Jawahar Education Society's,
INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NASHIK.

(Approved by AICTE, DTE & Affiliated to Savitribai Phule Pune University)

Process Manual for
CURRICULAR PLANNING AND IMPLEMENTATION

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1. Preamble:

Jawahar Education Society's, Institute of Technology, Management & Research, Nashik was established in 2012. The Institute is approved by AICTE, New Delhi Government of Maharashtra and is affiliated to Savitribai Phule Pune University (SPPU), Pune. The Institute offers Undergraduate programmes (Bachelor of Engineering, BE) in Computer, Mechanical, Civil and Electrical.

The institute has developed and maintained infrastructure including instructional and administrative facilities like, Classrooms, Laboratories, Library, administrative office etc. The institute also provide the amenities like Cafeteria, sports facilities (indoor and outdoor) etc. Institute has an open-air auditorium with a seating capacity of about 700 and ICT enabled two seminar halls.

Institute has a well-stocked Central Library having collection of Books, National and International Journals, Project, Dissertations, Audio-Video Material, e-resources, and rare book collection. Library is fully automated using commercial software.

Vision:

To provide quality education and training to produce the competent engineers and researchers.

Mission:

- To impart knowledge and skill-based education in collaboration with Industry, Academia and Research Organization.
- To undertake collaborative environment friendly projects to bring Environment Consciousness.
- To implement the advanced technology to benefit the society.

The institute's mission and vision statements are prominently highlighted, through parents' meetings, student meetings, faculty and staff orientation, department meetings with faculty and staff, etc. A well-planned and well-documented approach is used to create and administer curricula in the most efficient way possible.

2. Curricular Planning:

- The Curriculum is prepared by the concerned Board of Studies (BOS) consisting of experts from the industry, academia, members of BOS etc. The curriculum is finally approved by the academic council of the University and displayed on the University website.
- At the beginning of each academic year the affiliating University provides academic calendar and guidelines about the dates of Commencement of the semester, end of the semester, In-semester and End-semester examinations, Oral, Practical examinations, holidays etc.
- At institute level, academic calendar is prepared with reference to academic calendar published by university. It is approved by Principal and forwarded to all the Heads of the Department (HOD) and faculties.
- Each department prepares their Departmental Academic Calendar in consultation with the Head of the Department.

- Principal held a common meeting with all teaching and non-teaching staff before commencement of semester.
- Students are also made aware of commencement of semester through a common notice board.

Following figure represents the structure of academic monitoring committee.
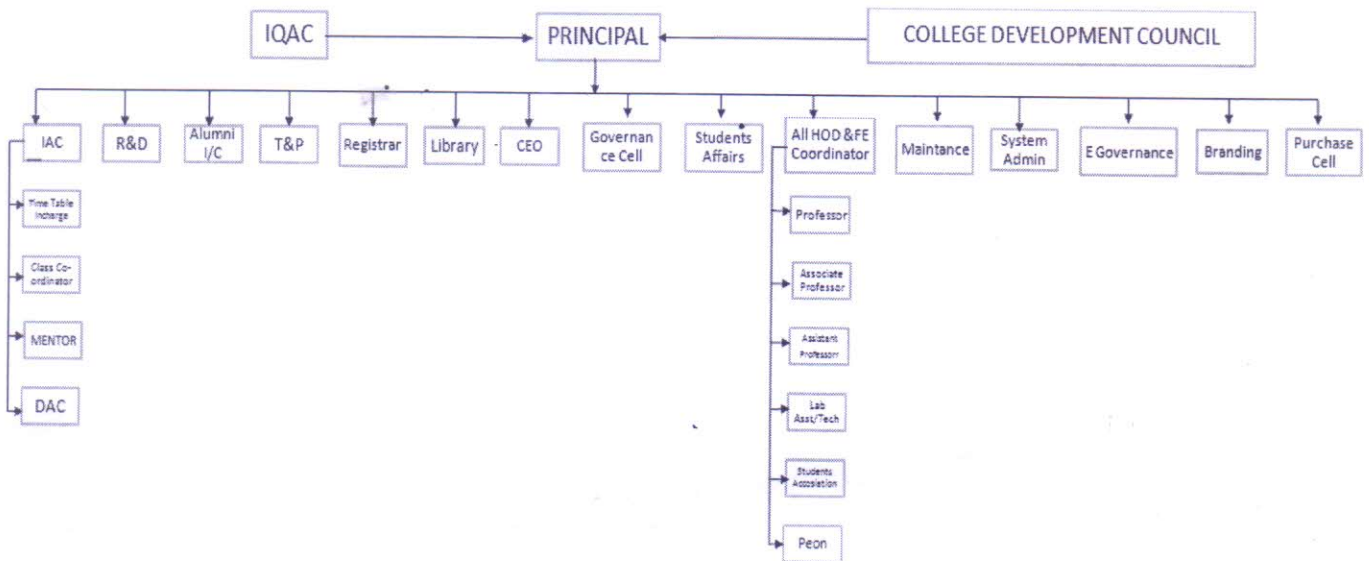
- Before the start of the semester, based on choices and expertise of teachers, the subject distribution is carried out by HOD.
- As per the subject allotted, lesson plans are prepared

