smart Grid</li></ul>
	<b>DC-AC inverters</b> a. 1-ph and 3-ph voltage source inverters (simple 2-level) b. Multilevel Inverters different	Rs. 50.00 lakh	<ul style="list-style-type: none"><li>• <i>Key role for research and development in the field of Power Systems, Electrical Drives, Renewable</i></li></ul>



	topologies c. Modular Multilevel Converter		<b>Energy Systems</b> • Revenue generation is possible in collaboration with industries through training courses related to Industrial Drives, Renewable Energy Systems, Power Quality issues etc.
	<b>Controller / Control kits with software for above converters</b> a. FACTS controllers b. FPGA c. DSpace d. Digital Signal Processor laboratory trainer kits e. Digital Storage Oscilloscopes with power measurement probes	Rs. 25.00 lakh	
	<b>Renewable Energy Sources for laboratory prototypes and simulators</b> a. Solar Panel prototype and solar power simulator b. Wind Energy prototype and wind power simulator	Rs. 30.00 lakh	
	Space Requirement		Approx. 300 sq mts. for laboratory equipments
	Total of A	Rs. 120.00 lakh	
<b>B</b>	<b>Recurring Expenditure</b>		
	Total of B		
	<b>Grand Total (A+B)</b>	<b>Rs. 120.00 lakh</b>	

  
**Professor & Head**  
 Department of Electrical Engineering  
 Government College of Engineering, Karad

## Industrial Measurements, Testing and Calibration Centre

### Preface

Calibration of various measuring instruments and equipments is one of the basic needs of the industries. Most of the calibration laboratories facilities in Maharashtra are concentrated in metro-cities areas like Mumbai, Pune etc. The waiting period for equipments receiving calibrated is more and industries need the work-done at the earliest possible with greater reliability.

Establishment of calibration facility and made available to nearby industries will helpful them

- to save the time, money, and manpower.
- Department and institute will able to generate funds through such consultancy and become self-reliance.
- Small certificate courses can also be run to train the neighboring personals
- *This will become Center of Excellence in the field of calibration*

**Core group of faculty** (2-3 Names, Designation, High. Qualification)


1. Dr. P. M. Joshi – Professor in Electrical Engineering (PhD)
2. Dr. U. V. Patil – Associate Professor in Electrical Engineering (PhD)
3. Prof. Mrs. U. S. Patil – Assistant Professor in Electrical Engineering (M. E.)
4. Prof. Mrs. K. K. More – Assistant Professor in Electrical Engineering (M. E.)

### Budgetary Requirement

Sr. No.	Expenditure Head	Approximate Cost	Expected Outcomes
<b>A</b>	<b><i>Non-Recurring Expenditure</i></b>		
	<b>Precision Analog Instruments, like</b> <ol style="list-style-type: none"> <li>a. Voltmeters</li> <li>b. Ammeters</li> <li>a. Energy meters</li> <li>b. Temperature measuring instrument</li> <li>c. Oscilloscope and many more....</li> </ol>	Rs. 15.00 lakh	<ul style="list-style-type: none"> <li>• UG students for experiments</li> <li>• Calibration of industrial grade instruments for industry</li> <li>• Revenue generation is possible through calibration of equipments / instruments for industries around</li> <li>• <i>Key role will be revenue generation by providing calibration and testing facility to industries around and public-sector departments</i></li> <li>• <i>Small certificate courses can also be run for industrial persons in the field of instrumentation testing, calibration etc.</i></li> </ul>
	<b>Precision Digital Instruments, like</b> <ol style="list-style-type: none"> <li>a. Digital Voltmeters</li> <li>b. Digital Ammeters</li> <li>c. Digital Energy meters</li> <li>d. Digital Temperature indicator and many more....</li> </ol>	Rs. 15.00 lakh	
	<b>Precision Standard Sources</b> <ol style="list-style-type: none"> <li>a. Voltage source (AC / DC source)</li> <li>b. Current source (AC / DC source)</li> </ol>	Rs. 30.00 lakh	
	<b>Precision Standard transducers, like</b> <ol style="list-style-type: none"> <li>a. Thermocouples</li> <li>b. RTDs</li> <li>c. Shunts and</li> </ol>	Rs. 15.00 lakh	

	many more....		
	Space Requirement		Approx. 300 sq mts. for laboratory equipments
	Total of A	Rs. 75.00 lakh	
<b>B</b>	<b><i>Recurring Expenditure</i></b>		
	Calibration charges of standard instruments from recognized laboratories (NABL accredited)	Rs. 4.50 lakh (per year)	
	Laboratory Assistant for equipment maintenance and office work	Rs. 0.50 lakh (per year)	
	Total of B	Rs. 5.00 lakh	
	<b>Grand Total (A+B)</b>	<b>Rs. 80.00 lakh</b>	

*The total estimate for establishment centre of excellence, in the field of (1) POWER ELECTRONICS and (2) INDUSTRIAL MEASUREMENTs, TESTING and CALIBRATION is approximately Rs. 2.00 cr. This does not include estimate for building / space requirements.*

  
 Professor & Head  
 Department of Electrical Engineering  
 Government College of Engineering, Karad



इलेक्ट्रॉनिक्स व टेलिकम्युनिकेशन विभाग  
जावक क्र. .... 289 .....  
दिनांक : 06/11/2017



## GOVERNMENT COLLEGE OF ENGINEERING, KARAD

(An autonomous institute of Govt. of Maharashtra)

VIDYANAGAR, KARAD, 415124 DIST SATARA

Phone - ( 02164 ) 326632, 272414/15 Fax No. - ( 02164 ) 271713

Website : [www.gcekarad.ac.in](http://www.gcekarad.ac.in) Email : [principalgcekarad@gmail.com](mailto:principalgcekarad@gmail.com)

GCEK/E&TC/2017-18/289

Date:- 06/11/2017

### Department of Electronics and Telecommunication

#### Institute Development Plan

#### Minutes of Meeting

According to the guidelines for preparation of institute development plan we prepared the following three goals, which are short term, medium term and long term.

#### 1. Short Term Objectives :

As short term objectives are to be achieved within six months duration that is upto March 2018, we decided the following goals as short term goals.

##### (i) Fulfillment of basic infrastructure in classrooms and Labs

Purchase of the basic facilities like Smart boards and projectors in classrooms and whiteboards in labs. Purchase of the basic equipments like CRO, function generator and DSO for Labs.

##### (ii) Workshops for students

We will conduct few workshops based on the core areas of Electronics Engineering like Embedded Systems, Image processing, VLSI Design and PCB fabrication. These workshops will enhance the interest of students in these areas.

##### (iii) Faculty Development Program

We will arrange some Faculty development programs in order to make our faculties aware of the current trends going in the field of Electronics and Telecommunication. The FDP's are to be arranged on recent trends in Signal Processing, Antenna design and VLSI Design.

##### (iv) Incubation Centre (Entrepreneurship Cell)

Incubation cell is demand of current scenario. So we will start an Entrepreneurship Cell in our Department so as to encourage students to start their own startup.

##### (v) E Yantra Lab

D.D. R. Shrivastava  
P.L.

With the help of IIT Bombay we will start E Yantra Lab which focuses on Robotics in our department.

## **2. Medium Term Objectives :**

Medium term goals are to be achieved in three years that is up to March 2020. So we have proposed following goals as Medium term goals.

### **(i) Centre of Excellence**

We are proposing three centre of excellence which are in the field of Signal Processing, Mechatronics and IOT. In order to achieve these we need to collaborate with some reputed industry. With the help of them we will establish Centre of excellence in these fields.

### **(ii) Local Community Centre**

The idea of local community centre is new and we are proposing it as it will help students in terms of social awareness.

### **(iii) Short Term Diploma Courses**

We are proposing some short term diploma courses which may be of one month or three months duration. these courses will be in the field of Signal processing, Embedded Systems, PCB fabrication. It will help the students to get some job opportunities in these fields.

### **(iv) GATE/ IES Coaching**

Some in house coaching can be provided to students regarding the competitive exams like GATE and IES. As these exams are very much important to the students and to enhance their knowledge these trainings will be provided.

### **(v) Skill Lab**

Skill labs will be developed in department which will enhance their various skills.

## **3. Long Term Objectives :**

Long term goals are to be achieved in ten years that is up to March 2017. So we have proposed following goals as Long term goals.

### **(i) PG Diploma courses**

We will start some PG diploma courses in our department. These courses will be based on the core Electronics Engineering like Embedded Systems, PLC and SCADA, Image processing, VLSI.

### **(ii) Product Development Centre**

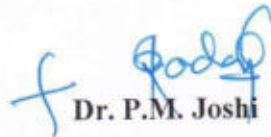
We will start our product developement centre which will be able to provide some products to the industry.

**(iii) IP Cell**

We will start IP cell in our department to help faculties to patent their research work.

**(iv) Consultancy**

We will start consultancy services which will be able to provide solution to the electronics industries.



Dr. P.M. Joshi

Department of E&TC

विभाग प्रमुख  
अनुविद्युत व दूरसंचार विभाग  
शासकीय अभियांत्रिकी महाविद्यालय, कराड



इलैक्ट्रॉनिक्स व टेलिकम्युनिकेशन विभाग

जावक क्र. ....292.....




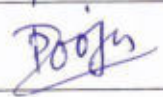
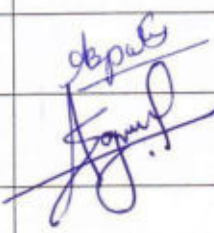
दिनांक : 06 / 11 / 2017


Government College of Engineering Karad

Electronics And Telecommunication Department

MEETING ON PREPARATION OF IDP

Date: 03/11/2017

Sr. No.	Name	Signature
01	Prof. Prashil Zodape	
02	Prof. Arun Patokar	
03	Prof. Snehal Suryawanshi	
04	Prof. Harsha Pawar	
05	Prof. Harshal Khairnar	
06	Prof. Pooja Tanurkar	
07	Prof. Supriya Kadam	
08	Prof. Prathamesh Kittur	
09	Prof. Ashwini Patil	
10	Prof. Sneha Paymal	
11	Prof. Dr. D. S. Shinde	

  
विभाग प्रमुख  
अनुसंधान व विकास विभाग  
राज्यीय अभियांत्रिकी महाविद्यालय, कराड

इलेक्ट्रॉनिक्स विभाग  
जायक क्र. ... 294 .....  
दिनांक : 08 / 11 / 2017



## GOVERNMENT COLLEGE OF ENGINEERING, KARAD

(An autonomous institute of Govt. of Maharashtra)

VIDYANAGAR, KARAD, 415124 DIST SATARA

Phone - ( 02164 ) 326632, 272414/15 Fax No. - ( 02164 ) 271713

Website : [www.gcekarad.ac.in](http://www.gcekarad.ac.in) Email : [principalgcekarad@gmail.com](mailto:principalgcekarad@gmail.com)

Date:- 08/11/2017

GCEK/E&TC/2017-18/ 294

### Department of Electronics and Telecommunication

#### Institute Development Plan

According to the guidelines for preparation of institute development plan we prepared the following three goals, which are short term, medium term and long term.

#### 1. Short Term Objectives :

As short term objectives are to be achieved within six months duration that is upto March 2018, we decided the following goals as short term goals.

##### (i) Fulfillment of basic infrastructure in classrooms and Labs

Purchase of the basic facilities like Smart boards and projectors in classrooms and whiteboards in labs. Purchase of the basic equipments like CRO, function generator and DSO for Labs.

##### Roadmap:

- We will ask for the quotation from supplier
- The supplier who will provide the required material within less cost will get the order.

##### Resources required :

- 2 to 3 Lakh Rs.

