T. JOHN
INSTITUTE OF TECHNOLOGY

ACADEMIC
&
ADMINISTRATIVE
POLICIES/PROCEDURES

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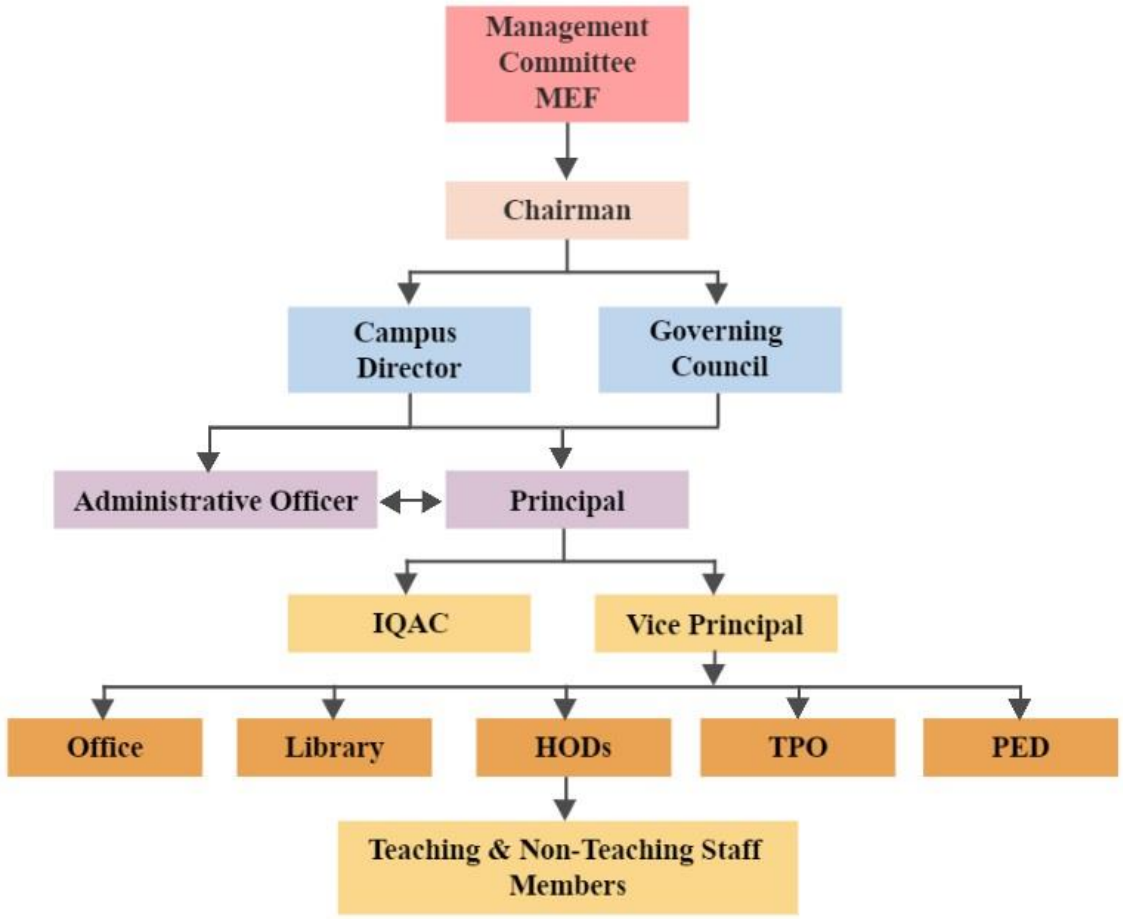
Administrative Set-up



Roles and Responsibilities:

Position	Functions
Management Committee	• Chief patron of the Institution. • Executive Trustees and Members of the GC. • Final authority for annual (financial) budget allocations and all related approvals. • Hold signatory roles in major administrative, recruitment, purchase, expansion, and Policy decisions of the Institution.
Chairman of Governing Council	• Chief Mentor of the Institution, and heads the Governing Council (GC). • Final authority to provide final approval for all major policy matters on expansions, collaborations, financial outlays, budgetary allocations and major admin related decision. • Motivate and support the administration to make our institute an outcome-based institution.
Campus Director	• Articulation of long-term policies by the Management. • Overseer of policy implementation. • A constituent member of the Staff Selection Committee and approve all appointment and relieving orders. • Authorized to take decision on all college related activities. • Responsible for the conduct of Governing Council meeting and planning and monitoring committee meetings.

Administrative Officer	• Over-all in-charge to execute different Office Administrative sections i.e., Accounts, Admissions, Exams, Scholarships and coordinates Governing Council meetings. • Liaisoning with AICTE, DTE and University. • Service Books, Faculty personal files & Recruitment process. • Maintain minutes of meeting for all new proposals. • Coordinate day to day activities of office. • Purchase process & payments. • Preparation of Annual Institute budget.
Principal	• Functions as the Head of the Institution and is the Member Secretary of the GC. • Responsible for overall development of the Institution. • Ensure the attainment of vision of the Institution through strategic mission. • Define quality policy and objectives. • Define & delegate responsibilities of various positions in the organization. • Final authority for all academic, admission, administrative, co-curricular and extracurricular, research, placement, innovation, resource mobilization, planning and development, recruitment. • Coordinates the needs of meeting statutory and regulatory requirements of the government (AICTE, UGC, DTE) and University (VTU). • Channelizes the growth and benchmarking activities of accreditation (NBA/NAAC) and affiliation (VTU) processes for the institute. • Single point contact (SPC) for external bodies (industries, academia, regulators, institutions/organizations, companies) and also for stakeholders: industries, parents and alumni. • Develops roadmap(s) for the institute, in consultation with his team and disseminates it to all concerned.
Vice Principal	• To discharge routine duty of Principal in his absence. • Alumni interaction. • Co-curricular activities. • Formation of student council. • Sports & Cultural activities.
IQAC	• Head of the Internal Quality Assurance cell. • Prepare and execute academic calendar. • Oversee the teaching-learning process. • Carry out result analysis and submit corrective measures to Principal. • Initiate better teaching learning methods.
Training & Placement Officer (TPO)	• TPO is solely responsible for planning, connecting, organizing, culminating all activities leading to placement needs of the graduating students. • Develops and nurtures contacts/connects with industries/companies/ organizations/alumni database in view of placement needs. • Ensures the smooth coordination with various stakeholders required for the process of placement. • Initiates the process of feedback collection from the visiting companies/organizations for offering placement and shares with concerned departments for better understanding and possible improvements in the subsequent sessions/years. • Coordinates activities for pool-in placement drives. • Facilitate career guidance to the students. • TPO significantly contributes in building the brand value of the institution.

Head of the Department	• Functional and administrative head of the concerned department. • Ensures the smooth running of the concerned department by laying goals and milestones of the department. Vision and Mission statements too are chalked out for streamlining all further actions. • Builds and leads the team of required numbers of faculty members (Professors, Associate Prof and Assistant Prof), staff (Lab Instructors, Lab Assistants, Admin staff) and students - II, III and IV Year B.E (CSE, ECE, ISE, ME, CV & AIML) and I Year in case of Mathematics, Physics, and Chemistry Departments. • Ensures planning, execution, troubleshooting of all academic activities (theory and lab classes), examination (CIE) along with supporting smooth conduction of VTU examinations, research and publication, projects and developmental activities. • Coordinates intra (with IIIC, T & P and other depts./centres at the institute) and inter (with other academia and industries) institutional communicational roles. • Plans and organizes events (conference, seminars, workshops, and training) and conducts industrial visits and guest lectures for the benefit of dept. (students and faculty members). • Organizes meetings with stakeholders (particularly, parents) in form of PTM. • Develop Calendar of events, Timetables for each section/semester, Upkeep and maintain records of the department, maintain laboratories and assets, assign duties and monitor faculty performance, verifies faculty appraisal, benchmark the growth parameters, monitor mentoring of students by the mentors (faculty team), identify and execute action on departmental needs, develop team towards audits and compliance, monitor R&D and project activities of the department, ensure up-keeping of departmental library, lead team towards publications and IP, seek MOUs from related industries. • Renders all support to the team lead, Principal. • Encourages and motivates the team to contribute for the positive growth of the department, in turn the institution.
Librarian	• The Librarian is responsible for the resources of Library and information Centre comprising of assets in both hard and soft forms. • Envisages the plans, initiates actions for addressing all possible needs of primary stakeholders - students, teachers and research scholars (via identifying and ordering books, reference material, journals, online resources, issue of resources and maintain of records). • Undertakes series of tasks towards optimal utilization and for maintenance of the library.
Physical Education Director	• Proposing annual budget for Sports Activities. • Creation and upkeep of sports facilities. • Purchasing of sport items. • Conduct training camps. • Ensure smooth conduct of sports. • Encourage students to participate in zonal tournaments.
Faculty Members	• Teachers (based on seniority and competencies) support various activities/roles in department functioning: Developing Timetables, Calendars, and Manuals etc. • The primary role of each faculty (Prof/Assoc. Prof. /Asst. Prof.) is delivering lectures (theory classes) and conducting lab sessions (Practical classes) as per the allotted Timetable. • Counselling and mentoring the students, maintain Academic/Course files, plan and conduct tests, design assignments/projects for students, discharge examination duties, and evaluate as per VTU norms, aid/assist in co- curricular and extracurricular activities as assigned by the department. • Teachers are expected to collaborate, conduct R&D activities, and undertake industrial/sponsored projects, publish and present papers, seek growth opportunities and participate in FDPs and update technical knowledge and keep abreast with developments in their domain.