2.1 Role and Responsibilities of Academic Monitoring Committee (AMC):

The Academic Monitoring Committee (AMC) is responsible for all academic aspects
- To ensure the effective planning and implementation of curriculum.
- The AMC is headed by Principal and comprises Heads of all departments (HOD), Institute Academic Coordinator (IAC), and Department Academic Coordinators (DAC).
- AMC is responsible for planning and monitoring of overall academic operations, activities, procedures, functioning and maintaining all relevant documents.

2.1.1 Role of Institute Academic Coordinator (IAC)

The Institute Academic Coordinator is responsible for following activities:

- All the heads of all departments (HOD) and departmental academic coordinators are members of academic monitoring committee.
- The IAC provide inputs to the principal for any necessary action.
- The Academic Calendar is prepared considering following:
  ✓ Dates of commencement and term end.
  ✓ Public Holidays.
  ✓ Dates for Unit test, In - Sem Examination, End -Sem examination.
  ✓ Schedule of faculty feedback.
  ✓ Schedule of Industrial Visits, Guest Lectures, workshop etc.
  ✓ Dates for annual events (e.g., JITotsav, ProJIT, Any student's association Events etc.)
  ✓ Term work submission dates
  ✓ Guidelines for remedial classes.

2.1.2 Role of Departmental Academic Co-Ordinator (DAC):
The Department Academic Coordinator is responsible for:
  ✓ Display of Class timetable
  ✓ Monitoring Students' Attendance
  ✓ Monitoring Syllabus coverage
  ✓ Tutor-Mentors' records.
  ✓ Record of remedial classes.
  ✓ Display of monthly attendance, defaulter list, unit test marks etc.
  ✓ Submit a comprehensive report of department's performance to the HOD and Principal.
  ✓ Records of student's feedback
  ✓ To plan and execute deadstock verification for each lab at the end of second semester.

2.1.3 Role of Class Co-Ordinator (CC):
  ✓ Maintain the Roll call list and student's database.
  ✓ Maintain theory and practical attendance record
  ✓ To prepare and display defaulter list fortnightly/monthly.
  ✓ Make alternate arrangements in case the faculty is on leave and inform the same to HOD.
  ✓ Schedules for extra lectures, if required.
  ✓ Display of unit test time table and other academic activities well in advance.
  ✓ Prepare and display the final defaulter list.
  ✓ Submit the syllabus completion report to the DAC on monthly basis.
  ✓ Maintaining informal feedback from students (if any).

2.1.4 Role of Subject Teacher:
Subject Teachers are responsible for all the academic aspects for:
- Preparing and maintaining course files, taking attendance for each lecture/practical.
- Maintaining the daily attendance report
- Providing subject notes, unit-wise question bank, assignments to students.
- Periodic conduction of unit test, extra lectures, lectures for slow learners etc.
- Updating of personal file.
- Contribution towards holistic development of the student.
- Industrial training and visits,

- Development of teaching material, planning, lessons, setting up laboratories and experiments, unscheduled teaching activities such as student counseling, setting and evaluating test papers, arranging and conducting tests, conduct of Local/University examinations, implementation of projects for students, setting and evaluation.
- As an adviser for student associations, co-curricular and extra-curricular activities.
- Participate in departmental and or institutional administration and member of few committee.
- Professional activities. involvement in professional and technical societies.
- To organize and participate in continuing education activities (FDP/STTP/Seminars/Workshops/Expert Lectures etc.)

2.1.5 Role of a Mentor coordinator
Objectives of Mentoring
- To understand the students' needs and potential
- To help the students to improve upon academics, soft skills, personal development etc.
- To guide the students to overcome the problems in academics and personality development.
- To enhance peer interaction.