##### (ii) Workshops for students

We will conduct few workshops based on the core areas of Electronics Engineering like Embedded Systems, Image processing, VLSI Design and PCB fabrication. These workshops will enhance the interest of students in these areas.

##### Roadmap:

- We will contact with the experience faculties from IITs and NITs and experts from industry who can conduct workshops for students in the areas mentioned above.

NKS P. SRS



- We will arrange workshops for students by taking into account their area of interest. The workshop may be of 1 day or 2 days.

**Resources required :**

- 3 to 4 Lakh Rs.

**(iii) Faculty Development Program**

We will arrange some Faculty development programs in order to make our faculties aware of the current trends going in the field of Electronics and Telecommunication. The FDP's are to be arranged on recent trends in Signal Processing, Antenna design and VLSI Design.

**Roadmap:**

- We will contact the experience faculties from IITs and NITs and experts from industry to conduct these FDPs.
- These faculty development programs will be of 1 week or 2 week duration.
- We will encourage faculties from other colleges also to take part in these program.

**Resources required :**

- 4 to 5 Lakh Rs.

**(iv) Incubation Centre (Entrepreneurship Cell )**

Incubation cell is demand of current scenario. So we will start an Entrepreneurship Cell in our Department so as to encourage students to start their own startup.

**Roadmap:**

- We will arrange few guest lectures from the successful people from this field.
- These guest lectures will implant some ideas in students mind and inspire them to start their own startup.
- We will provide students guidance to cultivate their idea into product.

**Resources required :**

- 4 to 5 Lakh Rs.

**(v) E Yantra Lab**

With the help of IIT Bombay we will start E Yantra Lab which focuses on Robotics in our department.

**Roadmap:**

- IIT Bombay is taking the initiative to start E-Yantra Lab in interested colleges.
- We will contact the respected persons and will initiate the procedure to start these Lab in our department.

**Resources required :**

- 7 to 8 Lakh Rs.

**2. Medium Term Objectives :**

Medium term goals are to be achieved in three years that is up to March 2020.

So we have proposed following goals as Medium term goals.

**(i) Centre of Excellence**

We are proposing three centre of excellence which are in the field of Signal Processing, Mechatronics and IOT. In order to achieve these we need to collaborate with some reputed industry. With the help of them we will establish Centre of excellence in these fields.

**Roadmap:**

- Industries are interested to develop some Centre of excellence in Engg. colleges.
- We will contact the industries from the areas of Signal Processing, Mechatronics and IOT.
- With their guidance we will set up these centre of excellence in our department.

**Resources required :**

- The cost varies with respect to company.

**(ii) Local Community Centre**

The idea of local community centre is new and we are proposing it as it will help students in terms of social awareness.

**Roadmap:**

- We will start community centre by taking students interest into account

**Resources required :**

- 4 to 5 Lakh Rs.

### **(iii) Short Term Diploma Courses**

We are proposing some short term diploma courses which may be of one month or three months duration. these courses will be in the field of Signal processing, Embedded Systems, PCB fabrication. It will help the students to get some job opportunities in these fields.

#### **Roadmap:**

- We will identify faculties expertise in their areas and will start short term diploma courses in our department.
- these courses may be of 1 Month or 3 months duration depending on the course.
- these courses will be helpful for the students of western Maharashtra to get certified in respective fields.

#### **Resources required :**

- Around 10 Lakh Rs.

### **(iv) GATE/ IES Coaching**

Some in house coaching can be provided to students regarding the competitive exams like GATE and IES. As these exams are very much important to the students and to enhance their knowledge these trainings will be provided.

#### **Roadmap:**

- There are many coaching centers which provides in-house coaching for students for GATE and IES.
- We will contact with these coaching centre and ask them to give presentation.
- We will choose from the best coaching for our students.
- We will provide some percentage of financial assistance to students and rest to be given by the students.
- We may also provide some scholarship for the Rankers in these exams.

#### **Resources required :**

- Around 4-5 Lakh Rs.

### **(v) Skill Lab**

Skill labs will be developed in department which will enhance their various skills.



**Roadmap:**

- There are various skills in students which needs to be identified. The concept of skill club will help achieve these goal.
- We will identify students interest and start some Labs accordingly.

**Resources required :**

- Physical resources for developing lab

**3. Long Term Objectives :**

Long term goals are to be achieved in ten years that is up to March 2017. So we have proposed following goals as Long term goals.

**(i) PG Diploma courses**

We will start some PG diploma courses in our department. These courses will be based on the core Electronics Engineering like Embedded Systems, PLC and SCADA, Image processing, VLSI.

**Roadmap:**

- We need to employ some good faculties in order start these PG diploma courses along with the existing ones.
- There will be certification for these courses which may be of six months duration in the field of embedded systems, PLC and SCADA.
- These courses can be possible once we will establish the centre of excellence.

**Resources required :**

- Good Labs and smart classrooms

**(ii) Product Development Centre**

We will start our product development centre which will be able to provide some products to the industry.

**Roadmap:**

- We will inspire our faculties to develop some product which is markets need.
- We can also arrange some guest lectures and some field visits to achieve these.

**Resources required :**

- Good Labs with latest hardware and software



### (iii) IP Cell

We will start IP cell in our department to help faculties to patent their research work.

#### Roadmap:

- We will take help from some agencies which provide guidance in the field of intellectual property.
- We will arrange workshops and guest lectures from the experts in these areas.

### (iv) Consultancy

We will start consultancy services which will be able to provide solution to the electronics industries.

#### Roadmap:

- We will contact with the industries and ask for problem statements.
- We will provide solution to their problems.
- Some industry visits can also be arranged in order to identify the problems of industries.
- Also we can cope up with the Government of India to help in the mission of Digital India.

  
Dr. P.M. Joshi

Department of E&TC

विभाग प्रमुख  
अनुविद्युत व दूरसंचार विभाग  
शासकीय अभियांत्रिकी महाविद्यालय, कराड

### **Minutes of meeting:**

The meeting held on 2<sup>nd</sup> Nov. 2017 at 11.00 am at Dept. of IT for discussion regarding departmental development plan to prepare IDP for RUSA.

The head of the department introduces RUSA scheme and role of departments for preparing IDP.

The following **Goals** are decided unanimously:

1. To start PG/PhD Program in Computer Science & Engineering
2. To Initiate Startup unit
3. To established Center of Excellence in Cloud/Machine Learning
4. To motivate the students to focus on their choices for career from second year only.  
(Higher studies / Jobs / Startup)

The following **Objectives** were concluded at the end of the meeting:

1. Short term Objectives (6 months – upto March 2018)
  - a. To start new PG Course in Computer Science & Engineering.
  - b. To organize National/International Seminars & Conferences
  - c. To enhance the knowledge competence of faculty by participating in various FDPs, STTPs to disseminate the same to students through courses.
  - d. At least one publication by each faculty in reputed Journal/conference.
  - e. To setup new laboratories for advance courses in coming curriculum.
2. Medium term Objectives (April 2018 to March, 2020)
  - a. To propose laboratory required for Advance upcoming technologies like Augmented Reality /Virtual Reality, Artificial Intelligence, Data Analytics, Machine learning, Internet of things, etc.
  - b. Industry sponsored Research /Application development Laboratory.
  - c. Support center for higher studies, preparation for competitive exams, etc.

R.K.S  
✓

- d. Information Technology enabled Community services for general Society.
3. Long term Objectives for next 10 years (April 2020 to March, 2027).
- a. Propose new separate physical infrastructure for department with auditorium, recreation room, seminar hall, cafeteria, research center and startup units.

### **SWOT Analysis:**

#### **Strength:**

- 1. Qualified & dedicated Faculty qualification members.
- 2. Excellent team work among faculty & students
- 3. Excellent computational facilities
- 4. High Speed Internet connectivity
- 5. Flexibility in Curriculum Upgradation due to Autonomy
- 6. Effective Teaching Learning Process
- 7. Academic performance / Results / Placements

#### **Weakness:**

- 1. Inadequate number of supporting staff
- 2. Average entry level Students merit
- 3. Limited accessibility to industry / Industry Institute Interaction
- 4. Physical infrastructure & space.
- 5. Students' communication skills.
- 6. No regular technical support staff for Laboratory maintenance
- 7. Lack of motivational incentives to staff

#### **Opportunities:**

- 1. Accredited by NBA, so eligible for getting funds
- 2. Funding support from TEQIP, State & central Govt., UGC, etc.
- 3. Agricultural/Rural Entrepreneurship development is possible

4. Flexible curriculum.
5. Starting new courses
6. Development of faculty & supporting staff.
7. Networking with institute of national repute.

**Threats:**

1. Transfer of faculties / faculty retention
2. Competency of Supporting staff



**HEAD**

Department of Information Technology  
Govt. College of Engineering, KARAD


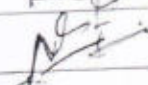



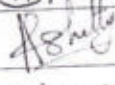
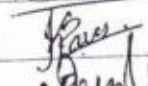
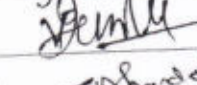





## Department of IT: Budget for RUSA (10 Years) plan

Sr. No.	Action Plan	Budget
1	Design new UG/PG courses and Revise existing UG course curriculum: <ol style="list-style-type: none"> <li>1. To Setup PG lab – Pcs, Servers, Accessories, auxiliaries, software, furniture, etc.</li> <li>2. Up gradation of course curriculum</li> </ol>	45 Lakhs
2	Train Faculty through Development Programmes Total: 14 Faculties <ol style="list-style-type: none"> <li>1. FDP organization / Attending externally</li> <li>2. STTP/Seminar/Conference attending locally &amp; externally</li> </ol>	15 lakhs
3	Infrastructure Development	As per Institutes BWC recommendations
4	Industry Institute collaboration <ol style="list-style-type: none"> <li>1. Industry sponsored/invited projects</li> <li>2. Internship of students</li> <li>3. Industrial Visit</li> <li>4. Industry Expert talks</li> <li>5. Collaborative projects</li> </ol>	20 lakhs
5	Creation of Modern Teaching facilities <ol style="list-style-type: none"> <li>1. Smart boards</li> <li>2. Visualizers</li> <li>3. Projectors</li> <li>4. Other supporting auxiliary devices</li> </ol>	10 Lakhs
6	Scaling Up R&D and Collaborative Research <ol style="list-style-type: none"> <li>1. To setup Center of Excellence/ Research Labs</li> <li>2. To organize research symposium / workshops / seminar/conferences</li> <li>3. Equipment &amp; furniture as per projects</li> </ol>	50 Lakhs

दि 2-11-17 को विभागप्रमुख कक्षामध्य विभागीय बैठक आयोजित करण्यात आली होती. सदर बैठकीस आलील अधिकारी उपस्थित होते.


### Agenda:-

- 1) 
- 2) Rajulka
- 3) 
- 4) 
- 5) 
- 6) 
- 7) Bhaskar
- 8) 
- 9) Akshay
- 10) 
- 11) 
- 12) 
- 13) 
- 14) 

### Agenda

- 1) Dr. S. S. Wag
- 2) Dr. S. S. Wag
- 3) Dr. S. S. Wag
- 4) Dr. S. S. Wag
- 5) Dr. S. S. Wag
- 6) Dr. S. S. Wag
- 7) Dr. S. S. Wag
- 8) Dr. S. S. Wag
- 9) Dr. S. S. Wag
- 10) Dr. S. S. Wag
- 11) Dr. S. S. Wag
- 12) Dr. S. S. Wag
- 13) Dr. S. S. Wag
- 14) Dr. S. S. Wag

- 1) To prepare RUSA Plan for Institutional Development Plan as per Principal's direction.
- 2) Academic progress.
- 3) Planning of Next Semester.
- 4) Purchase of followup.