Academic & Administrative Bodies/Committees/Cells/Clubs

Sl. No.	Academic and Administrative Bodies	Frequency of Meeting
1	Administrative Setup	Quarterly
2	Governing Council (GC)	Half Yearly
3	Academic Administrative Committee (AAC)	Quarterly
4	College Council (CC)	Daily
5	Internal Quality Assurance Cell (IQAC)	Whenever Applicable
6	Advisory Council (AC)	Quarterly
7	Exam Cell	Whenever Applicable
8	Staff Selection Committee (SSC)	Whenever Applicable
9	Research and Development Cell (RDC)	Whenever Applicable
10	Grievance Redressal Cell (GRC)	Whenever Applicable
11	Anti-Ragging Committee (ARC)	Whenever Applicable
12	Institution Innovation Council (IIC)	Quarterly
13	Industry Institution Interaction Cell (IIIC)	Half Yearly
14	Purchase Committee	Half Yearly
15	Administrative Support Committee	Half Yearly
16	Games & Sports Committee (GSC)	Half Yearly
17	NSS Cell	Quarterly
18	Arts & Cultural Committee (ACC)	Quarterly
19	Universal Human Values (UHV) Cell	Half Yearly
20	Internal College Complaints Committee (ICCC)	Need Based
21	Training & Placement Cell (TPC)	Quarterly
22	Skill Development Cell (SDC)	Quarterly
23	Women Empowerment Cell (WEC)	Half Yearly
24	SC/ST Cell	Half Yearly
25	Technical Committee (TC)	Need Based
26	Library Committee	Half Yearly
27	Alumni Committee	Half Yearly
28	Project and Seminar Committee	Half Yearly
29	Hostel and Canteen Committee	Half Yearly
30	Transport Committee	Half Yearly
31	Student Welfare Committee	Half Yearly
32	Magazine/News Letter Committee	Half Yearly
33	Promotion of Branding Committee	Half Yearly
34	Parent/Relation Committee	Half Yearly
35	Disciplinary Committee	Half Yearly
36	Social Media Committee	Half Yearly
37	NBA Committee	Half Yearly
38	Incubation Centre Committee	Half Yearly
39	LIC/AICTE Committee	Half Yearly
40	ISO Committee	Half Yearly
41	Scholarship Committee	Half Yearly
42	Mind Engineering Club	Half Yearly
43	Technical Club	Half Yearly
44	Robotics Club	Half Yearly

45	Photography & Film Club	Half Yearly
46	Science Club	Half Yearly
47	Innovation & Entrepreneurship Development Cell (IEDC)	Half Yearly
48	Handicraft Club	Half Yearly
49	Language and Debate Club	Half Yearly
50	Health Club	Half Yearly
51	Athletics Club	Half Yearly
52	NSS Club	Half Yearly
53	Nature Club	Half Yearly
54	Arts Club	Half Yearly
55	Sports Club	Half Yearly

1. Process for defining the Vision and Mission of the Department, and PEOs of the Program

The process to arrive at the Vision, Mission and PEOs of the department is as follows:

- The Program Assessment Committee was constituted for evolving / modifying / analysing the Vision, Mission and PEO statement and the committee was asked to review the background and purpose of the institute to reflect into the Vision, Mission and PEOs of the department.
- Feedback from all stakeholders is considered after conducting a brainstorming session to carry out SWOC analysis.
- Program Assessment Committee makes the draft statements related to the Vision, Mission and PEOs of the Program for approval and implementation from Department Advisory Board.
- The statement of the Vision, Mission and PEOs after approval displayed and disseminated to the stake holders.

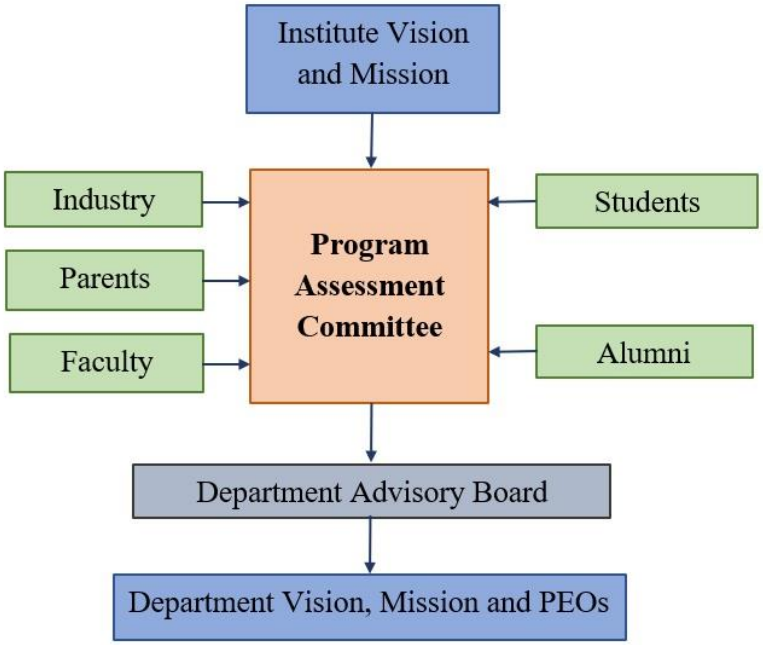


Figure 1: Process for defining the Vision, Mission and PEOs of the Department

The inputs from stake holders typically the faculty members, Alumni Members, industry experts and Employers are used to formulate our Vision, Mission and PEOs. The faculty members of the department are one of the key stake holders empowered to evaluate the feedback received from all other stake holders, proposing improvements in the curriculum, the outcome, and objectives, and in implementing any ratified changes. All the faculty members continually interact with all the other stake holders, allowing for the opportunities to receive, apart from formal, the informal feedback also into the process.

The Alumni members provides vital inputs for drafting and to review our PEOs. Regular input from alumni is obtained via the following interactions:

- Surveys: Formatted Survey data is utilized to gather comprehensive information for scrutiny and analysis.
- Alumni visits: Formal and informal visits by the alumni gives scope for direct personal interactions, discussions, and an opportunity to collect and record information required for improving the programme based on their professional experiences.

Input from employers plays a vital role in the formulation and review of the PEOs which reflect on the success and relevance of the designed courses. Employers are at the forefront of the practice of the profession; hence their feedback is important. They give us early indications of changing or new trends in the profession. The information is gathered from employers using both formal surveys and various informal interactions. In such interactions, employers are inquired about their views on the needs and direction of growth of the domain and correspondingly what the goals should be in educating the students.

2. Process for Identifying the Gap between the POs/PSOs and the University Syllabus and Action Taken

- The gap analysis process is carried by conducting a brainstorm session among the faculty of the department and by collecting feedback from alumni and Industry experts.
- Faculties come with feedback considering the university syllabus and curriculum.
- Based on the data collected, department faculty committee, evolved with a curriculum for the Gap.
- The data collected was then presented in front of the Department Advisory Committee.
- Suggestion and modifications suggested by the DAC in the curriculum for the Gap processed and the final curriculum is decided.
- After approval from HOD, the delivery plan of the gap is designed by the department meeting.