Role of Mentor coordinator:

- Distribute the hard copy of required formats to the department mentors.
- Maintain the list of the students and respective mentors.
- Collect the records from all the mentors at the end of every semester and retain in the department with HOD.
- Handover the records of earlier semesters to next mentors at the beginning of semester through HOD.
- Conduct the meeting once in the month and maintain the minutes of meeting.

2.1.6 Role of A Mentor:
Roles and Responsibilities of Mentors
- To collect the list of allotted students and formats for updating the students' records from HOD.
- To collect the "student's Information" from the respective Class Coordinator.
- To inform the parents about the progress of their ward.
- To act as a Counsellor, Guide and Philosopher of the student.
- To encourage the student to have open dialogue.
- To record the observations about the student viz. achievements, doubts, fears, grievances, etc.
- To evaluate the student's ability, strengths and weaknesses.
- To help the students to overcome their weaknesses and strengthen the abilities to excel-in his/her defined objectives.
- To submit the completed files in all respect to the HOD at the end of term. Mentors can collect those files from HOD before the start of the next academic Session.

- To report the weak cases to the wherever special assistance is required, through HOD.
- HOD/Department coordinator of First year engineering shall handover the Mentor Record to respective department HOD at the end of every academic Year.
- To maintain secrecy about the matters disclosed by the student during counseling.
- To maintain the following records
  - ➢ Student Information
  - ➢ Mentoring Record of students according to academic, Psychological, financial etc.
  - ➢ Attendance of students for the scheduled meetings.

2.1.7 Role of A Laboratory In-charge
- ✓ Dissemination of Vision, Mission statements into laboratory.
- ✓ Maintain dead-stock register.
- ✓ Preparation of laboratory manual.
- ✓ Display of information's related to concerned Laboratory:
  - o Time-table,
  - o Total laboratory cost,
  - o List of major equipment,
  - o Lab area, Standard operating procedures (SOPs)
  - o Display of Models, Charts etc.
- ✓ Maintenance planning of laboratory equipment.
- ✓ Plan procurement of new equipment as per revised syllabus and consumables etc.
- ✓ Ensure availability of adequate number of sets, demonstration kits etc.
- ✓ Continuous assessment of batch (s) of students allotted.
- ✓ Maintain laboratory utilization register, equipment utilization for specific work.
- ✓ Maintain testing and consultancy (if any) records conducted in the laboratory.
- ✓ Make a laboratory budget.
- ✓ Monitor laboratory safety and cleanliness.

## 3.0. Process of Effective Curriculum Implementation:
- The university sets the course requirements, including the number of lectures, the list of suggested readings, and the internal and external grading scheme.
- The workload is distributed among the faculties by considering their preferences and competency to ensure effective delivery of the curriculum. This process is carried out at the end of previous semester. This will provide enough time to prepare the allotted subject for the next semester.
- Each subject teacher prepares the teaching plan in accordance with the department's academic calendar.
- The schedule for the unit test, In-Sem examination, End-Sem examination, and external oral-practical exams is displayed well in advance.
- Newly appointed faculties are made aware of institute's Rules and regulations.
- Newly admitted students in first-year engineering undergoes an orientation program followed by one week induction program.
- To improve the teaching and learning experience, institute implements ICT, student-centric methods, participatory learning, etc

3.1. Effective Curriculum Delivery:

To ensure effective curriculum delivery, the activities can be are added to the classroom instruction like, expert lectures, presentations/seminars, mini projects, in-house and industry supported projects, tutorials, group assignments, tutorials, case studies, industry visits, industrial training, internships, hands-on sessions, e-learning, NPTEL lectures, MOOC, knowledge wall, technical quiz, assignments, internal-tests, etc.