  
(Dr. S. S. Wag)



## Minutes of Meeting

**Subject:** Preparation of 10 year IDP as per RUSA guidelines.

**Reference:** Email on October 30, 2017, from Dr. Mohite Suhas

In this regard, MCA department have **conducted a departmental meeting** of regular and visiting faculty on 3/11/2017. The pointwise minutes are as follows:

**i) Specific goals your department hopes to achieve:**

- a. Starting new courses PG:** Department Wish to start B. Tech, M.Tech CSE or some specialised area in CSE in collaboration with IT department GCE, Karad.
- b. PhD programme:** PhD programme in CSE and later on to be part of QIP scheme of Govt. of India.
- c. Increasing publications every year:** On departmental level at least five number.
- d. Innovation in teaching learning processes:** Department Wishes to conduct the courses with the help of industrial expert.
- e. Establishing centre of excellence:** In the field of Networking and cyber security, implementation of governmental initiatives.
- f. Establishing and Modernizing Laboratory:** Related to curriculum like AI and Expert system [Image Processing, etc.]
- g. Infrastructure for the laboratories:** Necessary infrastructure for laboratories.

**ii) Objectives** (Short (6 month)/Medium till March 2020/Long term - till March 2027)

- a. Short term:** Establishment of laboratories.
- b. Medium Term:** Research improvement, starting of M.TECH., PhD programmes
- c. Long Term:** Establishment of COE and Research recognition.

**iii) Road maps to achieve these:** The follow up of the proposals and perseverance we can achieve the objectives.

**iv) Resources (Physical and financial):** which would be needed to achieve these goals. A separate proposal is submitted.

HoD [MCA]

To,  
The Principal,  
GCE, Karad

Copy To: The Chairman IDP Committee, GCE, Karad for information and n.a.

**PROPOSAL FOR**

**DIGITAL IMAGE PROCESSING LABORATORY**

(Post-Graduate curriculum, Research & Development,  
Training, Entrepreneurship Development)

**Submitted by**  
**Prof. Mrs. M.D. Malkauthekar**  
**Department Of Master of Computer Sc. & Engg.**  
**Government College of Engineering Karad**

**2017-18**



**A PROPOSAL FOR**  
**DIGITAL IMAGE PROCESSING**  
**LABORATORY**  
(Post-Graduate Practical, Research & Development,  
Training, Entrepreneurship Development)

1. Name of the Institute : G.C.O.E., Karad
2. Department : Department of Computer Engineering
3. Project Title : Digital Image Processing Laboratory
4. Name of the Chief Coordinator: Mrs. M.D. Malkauthekar  
With designation (responsible for
5. Cost of the Project : Rs.61,00,000 /-

**6. Project Summary :**

**(a) Present state of art:**

- 1) Practicals of Undergraduate Students of Final Year Computer Engg. Students
- 2) Project development by students.
- 3) Development of local technology.
- 4) Training courses for Students of Other Engineering Institutes
- 5) New course development.
- 6) Research Work.

**(b) Project Objectives:**

*To develop Digital Image Processing Laboratory*, which is the part of postgraduate Computer Science and Engineering Curriculum.

- 1) To develop competent technical manpower in *Digital Image Processing Laboratory* so as to increase employment in this backward region.
- 2) Continued education program.
- 3) To promote the industry-institute interaction.
- 4) To promote entrepreneurial activities to wipe off unemployment

**(c) Methodology to be adopted to achieve the objectives:**

- 1) This laboratory is the part of curriculum of Final Year MCA, Information Technology Syllabus. Students will perform their Practicals in this lab.
- 2) Establish interaction with the forefront institutions and R & D organization.
- 3) Motivate and train the students to write software as per the needs of the society and R& D organizations.
- 4) Provide infrastructure, computing facilities and know how to entrepreneurs.

**7. BACKGROUNG:**

The economic progress of country is strongly linked with the quality of education in general and quality of technical education in particular. It is therefore necessary for our technical education to undertake periodic review of the curriculum and subject content of the technical programs. The frontier technologies have to flow from the R & D institutions to the industries and also be continually globalization (which are equally applicable to education) has drastically changed the education systems and job trends. This will compel the Indian technical education to adopt totally new shape to remain competitive.

Most of the department of institute is running undergraduate / post graduate programs since 1964 and many of the past students have occupied / are occupying respectable chairs in various government and public sectors, industries and institutes. These department have all basics plus some of the advance facilities to cater the need of the students, faculty and industry sector. However after confirmation of autonomy to this state level engineering college, the expectation of general and industrial society are increased at large. Department will now enjoy the advantages and responsibilities of autonomy. With the much needed academics freedom to the staff and students innovative approaches in teaching and learning has become possible. The system has in built mechanism to rectify inefficiencies and deficiencies and college become forward looking to tend to live for both present and future, also the check and balances can be enforced resulting in quality.



To meet the challenges of the rapidly changing technologies it is extremely essential to give thrust upon the modernization of existing facilities, expansion of postgraduate programs and need based research in at least few identified areas.

The rapidly expanding databases of technological information means that a student will have to learn only a small fraction of information he is expected to know. To instill for accessing information, developing flexible learning skills, rejection outmoded from the curriculum and addition of the emerging technological items.

To improve upon the present scene of the institute / department and incorporate the aforesaid observations the major steps would be to modify the existing department status with following main objectives:

- a) Greater emphasis on design oriented teaching, teaching of design methodologies, problem solving approach to help the research.
- b) Greater exposure to industrial and manufacturing process.
- c) Exclusion of automated technologies and inclusion of new, appropriate and emerging technologies.
- d) Greater input of management and education and professional communication skill.
- e) Greater inclination towards research and developments.
- f) Revenue generation through testing, consultancy and continuing education programs.

Institute proposes modernization of all major laboratories, strengthening of other laboratories to improve effectiveness, development of infrastructural facilities, modern digital library, and computational facilities for implementing IT enabled teaching learning, Refurbishment and modernization of infrastructure for ambient educational environment.

**(a)** Computer Engineering is: "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." In short, deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieve information.

India has emerged as the fastest growing Computer Engineering hub in the world, its growth dominated by IT / Computer Engineering software and services such as Custom Application Development and Maintenance (CADM), System Integration, IT / Computer Engineering Consulting, Application Management, IS Outsourcing, Infrastructure Management Services, Software

Today, the term Information Technology has ballooned to encompass many aspects of computing and technology, and the term is more recognizable than ever before. The Information Technology umbrella can be quite large, covering many fields.

In the broadest sense, information technology refers to both the hardware and software that are used to store, retrieve, and manipulate information. At the lowest level there are servers with an operating system. Installed on these servers are things like database and web serving software. The servers are connected to each other and to users via a network infrastructure. And the users accessing these servers have their own hardware, operating system, and software tools.

IT/ Computer Engineering professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform include, but not limited to:

- Hardware design
- Data Management
- Computer Networking
- Database Systems Design
- Software design
- Management Information Systems
- Systems management
- Digital Signal Processing
- Artificial Neural Network
- Artificial Intelligence
- Digital Image Processing

Academic programmes are at the core of the Institute's functions. They comprise the three basic activities – education, research and services – articulated in the Institute's Mission Statement. The Institute's academic activities are currently divided between



Departments and Centers. The Departments are responsible for awarding all the Institute degrees, while the Centers are primarily engaged in research and services.

Today, the term Computer Engineering has ballooned to encompass many aspects of computing and technology, and the term is more recognizable than ever before. The Information Technology umbrella can be quite large, covering many fields. IT / Computer Engineering professionals perform a variety of duties that range from installing applications to designing complex computer networks and information databases.

This set up does not only have social importance but also educational advantage. As this set up covers all types of information like data, images, graphs, analysis, online maneuvers etc., this stand as compel Computer Engineering workstation which can be tested any time if the hardware setup is available.

As Computer Engineering has got such a high effect on our daily life in many ways and with this set up following main Goals of the Computer Engineering Department of the Institute can be achieved:

- To impart high quality undergraduate (UG) education that includes mastery of the fundamentals of Science, Engineering, Technology and Management to prepare students for a variety of challenging careers in Information Technology.
- To pursue research characterized by interdisciplinary inquiry for generating knowledge, technology development and applications in chosen areas.
- To impart state-of-the-art knowledge and skills to diverse stakeholders, through continuing education, enabling them to make improved professional contributions.

As Computer Engineering is playing major role in our day-to-day life, it should be given some concentration.

For the students to have a practical approach to any of the subject in their curriculum, we need to provide them with the latest technology laboratories as per the syllabus of the institute. For providing approximately 120 hours of practical session for the information technology department we need such laboratory setup for the students.

By this new laboratory setup for Computer Engineering, it will be very beneficial for the students and the institute by making the students of this department more efficient and better skilled engineers. This will surely help them to get a good employment, which is like adding a feather in the cap of the institute.

## 8. LABORATORY SETUP REQUIRMENTS:

List of Hardware and Softwares required for Digital Image Processing laboratory

S. No.	Name of Hardware/ Software with Specifications	Quantity	Approximate Cost Per Unit	Total Cost
1	Image Processing development toolkit for 32-bit Windows® XP / Vista®. Includes DVDs with MIL, ONL, ActiveMIL, Intellicam, Inspector, Matrox display drivers and on-line documentation. Also includes a perpetual license USB hardware key and IMAGEPRO- A Digital Image Processing Software	4 Users	2,40,000/-	09,60,000/-
2	<b>Frame Grabber* :</b> Dual-Base or single-Medium up to 66 MHz Camera Link® PCI-X® frame grabber with 64 MB DDR SDRAM and cable adapter board. Requires Imaging Library ,Host Controller and IMAGEPRO- A Digital Image Processing Software <b>Camera :</b> Compact 2 Mega pixel 2/3" Color CCD camera link camera, 25fps, with power supply, cable & Camera Stand <b>Lens Kit:</b> Includes five Lens of focal length 8/16/25/35/50mm with rear converter 1.5x/2x/2.5x & extension tubes	1Set	8,00,000/-	8,00,000/-
3	<b>Host Controller with Virtual Simulation System</b> Intel® Xeon® processor (Quad-Core/2.33GHz/12M L2 Cache), Intel® 5000X ,RAM 2 GB DDRII, 160 GB HDD, Gigabit Ethernet onboard, Graphics nVIDIA 512 MB Graphics Accelerator, Windows Xp Professional, 19" TFT Mointor, DVD Writer, Expansion Slots 2 PCIe & 3 PCI-X (Dedicated for Matrox Solios & IMAGEPRO- A Digital Image Processing Software installed on it ) & PCI slots with one year warranty	01	3350000/-	3350000/-
4	Statectica Data Mining ultimate academic Pack13.1 Optimisation ,Nural Networking	10 users	9,90,000/-	9,90,000/-
	<b>Total</b>			<b>61,00,000/-</b>