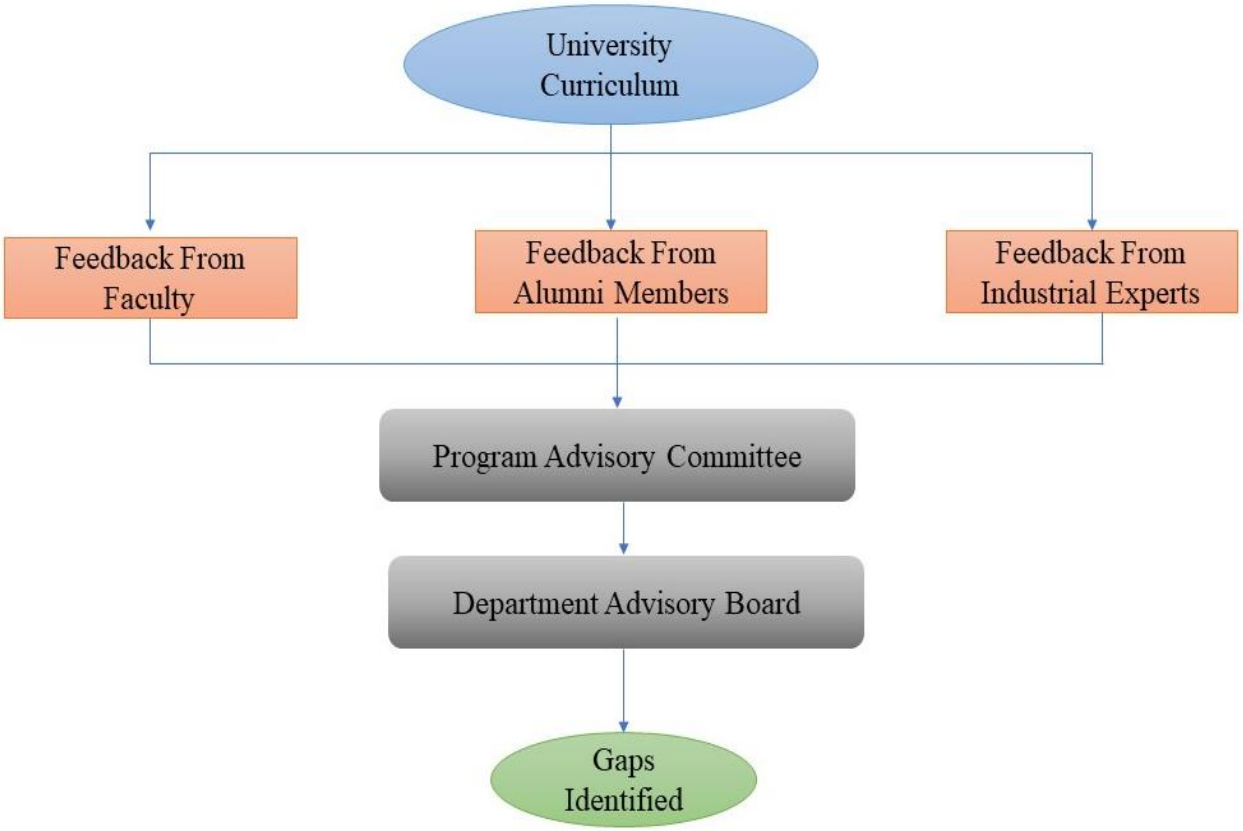


Figure 2: Process of Gap Identification

After identifying the Gaps in the Curriculum, the Content beyond Syllabus to be delivered to the Students are prepared, along with the appropriate methods of delivery, to fill each Gap. The different methods planned are given in the Table 2, along with justification.

Course Delivery Methods	Justification
Guest Lectures	• The students collect knowledge related to a topic. • The students can design solutions for complex engineering problems that meet the specified needs with appropriate consideration. • The students will be able to use research–based knowledge and research methods including design of experiments analysis and interpretation of data, and synthesis of the information to provide valid conclusions. • Lectures would relate engineering practice with ethical issues.
Group Tasks (Mini Projects, Paper Presentations, Project Exhibition)	• Apply Reasoning to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the CSE professional. • Enable the students to experience the theoretical knowledge in real world using modern tools. • Build project management capability and communication skills • Encourage the students to lead an association team • Provide hardware/software solutions and present demonstrable product with discussion.
Quiz	• Gain Knowledge and Confidence • Have an Edge in the Job Market • Gain communication skills • Encourage the students to lead an association team
Power Point Presentation & E-Learning Resources	• Gives an insight of the work culture ethics revealing in Industries. • Presentations are given to illustrate ideas and concepts in intricate graphics form. • Used animation effectively to communicate the working principals and their impact. • Resources from NPTEL and other resources are made available to the students and staff.
Additional Laboratory Experiments	• Enable the students to experience the practical implementation of theoretical knowledge in real world. • Identify, Formulate, review research literature and analyse lab experiments. • Gain Valuable Work Experience by designing solutions for engineering problems. • Experiments give a realization that hardware keeps changing thus a lifelong learning is necessary. • Communication and individual & Team work can be achieved.

Table 2: Content beyond Syllabus to fill the Gaps Identified

3. Process to improve the Quality of Teaching Learning Process

A. <u>Adherence to Academic Calendar</u>

- University sends Academic Calendar for respective academic year in the beginning of thatacademic year comprising of semester start date, semester end date, start and end of practical examination, start and end of Theory examinations, list of holidays.
- Institute follows the Academic Calendar provided by the University.
- Institute prepares its own calendar of events in line with the University calendar of events in leadership of Principal, IQAC coordinator, participation of all department HODs and various co-ordinators.
- Institute calendar of events comprises of three IA test dates, inter collegiate and Intra collegiate fest, Alumni meet, Graduation Day etc.
- It is communicated to all the departments.
- Department prepares its own Calendar of Events adding dates for departmental events such as Seminars, Industrial Visits, IA tests, Reviews, Conferences, Workshops etc.

- Calendar of Events will be strictly followed during the semester.

B. <u>Use of various instructional methods and pedagogical initiatives.</u>

The following are the various instructional methods and pedagogical initiatives used for the efficient delivery of the courses:

1) Lecture Method and Interactive Learning:

- The faculty use chalk and board and audio-visual aids for teaching.
- Students are encouraged to interact during the lecture hour by getting the doubts clarifiedon the spot.
- The faculty uses models and charts for interactive teaching method.

2) Project-Based Learning:

- Students will be encouraged to attend workshops on their level of understanding from 2nd year onwards such as, Robotics, Android, Machine Learning etc.
- From 2nd year onwards, all the programming related courses will be taught in line with small Projects, so that the students will be adapted to mini-Projects culture.
- Simulator based teaching is used wherever it is applicable such as Data Structures, Computer Networks, Operating Systems etc.
- Case Study/Workshop based training is followed for subjects such as Management and Entrepreneurship, Management Information System etc.
- During the period of study in the 4th to 8th semester, real time projects are given to the students and they are guided by both faculty and Industry/Research personnel.
- Students are encouraged for internship in industry during vacations.

3) Computer-Assisted Learning:

- The College has acquired number of computers, printers, LCD projectors, application, and system software.
- These are effectively used for teaching.
- The students are encouraged to develop software for the solution of the assignments and tutorials. Many final year projects are completed using software which is made available.
- Theory subjects having practical lab is taught in the lab, so that Hands-on instructions will be given in that lab itself for example UNIX, DS, ADE etc.

4) SMART Class Room:

- Faculty members are using SMART class room to make session interactive wherever necessary and applicable for that course.
- Projector is used for demonstration, video audio facilities.

5) Other Innovative Teaching methods adopted by the faculty

- **Real Time Demonstration:** Teaching with models is implemented to give real-timeapproach to the concept such as books placed one upon the other to show the working of stack.
- **Revision and Summary:** In class room teaching faculty use 5 minutes for revising earlier taught topics and the last 5 minutes is used to give summary of the current class. Hence students are taught three times the same topic.
- **Improvement of Presentation and Communication Skills:** The Co-curricular activities such as seminar, roleplay conducted in a class for some courses like Cloud computing, Data Mining and Data Warehousing. So that students attain POs such as PO8, PO9, PO10 and PO12. In the seminar, each student will present the given topic for 10 minutes in a semester. Role play is conducted by making groups of the students to explain specifictopic in a class.

- **Self-Study Notes:** Respective **c**ourse faculty members prepare and share their course material to the students which they have prepared considering the syllabus and previous year university question paper.

C. Methodologies to identify and support weak students and encourage bright students

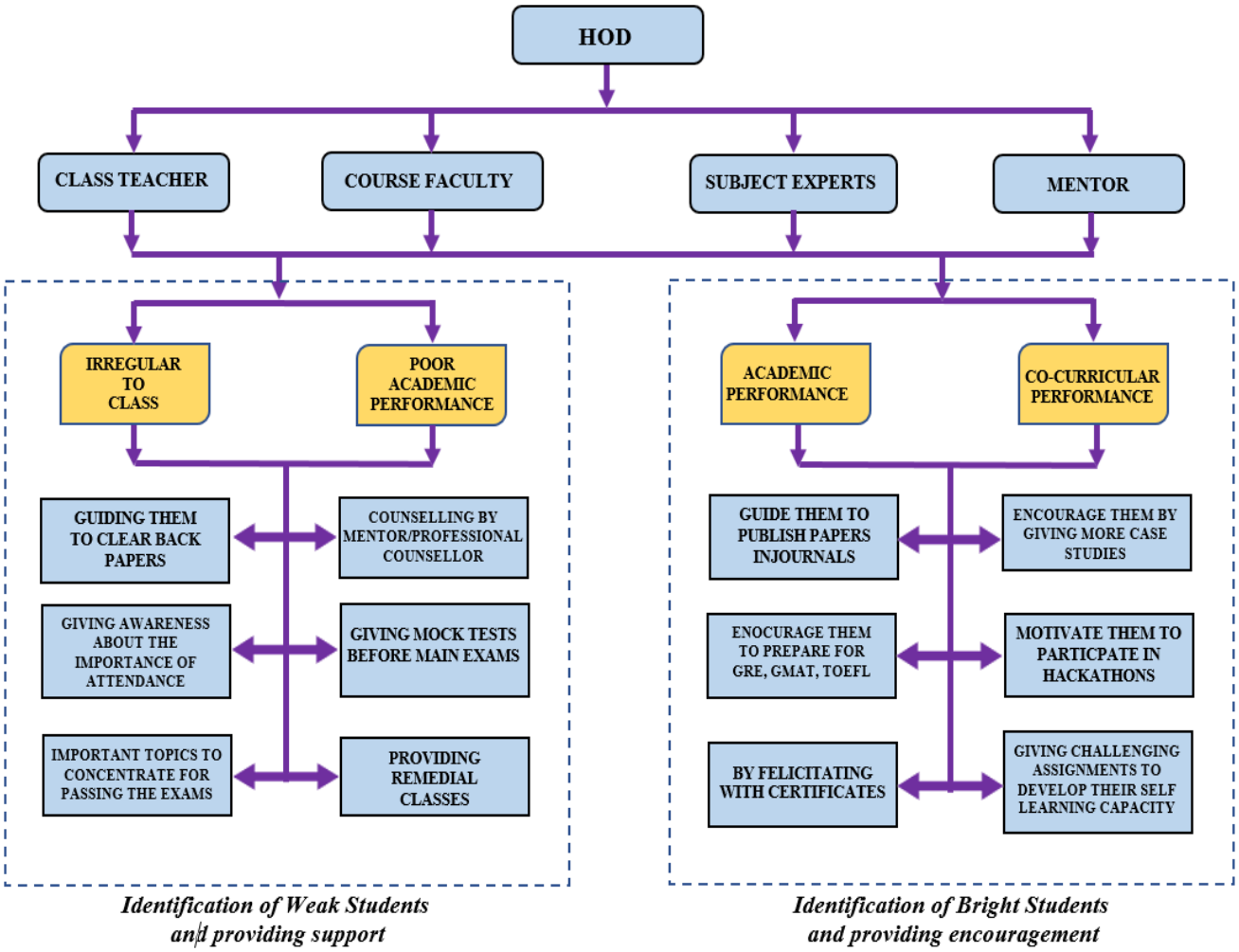


Figure 3: Methodologies to identify and support weak students and encourage bright students