The teachers are encouraged to participate in short-term training programmes (STTPs), faculty development programmes (FDPs), seminars, workshops, industry training, etc.
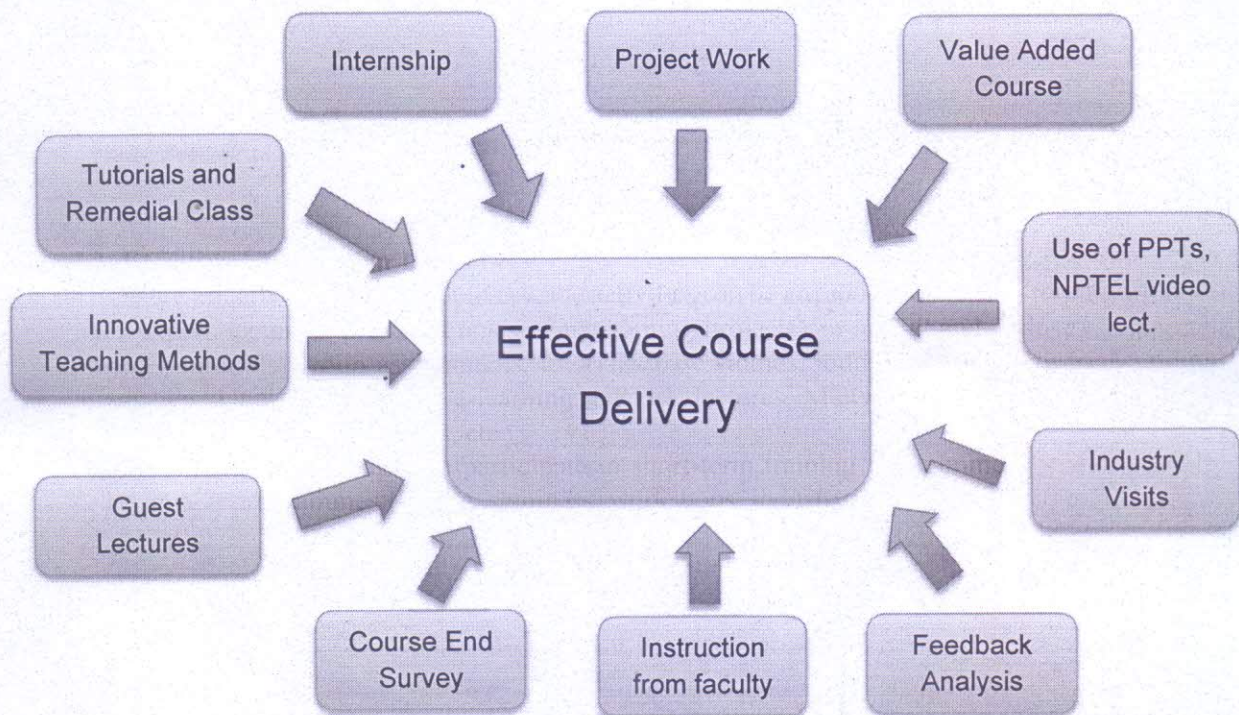
3.2. Academic Monitoring Process:

Every month, the academic coordinator and HOD takes review to know how well the course is being covered. Necessary corrective measures are suggested to close the gap if any.

Following activities are verified during the process of academic monitoring:

- Timetable: (Class wise, Laboratory-wise, Classroom-wise, Individual)
- Teaching Plan
- Students Attendance: (Subject-wise, Class-wise, Percentagewise)
- Status of syllabus coverage
- Conduction of Continuous Assessment, schedule, result analysis
- Students feedback and analysis
- Communicate the progress of students to parents through SMS/ parent meet

3.3. Process to identify slow learners:

The progress of each student is monitored during their studies. First-year class coordinator and mentor team identify the advanced or slow learner during the semester/year by analyzing different parameters, like, talents, characteristics, skills, attitudes, examination results (internal and external), and their present day-to-day experiences during interactions.

- The advanced learners are encouraged to pursue hard goals and are guided to higher levels of performance.
- For slow learners, extra efforts are made to help them to catch-up to the average and above average group of students.

The CCs/Mentors of the first-year courses handovers the classified data to the CCs/Mentors of the following classes. Similar analysis is carried out by the CCs and Mentors of the second year and later.

The following activities are carried out for slow learners after they have been identified.
Activities for Slow learners:
- Extra Tutorial, Special Notes
- Question bank
- Extra Practical sessions
- Remedial classes
- Mock oral/practical examination
- Counseling
- Additional guidance for Seminar/Project presentation
- Help in assignments and solving university question papers.

3.4. Encouragement to Active Learners

Students with strong backgrounds and skills are encouraged to pursue hard goals and are guided to higher levels of performance. To encourage such advanced learners' different activities are planned. They are motivated to participate in solving open-ended challenges that call for critical and creative thinking, in addition, following activities may be planned for advanced learners.:
- Encouragement to complete NPTEL certification courses
- Participation in Seminars and Conferences.
- Motivational guest talks.
- Paper publication and presentation
- Workshop and seminar on current trends
- Motivation and Guidance for higher studies (GRE, GATE, competitive exams)
- Industry visits and Industry sponsored/research project
- In house fabrication and Mini-projects (over and above the syllabus)
- Participation like HACATHON.

3.4.1. Experiential learning: In Experiential learning students learn to take initiative, make decisions, and be accountable for the results. Students engage intellectually, creatively, emotionally, socially, or physically.