# Smart Campus for Government College of Engineering ,Karad

	Name of Facility Required	Brief specification	Financial Support required (in Lakhs)	Outcome
Card related	Smart card ID for all students and employees.	A Digital campus with all the smart card Integration in tune with the government policy of Digital India	15.0	Smart campus
	Lab access through campus cards only			
	Digital campus Payments through smart card enables digital wallets			
	Smart cards for Clock hour basis employees			
	Smart printers in campus, access using campus cards			
	Biometric/card based attendance system for students			
	<b>Facilities &amp; Infrastructure</b>			
Hostel related	Wi-Fi facility in hostels and residential areas	The need of hour is to have digital campus and so the provision and planning for the same is required	17.0	Smart campus
	Motion sensing lights, fans, ACs			
	Smart maintenance scheduling system for			
	Provide automatic washing machine to each floor in hostels			
Maintenance	Conversion to Green smart buildings Buildings/labs/offices /staff quarters	The old buildings need to be converted into Green and smart building	79.0	Smart Campus
Security	Smart security across the campus (e.g. Sensor based CCTVs).	Security is out most important for the campus	35.0	Smart campus
	Sensor based safety solutions (labs & across the campus)			
Energy	Solar cell enabled lighting,using LEDs in Classrooms. Administrative Blocks .Offices'. and campus	Energy complaint institute is the need of the hour to reduce carbon footprint	29.0	Smart Campus
	Use of LED lights in entire campus. And sensor bases light poles for energy consumption			
	Smart electronic switches for classes and departments.			
	Derive energy from the solid waste management			
	Solar water heaters or solar PV for hostels and residential area			
	Shaded footpaths with solar panels on top.			
	Regenerative systems across footpaths (generate power)			
Water	Smart meters for water consumption across campus	Water needs to be saved for long term	6.0	Smart Campus
	Cloud based servers to monitor water usage across the campus			
Transportation	Small buses in shuttle mode with higher frequency with GPS tracking	Smart transportatio	26.0	Smart Campus

Recd on  
10/11/18

	Electric Autos/Rickshaws with pooling facilities	n offers convenience to the campus students and staff		
	Small Bus/Shuttle services to nearest ST/railway .			
	Speed sensors for vehicles			
Parking	Smart Parking in Campus	One of the key elements of smart campus	7.0	Smart Campus
Smart facility	Facility for video conference calls/classes in each department	The above facilities are part of the need and requirement for better development	150.0	Smart Campus
	Cloud and Data analytics labs for total campus automation and with IOT			
	Entry to all departments/labs using sensor based sliding doors			
	Smart classrooms			
	IT infrastructure (PCs, telephones, wifi, printing and scanning) within 10 feet of everyone			
	Free Open Source Software (FOSS) as policy			
	Access to Information Services / Kiosk for external services	Online systems with save time and money and will be environment friendly	75.0	Smart Campus
	Searchable maps enabled for GPS / Navigation inside campus			
	Electronic signs (Digital signage) for marking entire campus.			
Services	Single point payment facility for utility (gas, electricity etc.)			
	SMS (bulk) to all campus			
	Online cab booking system for outside campus travel			
	Online food ordering from vendors from kiosk / website	Part of Smart campus initiative	80.0	Smart Campus
	In house Printing press for college magazine news letters and Examination Cell			
	Digitization & integration of past official documents and paperless offices			
E-Governance	Online System for information retrieving / tracking requests & approvals			
	Employee dashboards for complete information & service requests			
	Student dashboard for complete information & service requests			
	Online booking of guest house.			
	Online booking facility for hall and classrooms.			
	Online leave application and tracking.			
	Online book recommendation from library for the faculty			
	Searchable scanned circulars for distribution and records			
	Library dashboard linking of Department Library with Central Library.			



Campus	Complete GIS mapping of campus and access to web portal I	GIS will help in proper planning and utilization of space in the campus	100.0	Smart Campus
	Sitting facilities along Main Roads, ground and in other area			
	Establishment of a shopping mall			
	e- Notice facilities over intranet.			
Sustainability				
	Waste management (degradable vs non-degradable waste)	The campus needs to be sustainable and self sufficient	90.0	Smart Campus
	Smart management of electricity			
	Smart management of water			
	Mechanized cleaning for all open areas to reduce the dust pollution.			
	Smart monitoring of Gas leakage in residences / flats			
	24 * 7 power supply across the institute			
Environment	Planting trees as much as possible in a holistic manner and attaching RFID tags for trees	Green campus is the new campus development strategy the world over	80.0	Smart Campus
	Cycle dock (Bicycle sharing system)			
	Creation of Vanrai and Devrai and Fruit plantation and Bamboo plantation			
	Green / Non-green garbage collection / trucking practices (use sensors wherever possible)			
	Treated grey water for horticulture and bathrooms			
	24*7 water supply with intelligent monitoring to minimize waste			
Health Related	Integrated health system enable through campus card (patient / doctors / labs / pharmaceuticals ) Ambulance	Health facilities are core to the institute	30.0	Smart Campus
	Total		819 lakhs	

## **(PHASE 1)**

### **1. Smart cards for all students and employees**

- 1.1 Card based/Biometric attendance system for students.
- 1.2 Access to services (library, lab, hospital, printing, etc.).
- 1.3 Cycle dock (Bicycle sharing system)

### **2. Facilities & infrastructure**

- 2.1 Video conferencing facility in all departments
- 2.2 Motion sensing lights and fans
- 2.3 Smart security (CCTVs for Video Surveillance, etc)
- 2.4 Sensor based doors for entry in Departments & Labs.
- 2.5 Bus tracking using GPS
- 2.6 Smart speed sensors across campus
- 2.7 Free Open Source Software (FOSS) as policy
- 2.8 IT infrastructure (PCs, telephones, wifi, printing and scanning) within 10 feet of everyone

### **3. Access to information services / kiosks**

- 3.1 Searchable maps with GPS
- 3.2 Availability of information kiosks in key locations
- 3.3 Digital display panels at key locations
- 3.4 Smart navigable notice boards
- 3.5 Bulk SMS for common messaging / alerts
- 3.6 Mobile portability for complete ITD website
- 3.7 community engaging portal
- 3.8 Smart interactive features using Web 2.0 in all website
- 3.9 DECT cordless telephony or a soft VoIP client on every smartphone on campus

### **4. Sustainability**

- 4.1 Smart management of electricity
- 4.2 Smart management of water
- 4.3 Smart maintenance and mechanized cleaning
- 4.4 Sensor based waste management (degradable vs non-degradable waste)

## **(PHASE 2)**

### **5. Smart Cards**

- 5.1 Cash free campus and digital wallets
- 5.2 Integrated health system enabled through campus card (patient / doctors/ pharma)

### **6. Facilities & Infrastructure**

- 6.1 Smart meter/panels for electricity consumption
- 6.2 Intelligent water-free bathrooms/toilets.
- 6.3 Smart parking facilities.

### **7. Access to information services / kiosks**

- 7.1 Integration of information of dept. & central library
- 7.2 Digitization & integration of past official documents and paperless offices
- 7.3 Online System for information retrieving / tracking requests & approvals (move towards paperless office)
- 7.4 Dashboard for Employee and students
- 7.5 Digital map/ GIS for over & underground infrastructure
- 7.6 IN house Printing Press

### **8. Sustainability**

- 8.1 Energy generation from the solid waste management
- 8.2 Improve energy consumption (LED lights and Brushless DC BLDC fans
- 8.3 Solar water heaters installed in hostels and residences
- 8.4 Shaded footpaths with solar panels on top
- 8.5 Regenerative systems across footpaths (generate power).
- 8.6 Waste water management to prevent direct/indirect communicable disease



## Proposed Expenditure for New Construction, repairs and maintenance of the campus

### A. New Construction and extension of buildings

Sr. No.	Proposed Item	Area Details	Estimate Amount (Rs. In Lacs )		Justification
1	New Library Building	2584 Sq m	850	7.63 state govt	Separate building is not available
2	Electronic and Telecommunication	2700 sq m	925		Separate building is not available
3.	Class room complex	1000 Sq m	300		Separate building is not available
4	Centre for advanced technology in various	1000 Sq m	300		Separate building is not available
5	Incubation centre of Institute	1500 Sq m	450		Separate building is not available
6	Auditorium of 1500 capacity	750 Sq m	250		Separate building is not available
8	Student sports Activity Centre	475 Sq m	100		Separate building is not available
9	Internet of things Building	750 Sq m	250		Separate building is not available
10	Extension(First floor) of Dean		73.45		For assessment and as a record room
11	Extension(Second floor) PG building	327.62 sq m	45.63		Increase in PG courses
12	Extension(Second floor) PG Hostel	371.35 Sq m	50.00		Increase in PG courses
13	Concrete technology lab	150.00 Sq m	22.19		Existing space is insufficient
14	Automobile Lab	300.00 Sq m	40.00		Existing space is insufficient
15	New Basket Ball ground - excavation,	45.64 Sqm	7.35		Demand from students since last 2
16	Boys/ girls hostel	2128 Sqm	420		
17	SC ST Girls Hostel	1064	210	AICTE Applied	
18	Guest house	1000 Sqm	300		
<b>TOTAL</b>			<b>4593.62</b>		

## B. Maintenance and repair of buildings

Sr. No.	Proposed Item	Area Details	Amount (Rs. In Lacs )	Justification
1	RAILING on GF of main building with stainless steel pipes and teak wood hand rail	84.4 RMT	4.11	To discourage students from sitting in passage.
2	Chain link fencing from fluid mechanics lab up to compound wall near masur road with gate	75 RMT	1.86	To maintain discipline in campus
3	DEAN R & D (CABIN & TOILET BLOCK) - fixing of mat, sliding windows, renovation of toilet block like tiles, plumbing, fixtures etc, colouring, pantry and partition with door	25.25 Sqm	1.65	Building is too old, since constructed in 1960. Refurbishment is essential.
4	Refurbishment of chemistry lab - including experiment tables, otte, plumbing, granite top, furniture for cupboards, water tanks etc	205.11 Sqm	5.75	Demand from chemistry department to cater need of new equipment and renovation. It was budgeted last year but was not
5	Extension of platform (katta) with canopy for entrance near chemistry laboratory	10.85 Sqm	1.05	To provide entrance for new laboratory in science dept.
6	Robotics arena - Roof shed for between chemistry lab and MCA building - providing steel columns including foundation, truss and with pre coated or poly carbonated sheet	130.50 Sqm	4.55	At present it is open to sky. So to provide working environment all over the year.
7	Roof top water harvesting - for all existing buildings in the campus water harvesting including repair and proving new gutters, down take pipes, horizontal pipeline up to tank, construction of sumps or tanks or farm tanks etc	4210.57 Sqm	15.75	To make our premises a smart campus
8	Canopy for pathway between main building and MCA building - proving steel columns. Truss covered with	149.46 Sqm	3.87	To provide connectivity covered passage in two building
9	Roof cover for Open Theatre - providing columns in steel structure with pre coated sheets supported on truss including	1031.32 Sqm	10.75	To conduct college level events for the mob to the tune of 2000 plus audience.
10	Class room no-4 - Providing brick work and plaster to two sides including teak wood door, flooring and aluminium partition along with ceiling in sound proof roof	45	2.17	To separate language lab and cabin for 1 faculty from class room.
11	Fall ceiling & acoustic of auditorium	250Sq	10	



12	Aluminium windows to existing 3 windows of 1m x 2.1 m and 3 windows 2 m x 2.1 m.	18.9 Sqm	0.95	Most of the rooms are not having sliding windows and to maintain dust free environment to
13	Maintenance of heritage building		20.00	Colouring of stone masonry, roof colouring, digital singes
14	Refurbishment of hostels. repair of toilet, , floor, roof ( @ Rs 1650 per Sqm)	9080 Sqm	149.82	
15	Fire Management system of hostels and main building	-	50	
	<b>Total</b>		<b>199.82</b>	

**Total Amount = Table 1+ 2= 4593.62+199.82= 4793.44lakh**

Prof. U. L. Deshpande  
Building Works Committee Member  
Govt. College of Engineering, Karad