- TJIT has a well-maintained mentorship system.
- Every mentor is mentoring 15 to 20 students in a class.
- The course taught by course faculty, subject teachers, class teachers and mentors are continuously monitoring students in the department.
- Those who are irregular in the class and showing poor academic performance in the first internal exam are considered as weak students.
- Students who are performing well in their academic activities and co-curricular activities are treated as bright students.
- Periodic Counselling are given to the weak students by the counsellors and mentors.
- Teachers are (Class teacher as well as subject teacher) giving proper guidance to them to clear the back papers.
- Institute is regularly conducting the induction program during their first year and giving proper awareness about the attendance.
- Weak students are also given remedial classes for their poor performing subjects.

- Department is following a system for maintain module wise question bank/previous year question papers in a proper organized way in the one drive. Which is accessible to every student.
- The students are continuously monitored in every terminal examination to ensure there is a progress in their result and it will be intimated to their parents as a regular practice in our department.
- Institute is also encouraging the bright students with more case studies to improve their programming skills.
- Department encourage bright students to participate in hackathon competition to improve their project management skill, team work as well as programming skills.
- Department also encourage the bright students to appear in GMAT, GATE, TOEFLL etc. to enable them to get admissions in reputed institutions abroad.
- More challenging assignments are given to the bright students for developing their self-learning skills.
- We encourage the students to participate in various national / international journals.

D. <u>Quality of classroom teaching (Observation in a Class)</u>

The following innovative teaching methods are adopted by the faculty:

- Teaching-Learning pedagogy include traditional chalk & talk methods, presentations, video lecturing and collaborative learning methods.
- Faculty members provide the learning needs of the students using innovative methods based on Outcome Based Education (OBE).
- Well-structured lesson plans are prepared for all theory and practical courses on a period-to-period basis.
- Assignments are given to students to enhance their performance.
- Question banks are prepared which consist of VTU Question Papers, Assignment questions, Test Question Papers, Solution & Scheme and Extra Questions.
- Different strategies are used in different combination with different groupings of students to improve Course Outcomes.
- Class and Individual Time Tables are prepared. In time table four hours allotted per subject per week, difficult subjects in every semester are allotted five hours per week.
- The Course Objectives and the Course Outcomes are defined for each course.
- Each student is provided with course file so that they are aware about various importantactivities pertaining to the course well in advance.
- E-learning facility (using NPTEL based Lecture CD) is made available forenhancing the learning ability of the students in the college as well as departmental library.
- Power Point Presentation is given using LCD Projectors for all theory subjects forteaching purposes.

E. <u>Conducts of Experiments (Observation in Lab)</u>

- Experiments in the Laboratories are conducted as per the University Guidelines.
- Faculty members of respective specialization will be formed a group to discuss the preparation of Manual, Material Requirements, Conduction of Experiments and Cycle of Experiments before Commencement of Semester.
- The Computer Science & Engineering Laboratories are conducted in session of 3 hours, ineach session the faculty explains the Logic and (or) Algorithm of the program to be experimented.
- One faculty member and one instructor are assigned for each practical class.

- Laboratory Manuals explaining the details of the experiment are made available to students.
- The observations are checked and verified by the faculty and marks are been entered against each experiment in their record books and average marks of the experiments are taken for the final continuous assessments in the laboratory.

Level	Evaluation Type	Marks
2018 Scheme		
1.	**Continuous Evaluation of Laboratory Subjects**	**40 Marks** (12 Marks for **Observation**, 12 Marks for **Lab Record** & 16 Marks for **Internal Lab Exam**)
2.	**Observation**	**12 Marks** (12 Marks for each Experiment [with the Rubrics: 4 Marks for **Lab Preparation for each Experiment**, 4 Marks for **Lab Performance during each Experiment** & 4 Marks for **Viva-Voce Performance during each Experiment**] and the Average of all the Experiments will be converted to 12 Marks)
2.	**Lab Record**	**12 Marks** (12 Marks for each Experiment entry in the Lab Record and the Average of all the Experiments will be converted to 12 Marks)
2.	**Internal Lab Exam**	**16 Marks** (10 Marks for **Experiment Execution during Internal Lab Exam** & 6 Marks for **Viva-voce performance during Internal Lab Exam**)

Table 3.1.: Evaluation Pattern of the Laboratory Subjects

Laboratory Continuous Evaluation Rubrics				
Category	**100%**	**75%**	**50%**	**25%**
Lab Preparation for each Experiment	**Excellent** in terms of understanding of lab objectives and concepts and the preparedness towards attending the Lab.	**Good** in terms of understanding of lab objectives and concepts and the preparedness towards attending the Lab.	**Fair** in terms of understanding of lab objectives and concepts and the preparedness towards attending the Lab.	**Satisfactory** in terms of understanding of lab objectives and concepts and the preparedness towards attending the Lab.
Lab Performance during each Experiment	**Excellent** if the Execution of experiments is completed with expected outputs.	**Good** if the Execution of experiments is completed with fairly good outputs.	**Fair** if the Execution of Experiment is completed with moderate outputs.	**Satisfactory** if the Execution of the experiment is completed by seeking assistance to get the expected Output.
Viva-Voce Performance during each Experiment	**Excellent** if the Questions are answered correctly and can explain the concepts completely.	**Good** if the Questions are answered fairly well and can explain basic concepts fairly.	**Fair** if the Questions are answered with difficulty and have difficulty in explaining the lab concepts.	**Satisfactory** if the Questions are answered after referring the learning materials.
Experiment Execution during Internal Lab Exam	**Excellent** if the Execution of experiments is completed with expected outputs.	**Good** if the Execution of experiments is completed with fairly good outputs.	**Fair** if the Execution of Experiment is completed with moderate outputs.	**Satisfactory** if the Execution of the experiment is completed by seeking assistance to

				get the expected Output.
Viva-Voce Performance during Internal Lab Exam	**Excellent** if the Questions are answered correctly and can explain the concepts completely.	**Good** if the Questions are answered fairly well and can explain basic concepts fairly.	**Fair** if the Questions are answered with difficulty and have difficulty in explaining the lab concepts.	**Satisfactory** if the Questions are answered after referring the learning materials.
Lab Record	**Excellent** if the Record is very well maintained with flowcharts and diagrams wherever necessary with no Errors.	**Good** if the Record is well maintained with flowcharts and diagrams wherever necessary with minimal Errors.	**Fair** if the Record is fairly maintained, but improvements are required with flowcharts and diagrams, wherever necessary.	**Satisfactory** if the Record is maintained after Re-submission.

Table 3.2.: Evaluation Rubrics of the Laboratory Subjects

F. Student Feedback of Teaching Learning Process

- In each semester, the students will give online feedback about the performance of the faculty members through the Student Portal provided in the College Website.
- The software will provide the Faculty Performance Index (FPI) by evaluating the feedback provided by the students on the following parameters related to the concerned faculty member:
  a. Punctuality
  b. Preparation for the class
  c. Depth of subject Knowledge
  d. Ability to solve doubts
  e. Completion of Syllabus
  f. Presentation skill like voice clarity & Language
  g. Interaction with the students
  h. Use of audio-visual media
  i. Level of Motivation and enthusiasm
  j. Skills as mentor
- This FPI & the detailed feedback sheet will be available for the concerned faculty member in the ERP and the same will help the faculty members to understand his/her strength and weakness and thereby to improve the quality of Teaching Learning Process.
- The faculty members who have secured good scores and comments in the feedback, are appreciated by the HOD in the staff meeting.
- The faculty members who have secured low scores and comments in the feedback, are counselled, and motivated by the HOD to improve their skills and abilities.
- If required, Training/Orientation Programs are conducted by professional experts to enhance the skills of the faculty members in the nuances of teaching, thus improving the overall efficiency of Teaching-Learning process.
- **Feedback collection process**: Online feedback is collected from the Students once in a semester through the ERP software (Oracle PeopleSoft), which has the customized questionnaires covering all the aspects of teaching learning process.

