

NAAC Accredited Institute with 'A' Grade

NBA Accredited 3 Programs

(Computer Engineering, Electronics & Telecommunication Engineering and Electronics Engineering)

Best College Award by University of Mumbai, Urban region, A.Y. 2018-19

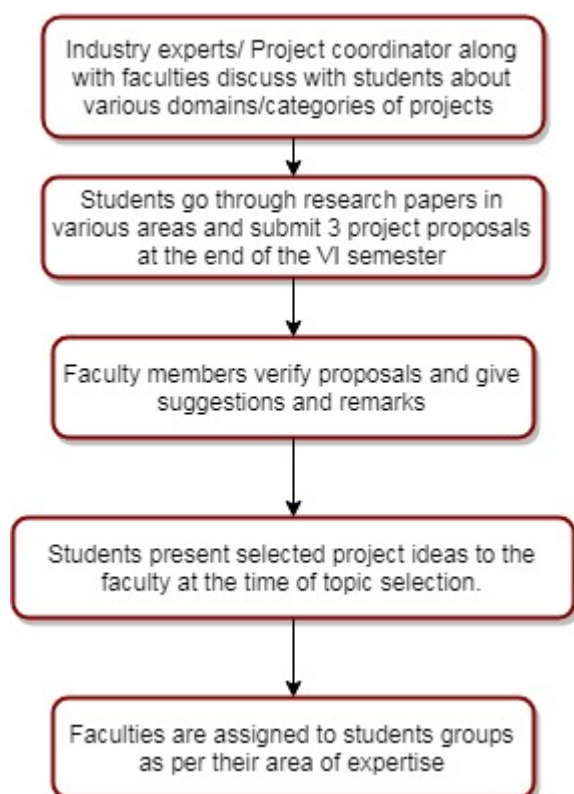
Permanently Affiliated to University of Mumbai, Approved by D.T.E., A.I.C.T.E.

UGC Recognized Institute under section 2(f) and 12 (B) of the UGC Act, 1956

### Student Mini & Major Projects

Quality of the project is measured in terms of the consideration to factors including Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects. A senior faculty member is assigned the responsibility as project coordinator, who handles all the activities related to the student project work such as planning, scheduling and execution.

1. **Project proposal selection process** - Following flowchart shown in fig 2.2.3 shows the detail of selection process for BE project. Students submit three project proposals which are verified by the faculty members. The students are required to present their topics during selection process and finalized topics are allotted to each group of max 3 students. Faculty members are assigned as project guides for each of the group.



#### **Flowchart for project proposal selection**

During project selection and allocation process, the faculty members encourages the students to carry out sponsored projects as we have MOUs with various reputed companies. The faculty members also encourages and provide guidelines to students to participate in project exhibitions and to publish their project work in reputed journals / conferences / technical paper presentation or project competitions. Project exhibition is also organized in the institute to provide common platform to exhibit innovations in their work.

Following table elaborates the process, parameters and related POs.

<b>Sr. No.</b>	<b>Process</b>	<b>Parameters</b>	<b>PO's</b>
1	Identification of projects and allocation methodology to Faculty Members	<ol style="list-style-type: none"> <li>1. Formation of groups</li> <li>2. Assignment of Project Guide</li> <li>3. Identification of Project</li> <li>4. Finalization of Project Title</li> </ol>	PO2 (Problem Analysis)
2	Types and relevance of the projects and their contribution towards attainment of POs and PSOs	Categorization of project according to relevance	PO6 (Environment and Sustainability)
3	Process for monitoring and evaluation	<ol style="list-style-type: none"> <li>1. Log Books are used to maintain records</li> <li>2. Project Progress Presentations carried out in a semester</li> <li>3. Grading of Project based on presentation, Implementation and Report rubrics</li> </ol>	PO10 (Communication Skills) PO11 (Project Management and Finance) PO8 (Ethics)
4	Process to assess individual and team performance	<ol style="list-style-type: none"> <li>1. Problem Definition</li> <li>2. Concept</li> <li>3. Team Work</li> <li>4. Organization</li> <li>5. Knowledge and Effectiveness of Delivery</li> </ol>	PO9 (Individual and Team Work)
5	Quality of completed projects/ working prototypes/Awards received by projects etc.	<ol style="list-style-type: none"> <li>1. Project demonstration for the working</li> <li>2. Prototype Report evaluation</li> </ol>	PO4 (Investigate Problem) PO5 (Engineering Tool Usage)
6	Evidences of Papers Published / Awards received by projects.	<ol style="list-style-type: none"> <li>1. List of Papers published</li> <li>2. List of Patent filed</li> <li>3. List of Projects awarded in Competition</li> </ol>	PO8 (Ethics) PO9 (Individual and Team Work) PO10 (Communication Skills) PO12 (Lifelong Learning)