## Appendix B - RUSA Components

Facility Type	Infrastructure facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0	0	0	0
	Auditorium	0	0	0	0	0
	Administrative Buildings	0	0	0	0	0
	Laboratory	0	0	0	0	0
	Computer Centre	0	0	0	0	0
	Classrooms (including technologically enabled classrooms)	0	0	0	0	0
	Common rooms for students	0	0	0	0	0
	Canteen/Cafeteria	0	0	0	0	0
	Others (please specify)	0	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0	0
Renovation/Upgradation of existing facilities	New Study Centres	0	0	0	0	0
	Auditorium	0	0	0	0	0
	Administrative Buildings	0	0	0	0	0
	Laboratory	0	0	0	0	0
	Computer Centre	0	0	0	0	0
	Classrooms (including technologically enabled classrooms)	0	0	0	0	0
	Library	0	0	0	0	0
	Common rooms for students	0	0	0	0	0
	Canteen/Cafeteria	0	0	0	0	0



	Others (please specify)	0	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
New equipment/facilities	Lab equipment	0	0	0	0	0
	Computers	0	0	0	0	0
	Books/Journals	0	0	0	0	0
	E-resources	0	0	0	0	0
	Sports Facility	0	0	0	0	0
	Others (Please specify)	0	0	0	0	0
<b>Total in Rs. In lakhs</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Facility Type	Infrastructure facilities	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms/recording Theatre)	80	5.00	3.25	1.75	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00

		NAAC Theme: Teaching Learning & Evaluation	Funds sought from RUSA	Funds from other sources	Private funding if any planned
--	--	--	------------------------	--------------------------	--------------------------------

Facility Type	Infrastructure facilities	Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Renovation/Upgradation of existing facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computers	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	4 Classrooms	1.80	1.17	0.63	0.00
	Library	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
New equipment/facilities	Lab equipment	0	0.00	0.00	0.00	0.00
	Computers	0	0.00	0.00	0.00	0.00
	Books/Journals	0	0.00	0.00	0.00	0.00
	E-resources/software	0	0.00	0.00	0.00	0.00
	Sports Facility	0	0.00	0.00	0.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00
<b>Total in Rs. In lakhs</b>			<b>6.80</b>	<b>4.42</b>	<b>2.38</b>	<b>0.00</b>



Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources(State Govt. and institutional funds)	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	750	250.00	0.00	250.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	450	62.19	40.42	21.77	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	1000	300.00	0.00	300.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Internet of Things Infrastructure and Building (IoT)	750	250.00	125.00	125.00	0.00
	Guest House	1000	300.00	0.00	300.00	0.00
	Incubation centre of Institutes	1500	450.00	292.50	157.50	0.00
	Hostels (Separate for boys and girls)	2128	420.00	0.00	420.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources(State Govt. and institutional funds)	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			

Renovation/ Upgradation of existing facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	250	10.00	0.00	10.00	0.00
	Administrative Buildings	0	20.00	0.00	20.00	0.00
	Laboratory	205.11	5.75	3.74	2.01	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	45	2.17	1.41	0.76	0.00
	Library	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	extension of platform (conopy) for entrance near Chemistry Lab	10.85	1.05	0.00	1.05	0.00
	Roof top water harvesting- for all excisting buildings	4210.57	15.75	0.00	15.75	0.00
	canopy for path way between main building and MCA building - proving steel column	149.46	3.87	0.00	3.87	0.00
	Electronics and Telecommunication	2700	925.00	0.00	925.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources(State Govt. and institutional funds)	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
	Chain link fencing from fluid mechanics lab up to compound wall near masur road with gate	0	1.86	0.00	1.86	0.00

Renovation/ Upgradation of existing facilities	Extension (Second Floor) PG hostel	371.35	50.00	0.00	50.00	0.00
	Extension (Second Floor) of PG Building	327.62	45.63	0.00	45.63	0.00
	Extension (first floor) of Dean Academics	0	73.45	0.00	73.45	0.00
	Upgradation of Dean R & D cabin	25.25	1.65	0.00	1.65	0.00
	railing on GF of main building with stainless steel pipes and Teak Wood hand rail	0	4.11	0.00	4.11	0.00
	Aluminium windows	18.9	0.95	0.00	0.95	0.00
	Conversion to green smart building	0	79.00	39.50	39.50	0.00
	Fire management system of hostel and main building	0	50.00	0.00	50.00	0.00
	Gardening and landscaping (plan attached)	0	86.08	0.00	86.08	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources(State Govt. and institutional funds)	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Renovation/ Upgradation of	Smart campus	0	593.00	296.50	296.50	0.00
	Smart Security across the campus	0	35.00	0.00	35.00	0.00
	roof cover for open theatre- providing columns in steel structures with pricoated sheets supported on truss	1031.32	10.75	0.00	10.75	0.00

existing facilities	Hostels (Separate for boys and girls)	9080	149.82	0.00	149.82	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment (IT)	0	50.00	32.50	17.50	0.00
	Computers	0	30.00	19.50	10.50	0.00
	Books/Journals	0	0.00	0.00	0.00	0.00
	E-resources	0	0.00	0.00	0.00	0.00
	Physical Education Facility	0	0.00	0.00	0.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00
	Library	2584	850.00	552.50	297.50	0.00
<b>Total in Rs. In lakhs</b>			<b>5127.08</b>	<b>1403.57</b>	<b>3723.51</b>	<b>0.00</b>

Facility Type	Infrastructure facilities	NAAC Theme: Student Support & Progression		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Robotic arena providing steel column truss with polycarbonated sheets	130.5	4.55	0.00	4.55	0.00



	Wifi facility, motion sensing light, automatic washing machines	0	17.00	11.05	5.95	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Student Support & Progression		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Renovation/ Upgradation of existing facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00
	Library	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment	0	0.00	0.00	0.00	0.00
	Computers	0	0.00	0.00	0.00	0.00
	Books/Journals	0	0.00	0.00	0.00	0.00
	E-resources	0	0.00	0.00	0.00	0.00
	Sports Facility	475	100.00	0.00	100.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00
	New basket ball ground	45.64	7.35	0.00	7.35	0.00

<b>Total in Rs. In lakhs</b>			<b>128.90</b>	<b>11.05</b>	<b>117.85</b>	<b>0.00</b>
------------------------------	--	--	---------------	--------------	---------------	-------------

Facility Type	Infrastructure facilities	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	E-governance	0	95.00	47.50	47.50	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00

		NAAC Theme: Governance, Leadership & Management	Funds sought from RUSA	Funds from other sources	Private funding if any planned
--	--	---	------------------------	--------------------------	--------------------------------

Facility Type	Infrastructure facilities	Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Renovation/ Upgradation of existing facilities	New Study Centres	0	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00
	Library	0	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment	0	0.00	0.00	0.00	0.00
	Computers	0	0.00	0.00	0.00	0.00
	Books/Journals	0	0.00	0.00	0.00	0.00
	E-resources	0	0.00	0.00	0.00	0.00
	Sports Facility	0	0.00	0.00	0.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00
<b>Total in Rs. In lakhs</b>		<b>0</b>	<b>95.00</b>	<b>47.50</b>	<b>47.50</b>	<b>0.00</b>

		NAAC Theme: Institutional Value and Best practices	Funds sought from RUSA	Funds from other sources	Private funding if any planned
--	--	--	------------------------	--------------------------	--------------------------------

Facility Type	Infrastructure facilities	Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
Creation of new facilities	New Study Centres	0	0	0	0	0
	Auditorium	0	0	0	0	0
	Administrative Buildings	0	0	0	0	0
	Laboratory	0	0	0	0	0
	Computer Centre	0	0	0	0	0
	Classrooms (including technologically enabled classrooms with recording facility)	0	50	25	25	0
	Common rooms for students	0	0	0	0	0
	Canteen/Cafeteria	0	0	0	0	0
	Others (please specify)	0	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)			
	New Study Centres	0	0	0	0	0
	Auditorium	0	0	0	0	0



Renovation/ Upgradation of existing facilities	Administrative Buildings	0	0	0	0	0
	Laboratory	0	0	0	0	0
	Computer Centre	0	0	0	0	0
	Classrooms (including technologically enabled classrooms)	0	0	0	0	0
	Laibrary	0	0	0	0	0
	Common rooms for students	0	0	0	0	0
	Canteen/Cafeteria	0	0	0	0	0
	Others (please specify)	0	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0	0
New equipment/ facilities	Lab equipment	0	0	0	0	0
	Computers	0	0	0	0	0
	Books/Journals	0	0	0	0	0
	E-resources	0	0	0	0	0
	Sports Facility	0	0	0	0	0
	Others (Please specify)	0	0	0	0	0
<b>Total in Rs. In lakhs</b>		<b>0</b>	<b>50</b>	<b>25</b>	<b>25</b>	<b>0</b>

**Summary of Funds required in Infrastructure component**

	Details	Number of units	Funds needed 20172020	Funds sought from RUSA	Funds from other sources (State Government/ Institute)	Private funding if any planned
Creation of new facilities	New Study Centres		0.00	0.00	0.00	0.00
	Auditorium		250.00	0.00	250.00	0.00
	Administrative Buildings		0.00	0.00	0.00	0.00
	Laboratory		62.19	40.42	21.77	0.00
	Computer Centre		0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)		355.00	28.25	326.75	0.00
	Common rooms for students		0.00	0.00	0.00	0.00
	Canteen/Cafeteria		0.00	0.00	0.00	0.00
	Others (please specify)	4	1116.55	476.05	640.50	0.00
	Hostels (Separate for boys and girls)		420.00	0.00	420.00	0.00
	Toilets (Separate for boys and girls)		0.00	0.00	0.00	0.00

	Details	Number of units	Funds needed 20172020	Funds sought from RUSA	Funds from other sources (State Government/ Institute)	Private funding if any planned
	New Study Centres		0.00	0.00	0.00	0.00
	Auditorium	1	10.00	0.00	10.00	0.00
	Administrative Buildings	1	20.00	0.00	20.00	0.00

Renovation/ Upgradation of existing facilities	Laboratory	1	5.75	3.74	2.01	0.00
	Computer Centre		0.00	0.00	0.00	0.00
	Library		0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)		3.97	2.58	1.39	0.00
	Common rooms for students		0.00	0.00	0.00	0.00
	Canteen/Cafeteria		0.00	0.00	0.00	0.00
	Others (please specify)		1977.15	336.00	1641.15	0.00
	Hostels (Separate for boys and girls)		149.82	0.00	149.82	0.00
	Toilets (Separate for boys and girls)		0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment		50.00	32.50	17.50	0.00
	Computers		30.00	19.50	10.50	0.00
	Books/Journals		0.00	0.00	0.00	0.00
	E-resources		0.00	0.00	0.00	0.00
	Sports Facility		100.00	0.00	100.00	
	Physical Education		0.00	0.00	0.00	0.00
	Others (Please specify)		857.35	552.50	304.85	0.00
<b>Total in Rs. In lakhs</b>			<b>5407.78</b>	<b>1491.54</b>	<b>3916.24</b>	<b>0.00</b>

Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Prinicipal Investigator	Co Prinicipal Investigator
1	Water and Waste Water Charecterization and Testing	Waste Water Charecterization and Testing	Civil			Prof. (Dr.) M. N. Hedao	

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA Funds from other Private sources funding if any planned		
1	Civil work for new centre if any	40	0	0	40	26	14	0
2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Contingency (Please specify)	0	5	5	10	6.5	3.5	0
4	Equipment (Item wise)	0	0	0	0	0	0	0
	Automic absorption Spectro Photometer	0	10	0	10	6.5	3.5	0
	TOC analyser	0	15	0	15	9.75	5.25	0
	Gas Chromatography	0	10	0	10	6.5	3.5	0
5	Travel	0	0	0	0	0	0	0
6	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0
7	Others	0	0	0	0	0	0	0
	<b>Total (in Rs.)</b>	<b>40.5</b>	<b>40.5</b>	<b>5.5</b>	<b>86.5</b>	<b>56.225</b>	<b>30.275</b>	<b>0</b>

Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Principal Investigator	Co Principal Investigator
1	Non- Destructive Testing and Structural Audit	Non- Destructive Testing	Civil			Prof. (Dr.) Y. M. Ghugal	

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from	Funds from	Private funding if any
1	Civil work for new centre if any	40	0	0	40	26	14	0



2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Contingency (Please specify)	0	10	10	20	13	7	0
4	Equipment (Item wise)	0	0	0	0	0	0	0
	Rebound Hammer	0	2	0	2	1.3	0.7	0
	Ultrasonic Pulse Velocity	0	2.38	0	2.38	1.547	0.833	0
	Rebar Locator (Profometer)	0	3.3	0	3.3	2.145	1.155	0
	Corrosion meter	0	5.57	0	5.57	3.6205	1.9495	0
	Geo Scanner	0	20	0	20	13	7	0
	E- Meter	0	10	0	10	6.5	3.5	0

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from	Funds from	Private funding if any
	Concrete Cover Cutter	0	2.39	0	2.39	1.5535	0.8365	0
	Data Acquisition	0	7	0	7	4.55	2.45	0
	SERVO control UTM 100 Tonne	0	100	0	100	65	35	0

	SERVO control UTM 10 Tonne	0	15	0	15	9.75	5.25	0
		0	0	0	0	0	0	0
5	Travel	0	2	3	5	3.25	1.75	0
6	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0
7	Others	0	0	0	0	0	0	0
	<b>Total (in Rs.)</b>	<b>40.5</b>	<b>180.14</b>	<b>13.5</b>	<b>234.14</b>	<b>152.191</b>	<b>81.949</b>	<b>0</b>

Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Principal Investigator	Co Principal Investigator
1	Industrial Measurement, Testing and Calibration Centre	Industrial Measurement, Testing and Calibration Centre	Electrical			Prof. (Dr.) P. M. Joshi	

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources	Private funding if any planned
1	Civil work for new centre if any	40	0	0	40	26	14	0
2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Contingency (Please specify)	0	6	4	10	6.5	3.5	0
4	Equipment (Item wise)	0	0	0	0	0	0	0
	Precision analog instruments (Voltsmeters, Ammeters, etc.)	0	15	0	15	9.75	5.25	0
	Precision Digital instruments (Voltsmeters, Ammeters, etc.)	0	15	0	15	9.75	5.25	0
	Precision Standard Sources	0	30	0	30	19.5	10.5	0

	Precision Standard Transducers	0	15	0	15	9.75	5.25	0
		0	0	0	0	0	0	0

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources	Private funding if any planned
5	Travel	0	0	0	0	0	0	0
6	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0
7	Others	0	0	0	0	0	0	0
	<b>Total (in Rs.)</b>	<b>40.5</b>	<b>81.5</b>	<b>4.5</b>	<b>126.5</b>	<b>82.225</b>	<b>44.275</b>	<b>0</b>



Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Principal Investigator	Co Principal Investigator
1	Power Electronics Drives and Renewable Energy Systems Centre	Power Electronics Drives and Renewable Energy Systems Centre	Electrical			Prof. (Dr.) P. M. Joshi	

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources	Private funding if any planned
1	Civil work for new centre if any	40	0	0	40	26	14	0
2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Contingency (Please specify)	0	4	3	7	4.55	2.45	0
4	Equipment (Item wise)	0	0	0	0	0	0	0
	DC-DC Convertors with Controllers	0	5	0	5	3.25	1.75	0
	AC-DC Convertors	0	10	0	10	6.5	3.5	0
	DC-AC Invertors	0	50	0	50	32.5	17.5	0
	Controller/ Control kits with softwares for Convertors	0	25	0	25	16.25	8.75	0
	Renewable Energy Sources for Laboratory Prototypes and Simulators	0	30	0	30	19.5	10.5	0
5	Travel	0	0	0	0	0	0	0
6	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0

7	Others	0	0	0	0	0	0	0
	<b>Total (in Rs.)</b>	<b>40.5</b>	<b>124.5</b>	<b>3.5</b>	<b>168.5</b>	<b>109.525</b>	<b>58.975</b>	<b>0</b>

Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Principal Investigator	Co Principal Investigator
1	Condition Monitoring and Supervisory Control and Data Acquisition System	Condition Monitoring of Plants and Machinaries	Mechanical			Prof. (Mrs.)M. H. Yadav	SKF India, LTD

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources	Private funding if any planned (SKF India Ltd.)
1	Civil work for new centre if any	40	0	0	40	26	14	0
2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Contingency (Please specify)	0	3	3	6	3.9	2.1	0
4	Equipment (Item wise)	0	0	0	0	0	0	0
	Bearing Maintenace Cell	0	15	0	15	9.75	3.75	1.5
	Alignment Cell	0	12	0	12	7.8	1.7	2.5
	Basic Condition Monitoring Cell	0	10	0	10	6.5	2.75	0.75
	Display Boards	0	8	0	8	5.2	1.8	1
	Self learning tool (22 Licenses)	0	7.5	0	7.5	4.875	0.625	2
	Supervisory control and Data Acquisition System (SCADA)	0	5	0	5	3.25	1.75	0

5	Travel	0	2	2	4	2.6	1.4	0
6	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0
7	Others	0	0	0	0	0	0	0
	<b>Total (in Rs.)</b>	<b>40.5</b>	<b>63</b>	<b>5.5</b>	<b>109</b>	<b>70.85</b>	<b>30.4</b>	<b>7.75</b>

Sr no	Project details	Name of the Project	Department Where Located	Collaborating Departments within University	Collaboration with other universities	Principal Investigator	Co Principal Investigator
1	Research in Thermal, Fluid and Energy Engineering	Development of hybrid energy systems	Mechanical Engineering			Prof.(Dr). R. K. Shrivastava	
		Development of electronic cooling/heat transfer	Mechanical Engineering		IIT Bombay	Prof.(Dr). S. S. Mohite	Prof. V. P. Gaikwad, DKTE, Ichalkaranji
		Improvising Flow Measuring Techniques	Mechanical Engineering			Prof.(Dr). R. K. Shrivastava	Mr. Atul Bachal, Endress and Hauser Ltd., Aurangabad

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources (Received under AICTE RPS)	Private funding if any planned
1	Civil work for new centre if any	40	0	0	40	26	14	0
2	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
3	Staff (designation wise rows are to be filled)		0	0	0	0	0	0
4	Staff (designation wise rows are to be filled)	0	0	0	0	0	0	0
5	Contingency (Please specify)	0	4	4	8	5.2	2.8	0
6	Equipment (Item wise)	0	0	0	0	0	0	0

	Solar PV Training and Research System	0	2.25	0	2.25	1.4625	0.7875	0
	Solar PV Grid Tied Training System	0	3.7	0	3.7	2.405	1.295	0
	Solar PV Emulator	0	4.9	0	4.9	3.185	1.715	0
	Thermal Energy Storage Training System	0	5	0	5	3.25	1.75	0

Sr. No.	Budget Heads	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources (Received under AICTE RPS)	Private funding if any planned
	Solar Concentrator Training System	0	5.2	0	5.2	3.38	1.82	0
	Wind Energy Training System	0	7.5	0	7.5	4.875	2.625	0
	Wind Emulator	0	8.2	0	8.2	5.33	2.87	0
	Thermal Energy Storage Training System	0	6.75	0	6.75	4.3875	2.3625	0
	Solar And wind powered hybrid power	0	3	0	3	1.95	1.05	0
	Solar distill plant	0	0.6	0	0.6	0.39	0.21	0
	Solar Parabolic cooker	0	1.5	0	1.5	0.975	0.525	0
	Solar water heating system test rig	0	1.5	0	1.5	0.975	0.525	0
	Solar Pump Test Rig (AC & DC)	0	10	0	10	6.5	3.5	0
	Precision Pyranometer with data logger and shading ring	0	1	0	1	0.65	0.35	0
	Pyrheliometer with solar tracks data logger	0	5	0	5	3.25	1.75	0
	Small working model of Gassier	0	3.65	0	3.65	2.3725	1.2775	0



	Digital sunshine recorder	0	1.2	0	1.2	0.78	0.42	0
	Solar radiation sensor	0	0.6	0	0.6	0.39	0.21	0
	Wind speed and direction meter	0	0.65	0	0.65	0.4225	0.2275	0
	Coriolis Flow Meter	0	12	0	12	7.8	4.2	0
	Data Acquisition System (40 Channels)	0	30	0	30	19.5	10.5	0
	Thermal Imaging Camera	0	6	0	6	3.9	2.1	0
	Peristaltic pump	0	3	0	3	1.95	1.05	0
7	Travel	1	2	3	6	3.9	2.1	0
8	Institutional/Administrative overheads	0.5	0.5	0.5	1.5	0.975	0.525	0
9	Others				0	0	0	0
	<b>Total (in Rs.)</b>	<b>41.5</b>	<b>129.7</b>	<b>7.5</b>	<b>178.7</b>	<b>116.155</b>	<b>62.545</b>	<b>0</b>

Sr No	Name of the Project	Department Where Located	Principal Investigator	2017-18	2018-19	2019-20	Total	Funds sought from RUSA	Funds from other sources	Private funding if any planned
1	Waste Water Charecterization and Testing	Civil	Prof. (Dr.) M. N. Hedao	40.50	40.50	5.50	86.50	56.23	30.28	0.00
2	Non- Destructive Testing	Civil	Prof. (Dr.) Y. M. Ghugal	40.50	180.14	13.50	234.14	152.19	81.95	0.00
3	Industrial Measurement, Testing and Calibration Centre	Electrical	Prof. (Dr.) P. M. Joshi	40.50	81.50	4.50	126.50	82.23	44.28	0.00
4	Power Electronics Drives and Renewable Energy Systems Centre	Electrical	Prof. (Dr.) P. M. Joshi	40.50	124.50	3.50	168.50	109.53	58.98	0.00

5	Condition Monitoring of Plants and Machinaries	Mechanical	Prof. (Mrs.)M. H. Yadav	40.50	63.00	5.50	109.00	70.85	30.40	7.75
6	Research in Thermal, Fluid and Energy Engineering	Mechanical	Prof.(Dr). S. S. Mohite, Prof.(Dr). R. K. Shrivastava	41.50	129.70	7.50	178.70	116.16	62.55	0.00
			<b>Total</b>	<b>244.00</b>	<b>619.34</b>	<b>40.00</b>	<b>903.34</b>	<b>587.17</b>	<b>308.42</b>	<b>7.75</b>

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources	Private funding if any planned
										Physical numbers	Financial value (Rs. in lakh)			
Equity and Inclusion	yes	Better equity	SC	Estimated increase in GER for these categories	In %	0	0	0	Equal Opportunity Cells		0	0	0	0
Adherence to merit-based admission of students	Strictly on merit basis as per Government norms		ST			0	0	0	Plan to Create remedial classes computer classes, etc.		0	0	0	0
Adherence to the reservation policy of State government in admission and faculty recruitment.	yes		OBC			0	0	0	Hostels (SC/ST/OBC/Female s)		0	0	0	0
50% of hostel seats should be reserved for socially and economically weaker sections	yes		Women			0	0	0	Disabled Friendly Campus		0	0	0	0
									Enhancing Soft Skills of Students		0	0	0	0
									Other innovative schemes/programs to enhance equity & inclusion ( Please		0	0	0	0
											0	0	0	0

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned
										Physical numbers	Financial value (Rs. in lakh)			