4. Processes used to gather the data upon which the evaluation of Course Outcomes (Cos) of First Year

- The various assessment methods used to gather the data, upon which the evaluation of Course Outcomes of first year is done are as follows.
- The course outcomes are defined by faculty.
- The course contents are delivered both at theory and lab classes.
- Course Outcome (CO) & Semester End Examination (SEE) targets are fixed for various courses at the department level, based on the earlier performance of the students in the semester end examination.
- The Evaluation of the students' performance is done through Internal Assessment & Assignments.
- **2018 Scheme**: Three internals were conducted, each internal was carried for 50 marks. Sum of three internals marks were scale down to 30 marks. Assignment for 10 marks. The sum of Assignment & internal marks will be the final CIE out of 40 marks.
  - In case of practical courses, 40 internal marks were awarded based on the weekly evaluation reports & one test.
  - 12 Marks was awarded for observation. 12 marks was awarded for writing practical record (Report). 16 marks was awarded for semester end lab test.
- **2021 Scheme**, Three internals each for 50 Marks were conducted and marks of each test is reduced to 20. Assignments for 20 marks. Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for 20Marks. The sum of three tests, Assignments, and quiz/seminar/group discussion will be out of 100 marks and will be scaled down to 50 marks.
  - In case of practical courses, 50 internal marks were awarded based on the weekly evaluation reports & one test.
  - 20 Marks was awarded based on semester end lab test performance. 15 marks was awarded for writing practical record (Report). 15 marks was awarded for observation. 20 marks were awarded for semester end lab test.
- **2022 Scheme**:

For 1 Credit Course	Three tests were conducted, each of 30 marks. The sum of the best two out of three internals (60 Marks) was considered. Three assignments each of 20 marks were conducted & the sum of three assignment marks scaled down to 40 marks. The sum of tests & assignments marks was scaled down to 50 marks.
For 2 & 3 Credit Courses	Three tests of each 50 Marks were conducted & scale down to 20 marks. Three assignments each of 20 marks were conducted, Sum of three assignments were scaled down to 40 marks. The sum of three internal marks & assignments were scaled down to 50 marks.
For 4 Credit Courses	Theory component: Three test of each of 50 marks were conducted and each test marks were scale down to 20 marks. Three assignments of each of 10 marks & scaled down to 20 marks. The sum of three internal & assignment marks were scaled down 30 marks. Practical component: 15 Marks for the conduction of the experiment & preparation of the record. Lab internal was conducted for 100 marks and scaled down to 5 marks. Total marks for the practical component is 20 marks.

Table 4: Assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year (2022 Scheme)

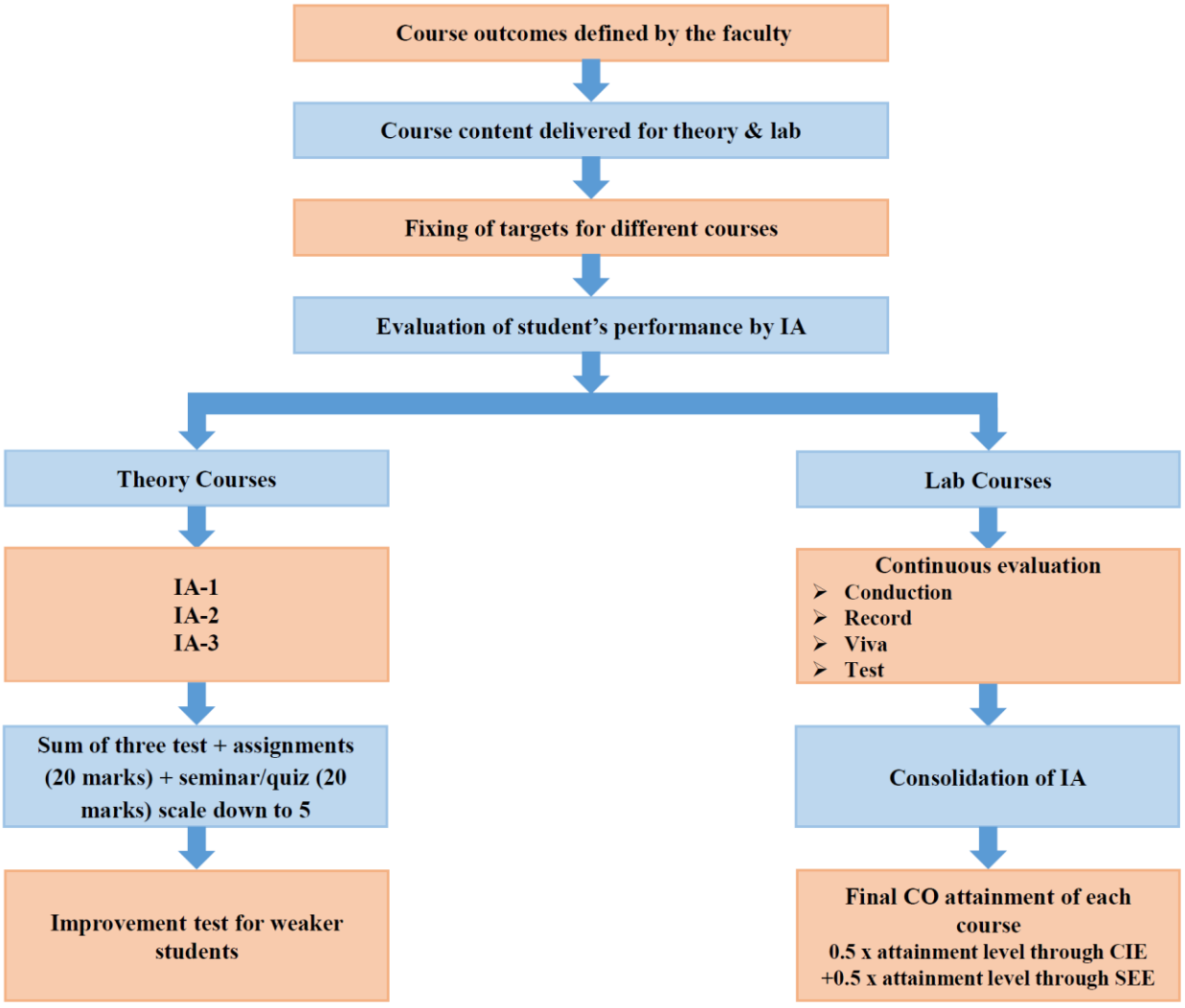


Figure 4: Flow Chart of the Process for the Attainment of Course Outcomes

5. Processes used to gather the data upon which the evaluation of Program Outcomes (POs) & Program Specific Outcomes (PSOs) of First Year

- The internal & external marks of the students are recorded with respect to courses.
- Record the class average marks of that section in both CIE & SEE & Record the number of students greater than or equal to class average marks in both CIE & SEE.
- Calculate the percentage of students had more than or equal to class average marks.
- Attainment level was calculated based on the criterion mentioned in the below table.

CO (MACRO) ATTAINMENT LEVELS	
LEVEL 1	40% of the Students scored more than CA for CIE & 30% of the Students scored more than CA for SEE
LEVEL 2	**50% of the Students scored more than CA for CIE & 40% of the Students scored more than CA for SEE**
LEVEL 3	60% of the Students scored more than CA for CIE & 50% of the Students scored more than CA for SEE

- Course attainment level for each course is the Average of CIE & SEE (0.5 x attainment level through CIE +0.5 x attainment level through SEE).
- The obtained Course attainment level value of each course assigned for each POs of respective course.
- Each course is mapped with respective POs by course teacher.
- The Pos/PSOs attainment is done using the below formula:
  - **Attainment of PO/PSO = (Average of attainments of relevant COs) X (Scale Factor)**
  - **Scale Factor = (Actual Mapping Strength) / (Maximum Possible Mapping Strength) = (Actual Mapping Strength)/3**
- If the Pos/PSOs are attained, then actions are taken to improve the attainment degree for the upcoming batch.
- If the Pos/PSOs are not attained, then actions are taken to ensure that the concerned POs/PSOs are attained for the upcoming batch.