Table : Process of student project allotment to completion, parameters and related POs  
Identification of projects and allocation methodology to faculty members

- A project coordinator is appointed by the Head of the Department who is responsible for planning, scheduling and execution of all the activities related to the student project work.
- The student's projects are selected in line with department mission, and program outcomes.
- Announcement of project group formation is done through notice board and oral communication in sixth semester.
- The list of previous year projects is displayed at notice board, college website and departmental library to encourage students to enhance the previous works.
- Students are provided with brief idea of various fields for selecting the project.
- Faculty member are asked to give their area of interest to the students.
- The faculty member encourages the students to carry out in house projects and support will be provided with all necessary software and hardware.
- Depending on the area mentioned by the project group, a project guide is assigned.
- Students are also given choice to choose their guide that matches their project domain.
- The faculty member encourages students to apply for funding for their project work.
- The students are encouraged to do projects in industry with which college has signed MOUs.
- Students are instructed to submit the finalized project title to the project coordinator.
- One day in a week is assigned as a project day to carry out their project work.

### **Types and relevance of the projects and their contribution towards attainments of POs and PSOs**

Final year projects are widely classified into application, product and research type. Various tools and technology are used by the students for implementation of their projects with other interfaces. Special attention is towards the attainment of program outcomes such as Engineering knowledge, Problem Analysis, Design, Modern tools usage, Ethics and Environmental issues.

All projects are mapped to POs and PSOs. Each project is evaluated with internal marks and is graded according to their project quality for which rubrics are designed and with their contribution towards attainment of PO's.

Project Rubrics are categorized as presentation, report and implementation.

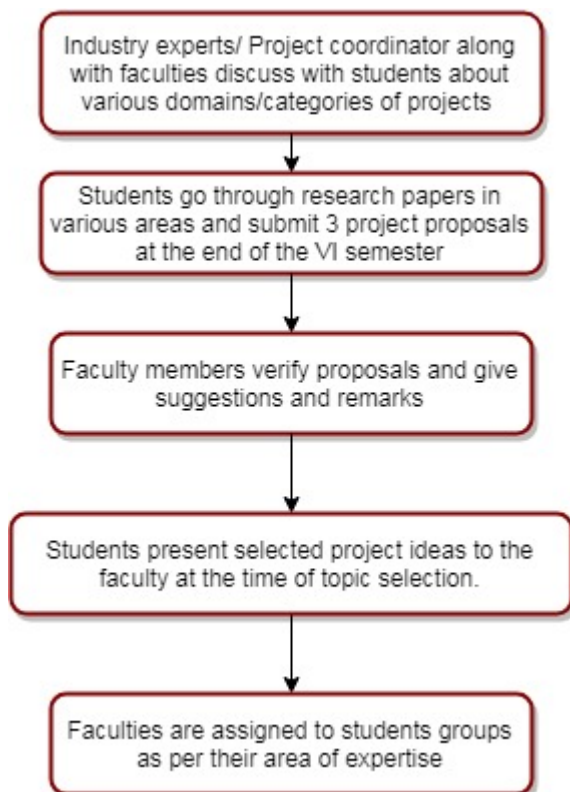


Figure Flow of project related work

### **Process for monitoring and evaluation:**

- As per the guidelines for mini & major project in the syllabus, students group has to complete project in time.
- Students should attempt solution to the problem by experimental/simulation methods.
- The solution to be validated with proper justification and report to be compiled in standard format.
- Every week on project day, project group members meet their respective guide and explain their project progress for that week and till date. They maintain log book for weekly progress that is verified by the guide.
- Each project is evaluated with internal marks and is graded according to their project quality and work done regularly

### **Monitoring, Evaluation & Project Marking Scheme :**

#### **1. Projects Rubrics:**

Presentations rubrics are created for monitoring and evaluation purpose.

Report Writing & Project Implementation rubrics are created for evaluation of Quality of completed projects/ working prototypes with quality of the final report based on the given report format.

1. **Project Presentation:** The choices of topic in consideration with organization, subject knowledge, effectiveness of delivery, time management and presentation skills are evaluated.