Equity and Inclusion		Better equity	SC	Estimated increase in GER for these categories	In %	0	0	0	Equal Opportunity Cells		0	0	0	0
Adherence to merit-based admission of students						0	0	0	Plan to Create remedial classes computer classes, etc.		0	0	0	0
Adherence to the reservation policy of State government in admission and			ST			0	0	0	Hostels (SC/ST/OBC/Females)		0	0	0	0
50% of hostel seats should be reserved for socially and			OBC											
			Women			0	0	0	Disabled Friendly Campus		0	0	0	0
									Enhancing Soft Skills of Students		0	0	0	0
									Other innovative schemes/ programs to enhance equity & inclusion (Please specify)		0	0	0	0
											0	0	0	0

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources	Private funding if any planned
										Physical numbers	Financial value (Rs. in lakh)			

Equity and Inclusion		Better equity	SC	Estimated increase in GER for these categories	In %	0	0	0	Equal Opportunity Cells		0	0	0	0
Adherence to merit-based admission of students			ST			0	0	0	Plan to Create remedial classes computer classes, etc.		0	0	0	0
Adherence to the reservation policy of State government in admission and faculty recruitment.			OBC			0	0	0	Hostels (SC/ST/OBC/Females)		0	0	0	0
50% of hostel seats should be reserved for socially and economically weaker sections			Women			0	0	0	Disabled Friendly Campus		0	0	0	0
									Enhancing Soft Skills of Students		0	0	0	0
									Other innovative schemes/programs to enhance equity & inclusion ( Please specify)		0	0	0	0
											0	0	0	0

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Student support & progression		Funds sought from RUSA	Funds from other sources/ AICTE	Private funding if any planned/ Institute
										Physical numbers	Financial value (Rs. in lakh)			
Equity and Inclusion			SC			5	5	5	Equal Opportunity Cells					

Adherence to merit-based admission of students	As per Government Norms	Better equity	ST	Estimated increase in GER for these categories	In %	5	6	6	Plan to Create remedial classes computer classes, etc.	1600	140	91	0	49
Adherence to the reservation policy of State government in admission and faculty recruitment.	As per Govt. of Maharashtra Reservation Policy		OBC			5	6	6	Hostels (SC/ST/OBC/Females)	120 Students (SC ST Girls)	210	0	210	0
50% of hostel seats should be reserved for socially and economically weaker sections	YES		Women			8	10	10	Disabled Friendly Campus	2 lifts, 4 Toilets, 10 Ramps	7.5	4.875	0	2.625
									Enhancing Soft Skills of Students	3000	240	156	0	84
									Other innovative schemes/programs to enhance equity & inclusion ( Other Curricular and co-curricular activities)	4500	150	97.5	0	52.5
<b>Total (in lakh)</b>											<b>747.5</b>	<b>349.375</b>	<b>210</b>	<b>188.125</b>

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Governance, leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned
										Physical numbers	Financial value (Rs. in lakh)			



Equity and Inclusion		Better equity	SC	Estimated increase in GER for these categories	In %	0	0	0	Equal Opportunity Cells		0	0	0	0
Adherence to merit-based admission of students			ST			0	0	0	Plan to Create remedial classes computer classes, etc.		0	0	0	0
Adherence to the reservation policy of State government in admission and faculty recruitment.			OBC			0	0	0	Hostels (SC/ST/OBC/ Females)		0	0	0	0
50% of hostel seats should be reserved for socially and economically weaker sections			Women			0	0	0	Disabled Friendly Campus		0	0	0	0
									Enhancing Soft Skills of Students		0	0	0	0
									Other innovative schemes/programs to enhance equity & inclusion ( Please specify)		0	0	0	0
											0	0	0	0

Commitment from the Institution	Remark	Outcome	Output Indicator	Indicator	Unit	2017-18	2018-19	2019-20	Facilities	NAAC Theme: Best Practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned
										Physical numbers	Financial value (Rs. in lakh)			
Equity and Inclusion			SC						Equal Opportunity Cells		0	0	0	0

Adherence to merit-based admission of students		Better equity	ST	Estimated increase in GER for these categories	In %	0	0	0	Plan to Create remedial classes computer classes, etc.		0	0	0	0
Adherence to the reservation policy of State government in admission and faculty recruitment.			OBC			0	0	0	Hostels (SC/ST/OBC/Females)		0	0	0	0
50% of hostel seats should be reserved for socially and economically weaker sections			Women			0	0	0	Disabled Friendly Campus		0	0	0	0
									Enhancing Soft Skills of Students		0	0	0	0
									Other innovative schemes/programs to enhance equity & inclusion ( Please specify)		0	0	0	0
											0	0	0	0

### Summary of Funds required in Equity component

Details	Funds needed 2017-2020	Funds sought from RUSA	Funds from other sources/ AICTE	Private funding if any planned/ Institute
Equal Opportunity Cells				
Plan to Create remedial classes computer classes, etc.	140.00	91.000	0.00	49.000
Hostels (SC/ST/OBC/Females)	210.00	0.000	210.00	0.000
Disabled Friendly Campus	7.50	4.875	0.00	2.625

Enhancing Soft Skills of Students	240.00	156.000	0.00	84.000
Other innovative schemes/programs to enhance equity & inclusion ( Please specify)	150.00	97.500	0.00	52.500
<b>Total</b>	<b>747.50</b>	<b>349.375</b>	<b>210.00</b>	<b>188.125</b>

Details	Unit	NAAC Theme: Curricular Aspects
		University
Total Assistant Professors/associate/ permanent (proposed)	Number	109
Existing or new	Yes/No	51
if existing sanctioned posts filled	Ratio	15.53
STR	Ratio	33.20
FRS grants proposed	Number	30
Student teacher ratio	Ratio	
FRS grants Proposed	in lakhs	526.50

Description/Position*	Total	2017-2018	2018-2019	2019-2020	Funds sought from RUSA	Funds from other sources (Institute Fund)	Private funding if any planned
Assistant	10	60	60	60	117.00	63.00	0
Associate	10	90	90	90	175.50	94.50	0
Prof	10	120	120	120	234.00	126.00	0
<b>Total</b>	<b>30</b>	<b>270</b>	<b>270</b>	<b>270</b>	<b>526.50</b>	<b>283.50</b>	<b>0</b>

\* Faculty will be recruited on adjunct basis (AICTE norms) who will work as Joint-investigator in sponsored and Consultancy projects, bringing in significant expertise to match industry needs and expectations and contribute for academic excellence.

Details	Unit	NAAC Theme: Teaching Learning & Evaluation	Funds sought from RUSA	Funds from other sources	Private funding if any planned
		University			
Total Assistant Professors/associate/ professor permanent (proposed)	Number	109			
Existing or new	Yes/No	51			
if existing sanctioned posts filled	Ratio	15.53			
STR	Ratio	33.20			
FRS grants proposed	Number	30			
Student teacher ratio	Ratio				
FRS grants Proposed	in lakhs	526.50			

Details	Unit	NAAC Theme: Infrastructure & Learning resierces	Funds sought from RUSA	Funds from other sources	Private funding if any planned
		University			
Total Assistant Professors/associate/ professor permanent (proposed)	Number	109			

Existing or new	Yes/No	51
if existing sanctioned posts filled	Ratio	15.53
STR	Ratio	33.20
FRS grants proposed	Number	30
Student teacher ratio	Ratio	
FRS grants Proposed	in lakhs	526.50

Details	Unit	NAAC Theme: Student Support & Progression	Funds sought from RUSA	Funds from other sources	Private funding if any planned
		University			
Total Assistant Professors/associate/ professor permanent (proposed)	Number	109			
Existing or new	Yes/No	51			
if existing sanctioned posts filled	Ratio	15.53			
STR	Ratio	33.20			
FRS grants proposed	Number	30			
Student teacher ratio	Ratio				
FRS grants Proposed	in lakhs	526.50			

Details	Unit	NAAC Theme: Governance, Leadership & Management	Funds from other sources	Private funding if any planned
---------	------	---	--------------------------	--------------------------------



		University	Funds sought from RUSA
Total Assistant Professors/associate/ professor permanent (proposed)		109	
Existing or new	Number Yes/No	51	
if existing sanctioned posts filled	Ratio	15.53	
STR	Ratio	33.20	
FRS grants proposed	Number	30	
Student teacher ratio	Ratio		
FRS grants Proposed	in lakhs	526.50	

Details	Unit	NAAC Theme: Institutional Values & Best Practices	Funds sought from RUSA	Funds from other sources	Private funding if any planned
		University			
Total Assistant Professors/associate/ professor permanent (proposed)	Number	109			
Existing or new	Yes/No	51			
if existing sanctioned posts filled	Ratio	15.53			
STR	Ratio	33.20			

FRS grants proposed	Number	30
Student teacher ratio	Ratio	
FRS grants Proposed	in lakhs	526.50

**Summary of Funds required in faculty recruitment component**

Sr No		Funds needed 2017-2020	Funds sought from RUSA	Funds from other sources (Institute Funds/State govt.)	Private funding if any planned
1	Curricular Aspects	810	526.5	283.5	0
Total in Rs. In lakhs		810	526.5	283.5	0

Facility Type	Infrastructure facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources (institute fund)	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources (institute fund)	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
	New Study Centres	0	0.00	0.00	0.00	0.00	0.00

Renovation/ Upgradation of existing facilities	Auditorium	0	0.00	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment	0	0.00	0.00	0.00	0.00	0.00
	Computers	30	24.00	15.60	8.40	0.00	0.00
	Books/Journals	50	150.00	97.50	52.50	0.00	0.00
	E-resources	50	150.00	97.50	52.50	0.00	0.00
	Sports Facility	0	0.00	0.00	0.00	0.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources (institute fund)	Private funding if any planne	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
	No. of refresher courses to be organized for	40					
	Academic faculty	30	150.00	97.50	52.50	0.00	0.00

Courses	Administrative and support staff	10	50.00	32.50	17.50	0.00	0.00
	Consumables	20	8.00	5.20	2.80	0.00	0.00
	Contingency	40	20.00	13.00	7.00	0.00	0.00
	Program cost	0	0.00	0.00	0.00	0.00	0.00
	% of vacancy in permanent faculty position	53.21		0.00	0.00	0.00	0.00
	Other* (Honorarium/Travel)	200	30.00	19.50	10.50	0.00	0.00
<b>Total in Rs. In lakhs</b>			582.00	378.30	203.70	0.00	0.00

Facility Type	Infrastructure facilities	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre						
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)						



	Toilets (Separate for boys and girls)		0	0	0	0	0
--	---------------------------------------	--	---	---	---	---	---

Facility Type	Infrastructure facilities	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory						
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)						
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals						
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0

	Others (Please specify)		0	0	0	0	0
--	-------------------------	--	---	---	---	---	---

Facility Type	Infrastructure facilities	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty						
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position						
	Other* (Honorarium/Travel)		0	0	0	0	0
<b>Total in Rs. In lakhs</b>		0	0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other* (Honorarium/Travel)		0	0	0	0	0
<b>Total in Rs. In lakhs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

		NAAC Theme: Student Support & Progression	Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
--	--	---	------------------------	--------------------------	--------------------------------	------------------------------

Facility Type	Infrastructure facilities	Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0



	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Student Support & Progression		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other* (Honorarium/Travel)		0	0	0	0	0
<b>Total in Rs. In lakhs</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Facility Type	Infrastructure facilities	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				

Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0

Renovation/Upgradation of existing facilities	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0

	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other* (Honorary/Travel)		0	0	0	0	0
<b>Total in Rs. In lakhs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Facility Type	Infrastructure facilities	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
	New Study Centres		0	0	0	0	0