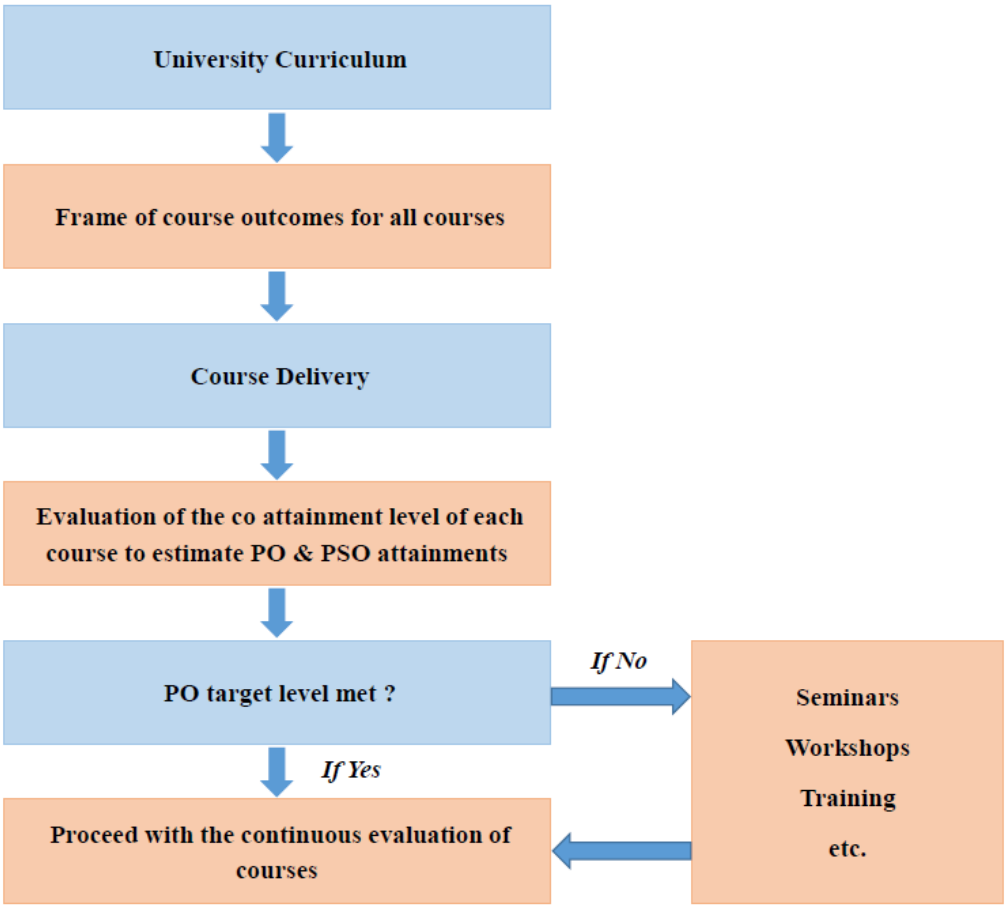


Figure 5: Flow Chart for Evaluating the POs/PSOs and Action Taken

6. Process used to gather the data upon which the evaluation of Course Outcome of Higher Semesters

A. List of assessment processes

- The key aspects in Outcome-Based Education (OBE) are the assessment of course outcomes. At the initial stage of OBE implementation, the Course Outcomes (COs) for each course are defined based on the Programme Outcome (POs) and other requirements. At the end of each course, the COs needs to be assessed and evaluated, to check whether it has been attained or not.

- Assessment is one or more processes, carried out by the department, that identify, collect, and prepare data to evaluate the achievement of programme educational objectives and programme Outcomes.
- Attainment is the action or fact of achieving a standard result towards accomplishment of desired goals. Primarily attainment is the standard of academic attainment as observed by test or examination result.
- Attainment of the COs can be measured directly and indirectly.
- Direct attainment basically displays the student's knowledge and skills from their performance. It can be determined from the performance of the students in all the relevant assessment instruments – like internal assessments, assignments, quiz, and final university examination. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.

Continuous Internal Evaluation (CIE) through Direct Assessment

Sl. No.	Direct Assessment	Description
1.	**Internal Assessment (IA) tests**	Centralized Exam Cell will conduct three internal tests, scheduled in accordance with the university and college calendar of events.
		The faculties will prepare 3 sets of Question papers for the respective subject and will be submitted to Exam Cell well in advance through IA coordinator
		Centralized Exam Cell will conduct three IA tests as per calendar of events.
		The faculties will follow scheme and solutions for each test and evaluate the performance of students as per the assessment rubrics. The Internal assessment marks are based on average of best score of two tests conducted.
		There shall be maximum of 40 Marks IA in each Theory course and 40% (i.e. minimum of 16 marks of IA is mandatory).
		Attainment levels are defined at the department level as: Level 3: 55% of students scoring ≥ set target Level 2: 50% of students scoring ≥ set target Level 1: 45% of students scoring ≥ set target
		The CO attainment percentage is calculated based on the total no. of students appearing for the COs and the no. of students scoring ≥ set target and the CO attainment level for the theory course is recorded.
2.	**Assignments/ Quiz/Seminar**	Subject handling faculty will give two to three Assignments/Quiz/Seminar and average of all the written assignments/quiz/seminar will be reduced to out of ten and the scored marks will be added with IA which will contribute to the total average.
3.	**Lab assessment**	Laboratory in-charge faculties will follow the rubrics, which is set by the department for evaluation of laboratory experiments/programs based on scheme of study
		There shall be maximum of 40 Marks IA in each practical and 50% (i.e minimum of 20 marks of IA is mandatory) in order to obtain eligibility to appear for the university practical examination.
		Attainment levels are defined at the department level as: Level 3: 55% of students scoring ≥ set target Level 2: 50% of students scoring ≥ set target Level 1: 45% of students scoring ≥ set target
		The CO attainment percentage is calculated based on the total no. of students appearing for the assessment and the no. of students scoring ≥ set target and the CO attainment level for the laboratory course is recorded
4.	**Technical Seminar**	The Department selects a senior faculty member as a seminar coordinator.
		Seminar Coordinator along with Head of the Department will for a Seminar Assessment Board which has to coordinate with other faculty to assess the Technical seminar presentations by the students. He/She would ensure that the students choose

		advanced concepts in Computer Science and Engineering / IT field. One seminar presentation per student in the VIII semester would be conducted as per the schedule. Seminar coordinators will follow rubrics, which is set by the department for evaluation.
		Seminar Coordinator has to coordinate with other faculty to assess the Technical seminar presentations by the students. He/She would ensure that the students choose advanced concepts in Computer Science and Engineering / IT field. One seminar presentation per student in the VIII semester would be conducted as per the schedule. Seminar coordinators will follow rubrics, which is set by the department for evaluation.
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		Seminar Coordinator has to coordinate with other faculty to assess the Technical seminar presentations by the students. He/She would ensure that the students choose advanced concepts in Computer Science and Engineering / IT field. One seminar presentation per student in the VIII semester would be conducted as per the schedule. Seminar coordinators will follow rubrics, which is set by the department for evaluation.
5.	**Internship**	Final year students attend mandatory 4-week internship. Internship work will be evaluated by Internship guide and internship coordinator for award of internal assessment marks. The semester end examination (SEE) will be conducted at the end of the semester by the internal and external examiners appointed by the BOE (University).
6.	**Project**	The department will form a Project Assessment Board which will propose the project idea based on the area of interest at the end of third year or student can also propose their project idea in front of Project Assessment Board.
		Student proposes project batches based on their area of interest which will be approved by project coordinators.
		Synopsis submitted by faculty/students will be scrutinized by the project coordinators.
		Project Batches are allotted to the internal guides based on the specialization and competency skills of the faculty. Each internal guide will continuously monitor their students on a weekly basis to observe the progress of the work. The project guide along with project coordinator conduct 2 project reviews as per the rubrics, which is set by the Department and the submit the Internal Assessment marks to the Head Of Department in 7th and 8th semester. The department will encourage students to participate in technical Expo and the project guides motivate and guide the students to publish in standard conference/journal forums.

Table 6.1.: Continuous Internal Evaluation (CIE) through Direct Assessment

Semester End Examination through Direct Assessment Process

Sl. No.	Direct Assessment	Description
1.	**Theory examination marks**	Semester End Examination (SEE) is the metric to assess whether all the course outcomes are attained or not framed by the respective subject faculty.
		SEE is more focused on attainment of course outcomes and uses a descriptive exam.
		There shall be maximum of 80 Marks and minimum of 28 marks in order to pass the university examination.
2.	**Practical examination marks**	SEE is conducted by the panel of examiners deputed by the University BOE.
		Based on the write-up, conduction, and viva voce the marks are awarded to the students and submitted to university.

		There shall be maximum of 80 Marks and minimum of 32 marks in order to pass the university practical examination.
3.	**Internship**	External Internship Examination is conducted by the panel of examiners deputed by the University BOE.
		Based on the Internship evaluation, marks are awarded to the students and submitted to university.
4.	**Project viva voce**	External Project Viva voce is conducted by the panel of examiners deputed by the University BOE.
		Based on the viva voce, the marks are awarded to the students and submitted to university.

Table 6.2.: Semester End Examination through Direct Assessment

7. Process used for measuring the attainment of each of the Program Outcomes (POs) and Program Specific Outcomes (PSOs) of Higher Semesters

A. List of Assessment Tools and Process

Direct Assessment Tool: To know the effectiveness of the delivery through direct method, Internal Assessment (IA) is conducted on a regular basis. The IA includes Internal Tests, Internal Laboratory Tests, Assignments, Technical Seminar (Internal & Semester End Assessments), Project Work (Internal & Semester End Assessments), Internships, and Industrial Visits.

Indirect Assessment Tool: To know the effectiveness of the delivery through indirect method, Program Exit Survey is conducted to gather the opinion and suggestions from the graduated students about the acquired knowledge and skill sets.