2. **Project Implementation:** Project guides evaluate both clarity of problem definition and feasibility of problem solution. The ability to make use of resources, planning, meeting deadlines and team work is marked. Individual contributions and their involvement, problem definition, fundamental concepts, innovations, project management and finance, organization of project work done, creativity and initiative is also noted and scored separately for all members in a team.

3. **Evaluation of a log book:** Students maintain a project log book with project plan, weekly work done and attendance to mark the punctuality of students. Project progress report is filled in by students and evaluated by respective guides in the log book.

#### **4. Final Report Quality and Content:**

- Students prepare project report as per the guidelines issued by the University of Mumbai. This is an evaluation of the quality of the final report based on the report format, organization of contents, literature survey, analysis, design, implementation, results, conclusion and future guidelines. Efforts taken to write in a grammatically correct and clear language is also noted.

- The project guides evaluates final project report and guides student to take the project in the right direction.

- Projects are monitored weekly for the progress and evaluated based on regularity, task execution and completion on time and based assigned on task for the next week.

#### **1. Project Marking Scheme –**

- Project marks are assigned in three general categories.
- Quality of problem selected
- Clarity of Problem definition and Feasibility of problem solution
- Relevance to the specialization / Industrial trends
- Clarity of objective and scope
- Breadth and depth of literature survey
- Quality of work attempted
- Validation of results
- Quality of Written and Oral Presentation

- Achievement in each of these areas is critical to a successful project.
- Project Presentation at (20%): The choice of topic and presentation skills will be evaluated.
- Project Implementation (60%): Guide evaluates both the difficulty of the goals and whether the goals were achieved. The ability to make use of resources, meet deadlines and team work is marked. Individual contributions and involvement effort, organization, creativity and initiative are noted with a separate score for all members in a team.

Final Report Quality and Content (20%): This is an evaluation of the quality of the final report based on the report format, the clarity of communication and the analytical content. Effort is taken to write in a grammatically correct and concise language.

### Process to assess individual and team performance:

Every semester, department schedules four Project Progress Presentations where each group has to present their project in depth. Following table shows Process to assess individual and team performance.

Sr. No.	Process	Parameters Evaluated	Semester VII Project-I	Semester VIII Project-II
1	Identification of projects	1. Identification of Project proposals 2. Finalization of Project Title 3. Assignment of Project Guide	Progress Presentation - I	--
2	Process for monitoring and evaluation.	1. Log Books are used to maintain progress of project work. 2. Evaluation of project based on presentation, implementation and report rubrics.	Log Book is maintained by students and verified by guide on weakly project day.	Log Book is maintained by students and verified by guide on weakly project day.
3	Process to assess individual and team performance	1. Problem Definition 2. Concept 3. Team Work 4. Organization 5. Knowledge and effectiveness of delivery	Progress Presentation - II, Progress Presentation - III	Progress Presentation - I, Progress Presentation - II, Progress Presentation - III
4	Quality of completed projects/ working prototypes.	1. Working Project demonstration 2. Prototype 3. Report evaluation	Progress Presentation - IV	Progress Presentation - IV
5	Evidences of Papers Published/Awards received by projects.	1. List of Papers published 2. Patent filed 3. Various awards received in Competition	Publishing 1 paper in National conference or in TPP	Publishing 1 paper in International conference or in International journal and take the part in project competitions as well.

Table : Process to assess individual and team performance

- The project progress presentation is given by all the project team members according to the schedule. Soft skills, presentation skills, contents and executable are verified by the Faculty panel at the time of presentation.
- Each student in a project group is assessed for their skill sets to deliver the contents, conceptual understanding of different stages of project work completed.
- Each individual and team performance is purely based on project seminar presentation and the viva voce examination and progress of work assessed by respective project guide.

#### **Quality of completed projects/working prototypes :**

- Final project demo for the working prototype and the report are evaluated by a panel of their respective guide and external examiner at the time of final viva.
- A project grading sheet is prepared covering various aspects as presentation skills, contents, time and group management, soft skills etc. as per project rubrics defined.
- The quality of projects is also assessed based on its use and applicability towards societal development.
- External examiners submit feedback for each of project evaluated which helps for further improvement in quality of project work.
- Students present papers in national/international conferences, journals on their project work.
- Student participate in various project competition & gets awards / recognition based on all above parameters completed project quality is evaluated.