Renovation/Upgradation of existing facilities	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0

Facility Type	Infrastructure facilities	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other* (Honorarium/Travel)		0	0	0	0	0
Total in Rs. In lakhs		0	0	0	0	0	0

**Summary of Funds required in Faculty improvement component**

	Details	Funds needed 2017-2020	Funds sought from RUSA	Funds from other sources	Private funding if any planned
Creation of new facilities	New Study Centres	0	0	0	0
	Auditorium	0	0	0	0
	Administrative Buildings	0	0	0	0
	Laboratory	0	0	0	0
	Computer Centre	0	0	0	0
	Classrooms (including technologically enabled classrooms)	0	0	0	0

	Common rooms for students	0	0	0	0
	Canteen/Cafeteria	0	0	0	0
	Others (please specify)	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0
Renovation/ Upgradation of existing facilities	New Study Centres	0	0	0	0
	Auditorium	0	0	0	0
	Administrative Buildings	0	0	0	0
	Laboratory	0	0	0	0
	Computer Centre	0	0	0	0
	Classrooms (including technologically enabled classrooms)	0	0	0	0
	Common rooms for students		0	0	0
	Canteen/Cafeteria	0	0	0	0
	Others (please specify)	0	0	0	0
	Hostels (Separate for boys and girls)	0	0	0	0
	Toilets (Separate for boys and girls)	0	0	0	0

	Details	Funds needed 2017-2020	Funds sought from RUSA	Funds from other sources	Private funding if any planned
New equipment/	Lab equipment	0			0
	Computers	24	15.6	8.4	0

facilities	Books/Journals	150	97.5	52.5	0
	E-resources	150	97.5	52.5	0
	Sports Facility	0	0	0	0
	Others (Please specify)	0	0	0	0
Courses	No. of refresher courses to be organized	0	0	0	0
	Academic faculty	150	97.5	52.5	0
	Administrative and support staff	50	32.5	17.5	0
	Consumables	8	5.2	2.8	0
	Contingency	20	13	7	0
	Program cost	0	0	0	0
	% of vacancy in permanent faculty position	0	0	0	0
	Other* (Honorary/Travel)	30	19.5	10.5	0
Total in Rs. In lakhs		582	378.3	203.7	0

Facility Type	Details	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)	0	0		
Creation of new facilities	New Study Centres	0	0.00	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00	0.00
	Laboratory	0	0.00	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
	New Study Centres	0	0.00	0.00	0.00	0.00	0.00
	Auditorium	0	0.00	0.00	0.00	0.00	0.00
	Administrative Buildings	0	0.00	0.00	0.00	0.00	0.00

Renovation/Upgradation of existing facilities	Laboratory	0	0.00	0.00	0.00	0.00	0.00
	Computer Centre	0	0.00	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0	0.00	0.00	0.00	0.00	0.00
	Common rooms for students	0	0.00	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0	0.00	0.00	0.00	0.00	0.00
	Others (please specify)	0	0.00	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0	0.00	0.00	0.00	0.00	0.00

Facility Type	Details	NAAC Theme: Curricular Aspects		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)	0	0		
New equipment/facilities	Lab equipment	0	0.00	0.00	0.00	0.00	0.00
	Computers	0	0.00	0.00	0.00	0.00	0.00
	Books/Journals	0	0.00	0.00	0.00	0.00	0.00
	E-resources	0	0.00	0.00	0.00	0.00	0.00
	Sports Facility	0	0.00	0.00	0.00	0.00	0.00
	Others (Please specify)	0	0.00	0.00	0.00	0.00	0.00
Courses	No. of refresher courses to be organized	30					
	Academic faculty	150	4.50	2.93	1.58	0.00	0.00
	Administrative and support staff	60	1.80	1.17	0.63	0.00	0.00
	Consumables	3000kg@ Rs. 100/kg	3.00	1.95	1.05	0.00	0.00
	Contingency	Rs. 20000/course	6.00	3.90	2.10	0.00	0.00
	Program cost	Rs. 10000/course	3.00	1.95	1.05	0.00	0.00



	% of vacancy in permanent faculty position	0	0.00	0.00	0.00	0.00	0.00
	Other*	0	0.00	0.00	0.00	0.00	0.00
<b>Total in Rs. In lakhs</b>			18.30	11.90	6.41	0.00	

Facility Type	Details	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0

Renovation/Upgradation of existing facilities	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Details	NAAC Theme: Teaching Learning & Evaluation		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0

	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other*		0	0	0	0	0
<b>Total in Rs. In lakhs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Facility Type	Details	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0
	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0

Renovation/Upgradation of existing facilities	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Details	NAAC Theme: Infrastructure & Learning Resources		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0

	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0
	Other*		0	0	0	0	0
<b>Total in Rs. In lakhs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Facility Type	Details	NAAC Theme: Student Support & Progression		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	
	Auditorium		0	0	0	0	
	Administrative Buildings		0	0	0	0	
	Laboratory		0	0	0	0	
	Computer Centre		0	0	0	0	
	Classrooms (including technologically enabled classrooms)		0	0	0	0	
	Common rooms for students		0	0	0	0	
	Canteen/Cafeteria		0	0	0	0	
	Others (please specify)		0	0	0	0	
	Hostels (Separate for boys and girls)		0	0	0	0	
	Toilets (Separate for boys and girls)		0	0	0	0	
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	
	Auditorium		0	0	0	0	
	Administrative Buildings		0	0	0	0	
	Laboratory		0	0	0	0	
	Computer Centre		0	0	0	0	
	Classrooms (including technologically enabled classrooms)		0	0	0	0	
	Common rooms for students		0	0	0	0	
	Canteen/Cafeteria		0	0	0	0	





	Sports Facility		0	0	0	0	0	0	0
	Others (Please specify)		0	0	0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0	0	0
	Academic faculty		0	0	0	0	0	0	0
	Administrative and support staff		0	0	0	0	0	0	0
	Consumables		0	0	0	0	0	0	0
	Contingency		0	0	0	0	0	0	0
	Program cost		0	0	0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0	0	0
	Other*		0	0	0	0	0	0	0
Total in Rs. In lakhs			0	0	0	0	0	0	0

Facility Type	Details	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	
	Auditorium		0	0	0	0	
	Administrative Buildings		0	0	0	0	
	Laboratory		0	0	0	0	
	Computer Centre		0	0	0	0	
	Classrooms (including technologically enabled classrooms)		0	0	0	0	
	Common rooms for students		0	0	0	0	
	Canteen/Cafeteria		0	0	0	0	
	Others (please specify)		0	0	0	0	
	Hostels (Separate for boys and girls)		0	0	0	0	
	Toilets (Separate for boys and girls)		0	0	0	0	
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	
	Auditorium		0	0	0	0	
	Administrative Buildings		0	0	0	0	
	Laboratory		0	0	0	0	
	Computer Centre		0	0	0	0	
	Classrooms (including technologically enabled classrooms)		0	0	0	0	
	Common rooms for students		0	0	0	0	
	Canteen/Cafeteria		0	0	0	0	

	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

Facility Type	Details	NAAC Theme: Governance, Leadership & Management		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	
	Computers		0	0	0	0	
	Books/Journals		0	0	0	0	
	E-resources		0	0	0	0	

	Sports Facility		0	0	0	0	0	0
	Others (Please specify)		0	0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0	0
	Academic faculty		0	0	0	0	0	0
	Administrative and support staff		0	0	0	0	0	0
	Consumables		0	0	0	0	0	0
	Contingency		0	0	0	0	0	0
	Program cost		0	0	0	0	0	0
	% of vacancy in permanent faculty position		0	0	0	0	0	0
	Other*		0	0	0	0	0	0
Total in Rs. In lakhs			0	0	0	0	0	0

Facility Type	Details	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
Creation of new facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0

	Toilets (Separate for boys and girls)		0	0	0	0	0
Renovation/Upgradation of existing facilities	New Study Centres		0	0	0	0	0
	Auditorium		0	0	0	0	0
	Administrative Buildings		0	0	0	0	0
	Laboratory		0	0	0	0	0
	Computer Centre		0	0	0	0	0
	Classrooms (including technologically enabled classrooms)		0	0	0	0	0
	Common rooms for students		0	0	0	0	0
	Canteen/Cafeteria		0	0	0	0	0
	Others (please specify)		0	0	0	0	0
	Hostels (Separate for boys and girls)		0	0	0	0	0
	Toilets (Separate for boys and girls)		0	0	0	0	0

Facility Type	Details	NAAC Theme: Institutional Value and Best practices		Funds sought from RUSA	Funds from other sources	Private funding if any planned	Details of UGC funds for ASC
		Physical value (area in Sq. Mt)	Financial value (Rs. in lakh)				
New equipment/facilities	Lab equipment		0	0	0	0	0
	Computers		0	0	0	0	0
	Books/Journals		0	0	0	0	0
	E-resources		0	0	0	0	0
	Sports Facility		0	0	0	0	0
	Others (Please specify)		0	0	0	0	0
Courses	No. of refresher courses to be organized		0	0	0	0	0
	Academic faculty		0	0	0	0	0
	Administrative and support staff		0	0	0	0	0
	Consumables		0	0	0	0	0
	Contingency		0	0	0	0	0
	Program cost		0	0	0	0	0



	% of vacancy in permanent faculty position		0	0	0	0	0
	Other*		0	0	0	0	0
<b>Total in Rs. In lakhs</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Summary of Funds required in Vocationalization component**

	Details	Funds needed 2017-2020	Funds sought from RUSA	Funds from other sources	Private funding if any planned
Creation of new facilities	New Study Centres	0.00	0.00	0.00	0.00
	Auditorium	0.00	0.00	0.00	0.00
	Administrative Buildings	0.00	0.00	0.00	0.00
	Laboratory	0.00	0.00	0.00	0.00
	Computer Centre	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0.00	0.00	0.00	0.00
	Common rooms for students	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0.00	0.00	0.00	0.00
	Others (please specify)	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0.00	0.00	0.00	0.00
Renovation /Upgradation of	New Study Centres	0.00	0.00	0.00	0.00
	Auditorium	0.00	0.00	0.00	0.00
	Administrative Buildings	0.00	0.00	0.00	0.00
	Laboratory	0.00	0.00	0.00	0.00

existing facilities	Computer Centre	0.00	0.00	0.00	0.00
	Classrooms (including technologically enabled classrooms)	0.00	0.00	0.00	0.00
	Common rooms for students	0.00	0.00	0.00	0.00
	Canteen/Cafeteria	0.00	0.00	0.00	0.00
	Others (please specify)	0.00	0.00	0.00	0.00
	Hostels (Separate for boys and girls)	0.00	0.00	0.00	0.00
	Toilets (Separate for boys and girls)	0.00	0.00	0.00	0.00
New equipment/ facilities	Lab equipment	0.00	0.00	0.00	0.00
	Computers	0.00	0.00	0.00	0.00
	Books/Journals	0.00	0.00	0.00	0.00
	E-resources	0.00	0.00	0.00	0.00
	Sports Facility	0.00	0.00	0.00	0.00
	Others (Please specify)	0.00	0.00	0.00	0.00
Courses	No. of refresher courses to be organized				0.00
	Academic faculty	4.50	2.93	1.57	0.00
	Administrative and support staff	1.80	1.17	0.63	0.00
	Consumables	3.00	1.95	1.05	0.00
	Contingency	6.00	3.90	2.10	0.00
	Program cost	3.00	1.95	1.05	0.00

	% of vacancy in permanent faculty position	0.00	0.00	0.00	0.00
	Other*	0.00	0.00	0.00	0.00
Total in Rs. In lakhs		18.30	11.90	6.40	0.00