Sl. No.	Direct Assessment Method	Description	Frequency
1.	Internal Assessment - Theory	The internal assessment marks for a theory subject shall be based on best of two internal tests marks obtained out of three. Average of the best two tests shall be the internal assessment marks for the relevant theory subject. Internal assessment is done through descriptive questions.	Thrice in a semester
2.	Internal Assessment - Laboratory	The internal assessment marks for a laboratory shall be based on laboratory reports (Record), conduction of experiments, viva voce and internal test marks obtained	Before the end of every semester
3.	Assignments/ Quiz/Seminar	The assignments /Quiz/Seminar will be given by the subject faculties, secured marks will be added to the final average of the subject.	One to three in a semester
4.	Internal Assessment - Technical Seminar	The internal assessment marks in the case of seminars in the final year shall be based on the evaluation by a committee comprising of head of the department and senior faculty members as per rubrics prepared.	VIII semester
5.	Internal Assessment – Project Work	The internal assessment marks in the case of project in the final year shall be based on evaluation of one feasibility seminar and three progress seminars by a committee comprising of head of the department, senior faculty members and project guide as per rubrics prepared.	VII / VIII semester
6.	Internal Assessment - Internship	The internal assessment of the Internship will be carried on based on the relevance of the topic and its application the industry where the student will undergo training. After the completion of internship, a presentation will be given by the students in front of Committee comprising of Head of the department, Internship coordinator and guide. Final marks will be evaluated as per the rubrics	VIII semester

7.	Semester End Examination - Theory	Theory examination is focused on attainment of course outcomes through descriptive exams for the respective theory subjects.	End of every semester
8.	Semester End Examination - Laboratory	Practical examination focuses on conduction of experiments and viva-voce for attaining their respective course outcomes.	End of every semester
9.	Semester End Examination - Technical Seminar	The external assessment marks in the case of Internship in the final year shall be based on evaluation of presentation and internship report by a committee comprising of internal and external examiner.	VIII semester
10.	Semester End Examination – Project Work	The external assessment marks in the case of project viva-voce in the final year shall be based on evaluation of presentation and project report by a committee comprising of internal and external examiner	VIII semester
11.	Semester End Examination – Internship	The external assessment marks in the case of Internship in the final year shall be based on evaluation of presentation and internship report by a committee comprising of internal and external examiner.	VIII semester
Sl. No.	**Indirect Assessment Method**	**Description**	**Frequency**
1.	Program Exit Survey (Annexure II)	Program exit survey assesses opinions or thoughts about the knowledge acquired by the students in the full Program	End of VIII semester

Table 7: List of Direct and Indirect Assessment Methods

B. Process Followed For Measuring Attainment of POs & PSOs

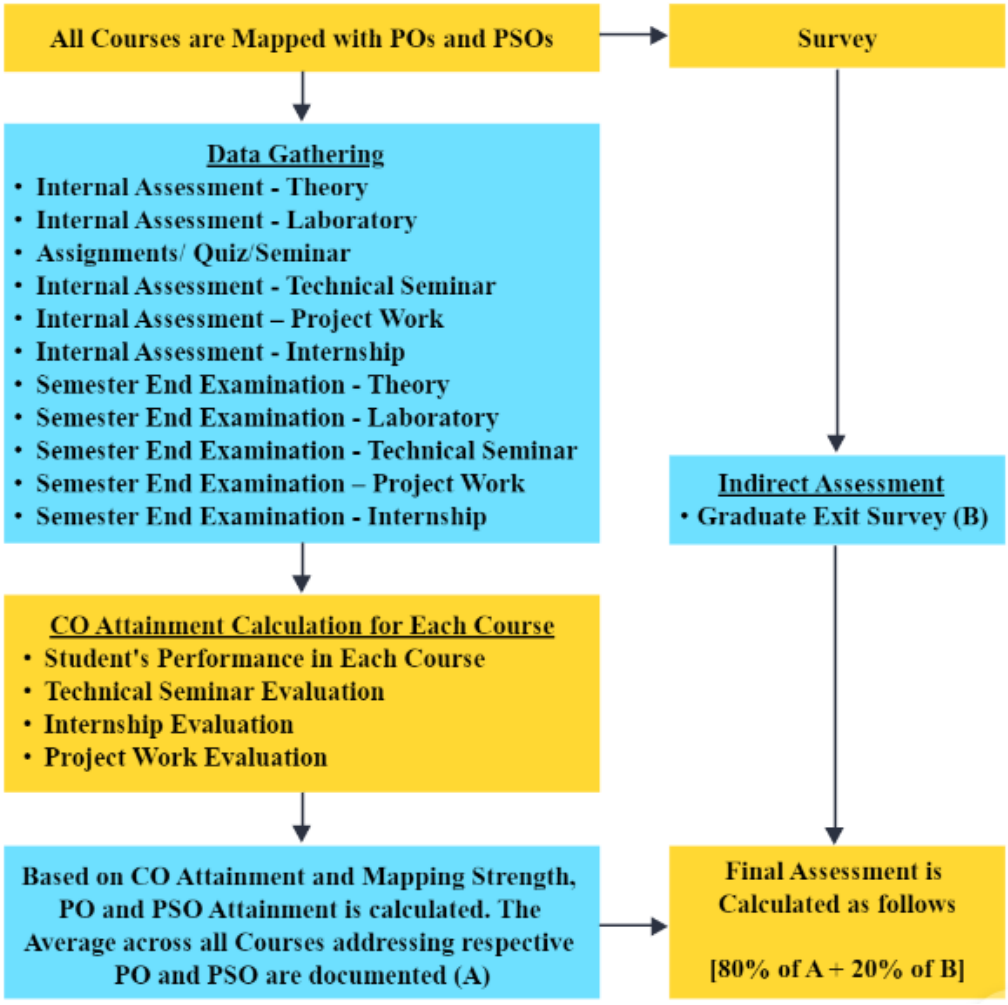

Figure 7: Processes used for measuring the attainment of each of the POs and PSOs

8. Process for internal test/exam question paper setting and evaluation and effective process implementation

- Internal exams are conducted as per the academic Calendar of the department.
- Time table is prepared and communicated by the coordinator of the examination cell two weeks prior to the conduct of the examination.
- Concerned Faculty members are intimated to submit three sets of question papers, scheme and key for evaluation.
- Appropriate seating arrangements are made by the Examination Committee.
- The question papers are prepared by the concerned faculty members and approved by QP scrutiny committee
- Students' attendance is taken during internal exam
- Answer papers are collected after the completion of scheduled time and handed over to the faculty member of the respective subject for evaluation.
- The faculty members will evaluate the answer scripts and the consolidated mark list is prepared by the department. The answer papers are returned to the student or retained by the colleges for further scrutiny, if required.
- Grievances concerned with internal marks are entertained within a week after publication of internal marks and it is intimated to the students.
- The internal assessment marks are sent to the university as per the requirement and a copy retained till the results are declared.

A. Process for QP validation and the composition of Question Paper Scrutiny Committee

- The department has a question paper Scrutiny committee. The members of the committee are nominated by the HOD and is approved by the Principal.
- There will be a separate committee available for each semester with 2 – 3 senior faculty members.
- Scrutiny committee evaluate the question paper based on the following parameters
  - *Uniform Coverage of questions from outcome/Learning level perspective.*
  - *Uniform Coverage of the entire syllabus prescribed.*
  - *Time allotted for the paper.*
  - *Clarity and Completeness of the Questions asked.*
  - *The standard of the Questions to judge the Knowledge and Analytical skills of Students*
  - *The Difficulty Level of the Questions asked*
  - *Innovative Questions asked in the Paper*
  - *Quality of the Scheme of marking and Model Answers*
- If the question papers are not properly covered all the above parameters, it will go for a rejection/revision.
- The committee selects one quality question paper out of three sets and given to the examination cell for conducting that internal examination with respective scheme and key.

B. Procedure for Internal Assessment Evaluation

- Scheme and Solution of each paper is discussed after the test for the better performance in the final examination.
- Each test shall be conducted for a defined maximum marks and the final test marks shall be the average of three tests, proportionately reduced to a maximum mark depicted in the University Regulation.

- Final IA is calculated based on the Average of 3 Tests & Assignment(s)/Seminar(s)/Quiz(s) in each theory or practical course.
- A student shall score a minimum of 40% in CIE failing which he/she shall lose eligibility to appear for Semester End Exam (SEE) in respective courses and repeat the course by reregistering.