Experiential learning activities can include, but are not limited to, hands-on laboratory experiments, internships, field exercises, academic research, and stage performances.

3.4.2. Participative Learning: Participatory methods expect a high degree of activity and personal involvement of participants in the learning process. Participative learning has advantage that they encourage better retention of learned. They are contemporary students' centric methods of education. Workshops, induction programs, E- classroom sessions, seminars, study tours are some activities institutes organize throughout the academic year to nurture the students' participation.

3.4.3. Problem based Learning: Problem solving is a student- centered approach in which students learn about a subject by working in groups to solve an open-ended problem through algorithm or rules. Also, real time problems are identified and solved though the innovative way. Students examine and define the problem given and explore the possibilities to solve it by using their knowledge and relevant information and tools available. For problem solving analytical thinking, creativity and resourcefulness are required.

Students develop the ability to apply analysis techniques to unfamiliar problems and present their investigation through the use of technologies, including prototyping, cloud-based tools, report writing and presentations.

3.5. Feedback Process

Student's feedback is taken in each semester through Google Form. After the analysis, a subject teacher is appreciated or corrective actions are suggested.
Following parameters considered for feedback.

S.N.	Performance Parameter
1	Knowledge of the teacher about the subject.
2	Understanding of the subject by the students.
3	Clarity of communication of the teacher
4	Engagement of class in time.
5	Method of presenting/delivering the content
6	Syllabus completed
7	Victimize or favoritisms in students
8	Is the discipline and order of the class
9	Any other suggestion

3.6. Evaluation Process:

Internal assessment is carried out through mid-term and end-term examinations, assignments, unit tests etc. University examination is conducted as per schedule prescribed. by the university and termed as external assessment. External Assessment (University examination) and internal assessment tools are used for mapping of CO-PO- PSO.

Assessment Tools:

a. Direct Assessment Tools: It includes Internal Assessment and External Assessment
Internal Assessment includes Continuous Assessment, Unit test, In-sem Examination and External Assessment is by End Sem- examination (University).

b. Indirect Assessment Tools: It is implemented by conducting the course exit survey.

3.7. In-put for curriculum development:

There are established COs for each course that correspond to the POs. A curriculum that includes both optional courses and a handful of core courses is how the POs are attained. The effectiveness of the COs is measured quantitatively using a set of performance criteria.

- Individual staff members consider the mapping of COs with POs and PSOs of the programme.
- Feedbacks from different stakeholders (including, students, alumni, parents, employers, and teachers) are helpful for curriculum development.

3.8. Service activities:

For overall development of the students, institutes conduct several activities.

- Alumni Association
- National Social Service (NSS)
- Annual Day Celebrations (cultural and Sports activities)
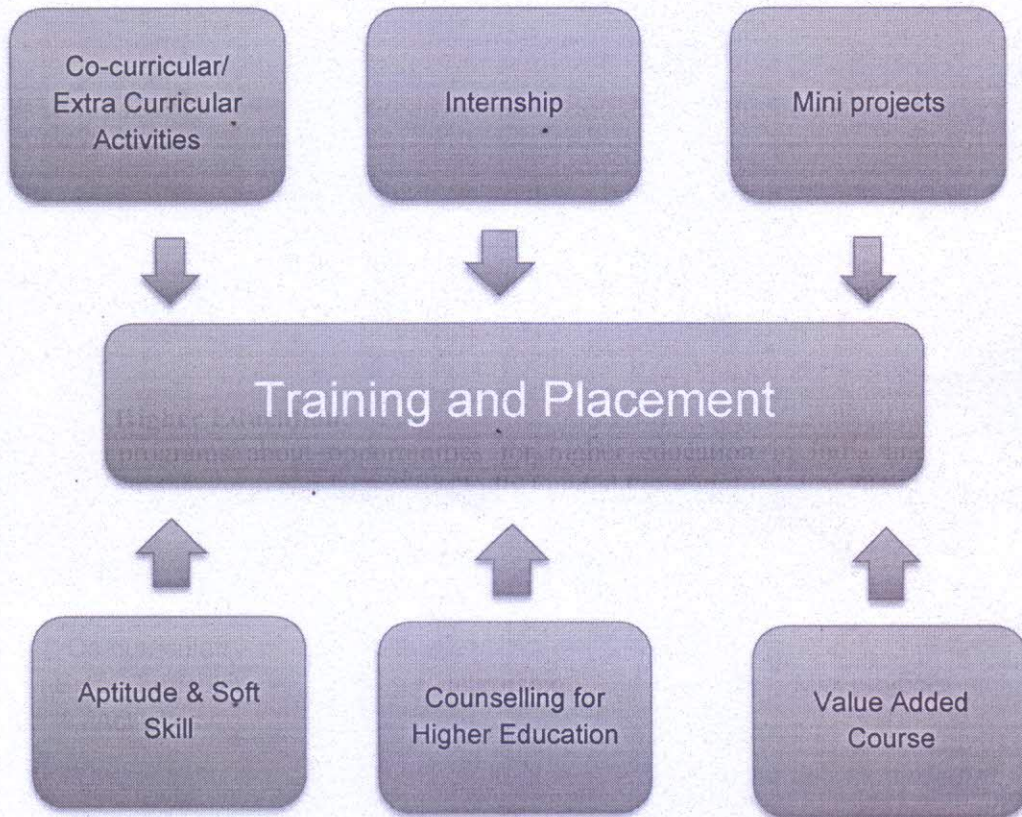- Training and Placement (CITP)
- Students Associations

3.9. Training and Placement Cell (TPC):

- The Training and Placement cell is completely operational with all necessary facilities.
- The TPC coordinator keeps a database of all enrolled students also provides list of eligible students to recruiters as per their norms.
- Department coordinators are also supports the TPC.
- The TPC organizes training for aptitude, technical tests, group discussions, interviewing tactics, and soft skills.
- Institute focuses on all pre-final and final year students for grooming their all-required skills
- The placement cell tries to establish and strengthen the linkages with all types of industries
- TPC arrange interactive sessions with students who have been undergone interview process, It helps the other students to prepare for upcoming placement drive.

Counseling for Higher Education:

The awareness programs about opportunities for higher education in India and abroad are conducted. For example, an expert lecture on "Fully Funded Program for Job and Higher Education (MS in the USA) in Foreign Universities" and lecture on "Personality Development and Career Progress."

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│  Co-curricular/  │    │                  │    │                  │
│ Extra Curricular │    │    Internship    │    │   Mini projects  │
│    Activities    │    │                  │    │                  │
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│                     Training and Placement                           │
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│ Aptitude & Soft  │    │  Counselling for │    │   Value Added    │
│      Skill       │    │ Higher Education │    │      Course      │
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Industry-Institute interaction cell
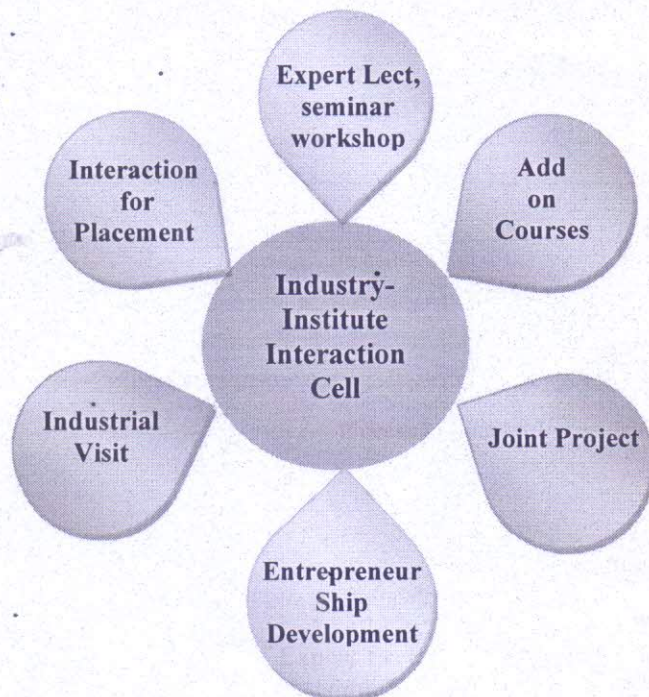
Co-curricular and Extra-Curricular Activities Institute

"ProJIT- A National Level Technical Project Competition and Exhibition" is organized to exhibit recent developments in technologies also to enhance participative and experiential learning in Engineering Education. The event includes technical paper presentation, quizzes, working model creations, Robo-Races, exhibitions, bridge making etc. This event is completely organized by Students under the supervision of staff coordinators. Cash prizes with trophy and discount coupons by training institutes are awarded.

Cultural Activities:

Annually, The Institute organize a mega cultural and sport event "JITotsav". The student from different departments participates in the event and wins prizes in different sports and cultural events.