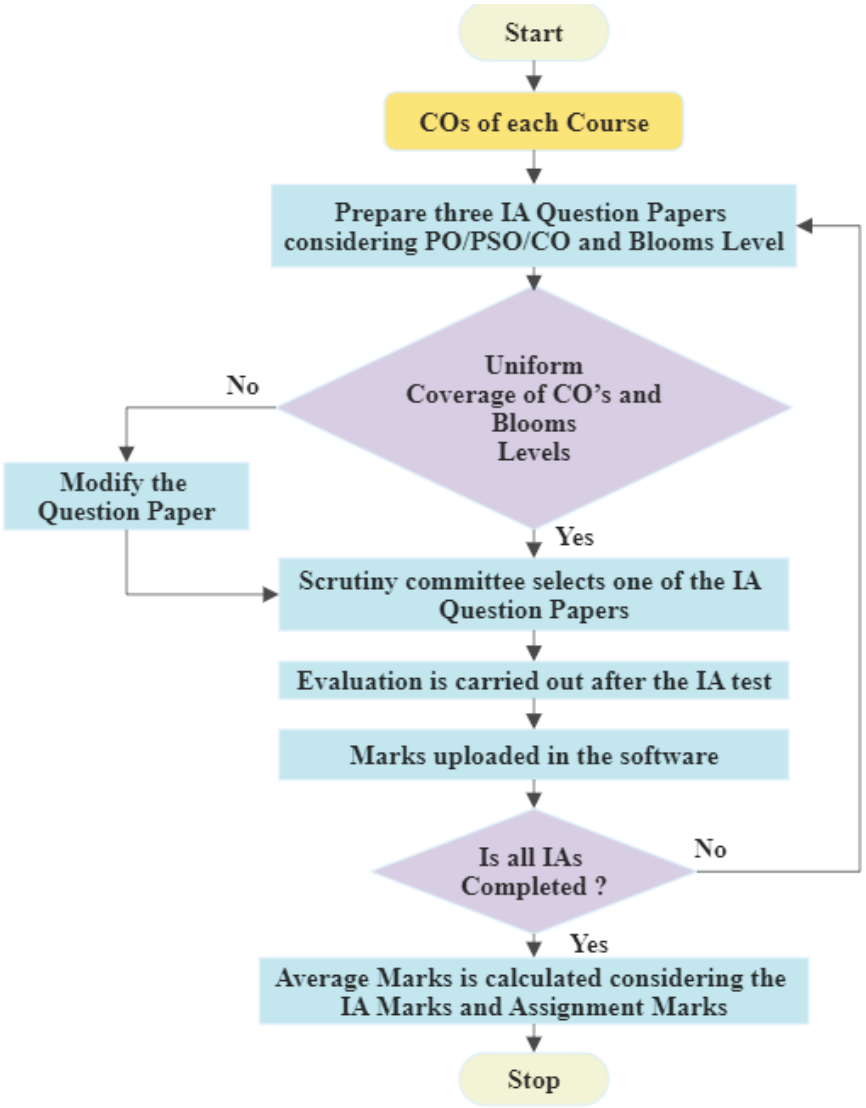

Figure 8: Process for Setting and Evaluation of Internal Semester Question Paper

C. <u>Evidence for the coverage of COs in Internal Exams</u>

- The faculty member conveys and make the students understand the course objective of each course in the introduction class itself.
- Internal assessment question papers will be set considering the COs.
- Each question is mapped to the appropriate CO.
- Scrutiny committee rejects the question paper if the mapping of the question to the CO is inappropriate.
- The faculty members set the question paper in such a way that all three IA question papers together cover all the Cos.

D. <u>Quality of Assignment and its relevance to COs</u>

- All students are required to submit one to three assignments per Course.
- Assignment Questions are prepared considering Course Outcomes.

- Utmost care is taken to see that the students are not overloaded with more subject's assignments at a time, so that their performance will not come down.
- The student must answer the assignment questions and submit within a given period.
- Each assignment is evaluated for 10 Marks and the cumulative marks will be scaled down out of 10 and the same will be added with their CIE marks.

	Excellent	Good	Average	Needs Improvement
Timely Submission	Assignment submission on time	Assignment submission after one day of the deadline	Submission after Warning	Too late submission
Organization of the Content	Contents are well organized	Contents are organized considerably well	Organization of the content is average	Poor organization
Quality of the Content	Information very relevant to the question	Information relevant to the question	Information not that relevant to the question	Poor quality of the content
Presentation of the Content	Present full knowledge by answering all the questions with explanation and elaboration	Is at ease with expected questions without much explanation and elaboration	Attempts to present all the questions without explaining in detail.	Have not presented the Content well.

Table 8: Rubrics for evaluating the Quality of Assignment

9. Process for implementing Quality Student Projects

Visvesvaraya Technological University, Belagavi has provided with the curriculum for the Project Work Phase – 1 in 7th semester and Project Work Phase – 2 in the final semester. Clear cut guidelines for the completion of Project Work Phase – 1 and Project Work Phase – 2 are given by the VISVESVARAYA TECHNOLOGICAL UNIVERSITY. Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6. A rubric for the evaluation of CIE procedure for Project Work Phase – 1 and Project Work Phase – 2 is also issued by the university.

Project Work CIE procedure for Project Work Phase-1:

- The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department, Project co-ordinator and the guide.
- The CIE marks awarded for the project work phase-1, shall be based on the evaluation of the project work phase-1 Report (covering Literature Survey, Problem identification, Objectives and Methodology), project presentation skill and question and answer session in the ratio 50:25:25.
- The marks awarded for the Project report shall be the same for all the batch mates.

Project Work CIE procedure for Project Work Phase-2:

- The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two senior faculty members of the Department, one of whom shall be the Guide.
- The CIE marks a project work phase -2 Report, project presentation skill and question and answer session in the ratio 50:25:25.
- The marks awarded for the project shall be the same for all the batch mates.

Project Work SEE procedure for Project Work Phase-2:

- Contribution to the project and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department. Detailed Rubric for the project evaluation is depicted in section C.

A. Identification of projects and allocation methodology to Faculty Members

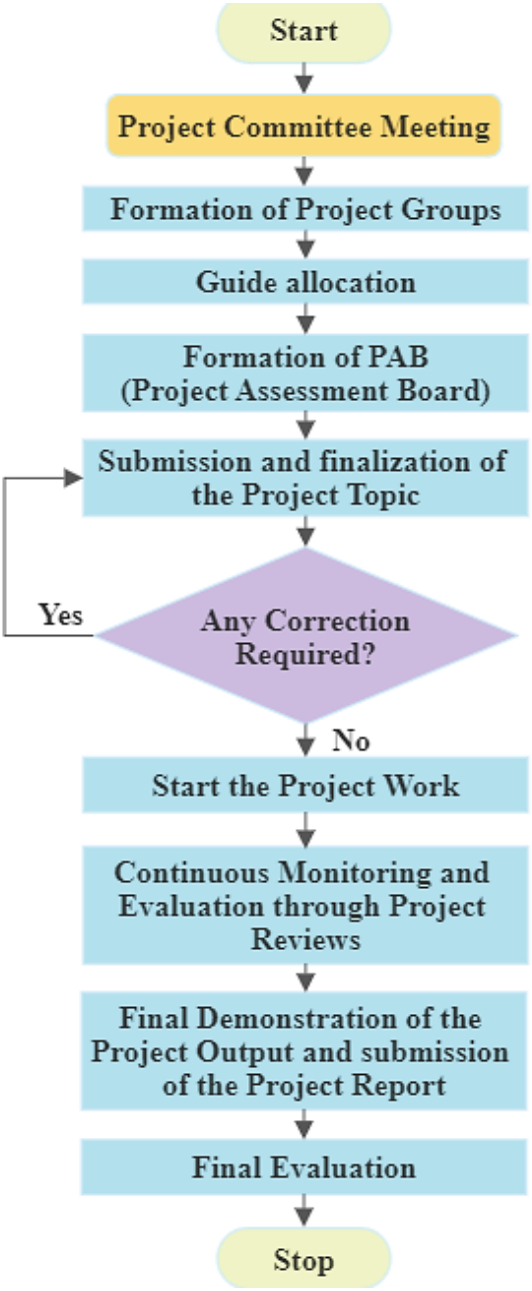

Figure 9: Process of conduct of Student's Project

- Principal conducts a meeting with the project committee members.
- The Project Committee consists of all the department project coordinators. They together confirm the project schedule.
- Students are informed to form their groups and register with the project coordinators. Each project batch varies from 2 to 4 students.
- Department publishes a list of specialisations (domain) with name of faculties and is displayed in the department notice board
- HOD along with project coordinators will allocate the guides based on their domain and expertise.

- PAB- Project Assessment Board is formed indicating Project Coordinator, Project Guide, HOD as per University CIE guidelines.
- Students are informed to submit three base papers conducting various discussions within their group and with the Guide. One of it will be selected by PAB.
- After Project coordinator's approval, the students start the literature survey to clearly define the problem and design of the project.
- Three reviews are conducted in the phase 1 of the project, during seventh semester.
- Four reviews are conducted in the phase 2 of the project during 8th semester

B. <u>Process for monitoring and evaluation</u>

The Rubrics developed for evaluation of project will helping students for a transparent assessment, which is explained below. The Project evaluation committee and the project guide together will analyse the nature of the project during the different stages of evaluation depicted in the Rubric as per guidelines given by VTU. Project evaluation committee must make sure that the work is environment friendly, ensures safety, ethics and is cost effective. The projects are classified into different areas and their relevance to PO's and PSO's are identified to ensure its quality. Once the guide allocation is done, the respective guides are responsible for the continuous monitoring of the progress of the project. The process of monitoring and evaluation is given below.

- The students should meet their respective guide once a week and update their progress.
- The project evaluation is done by conducting reviews at regular intervals planned during the entire phase of the project.
- The students demonstrate final working prototype of the project and present the results with valid conclusions and future scope.
- After the completion of the project work, the students prepare the final report by following guidelines for report preparation and submit a draft copy to the concerned guides for corrections.
- After incorporating the suggested corrections, the students submit the final report duly signed by the guide, HOD, and Principal for the evaluation process.

Process to assess individual and team performance: To ensure the fool proof monitoring and evaluation of the student projects following is done:

- The project work is divided into small components.
- Each component of the work is assigned to each student in the group.
- The Project coordinator interacts periodically usually after one week with the students to determine the progress and to evaluate the contribution of each student.
- The rubrics used here measure the students' individual involvements in the project also.
- Each individual and team performance is purely based on this Project presentation, the vivavoice, progress work and individual & team involvement.
- Every student is tested thoroughly to assess his individual performance and involvement inproject activities.

C. <u>Process for monitoring and evaluation</u>

The Rubrics developed for evaluation of project will helping students for a transparent assessment, which is explained below. The Project evaluation committee and the project guide together will analyse the nature of the project during the different stages of evaluation depicted in the Rubric as per guidelines given by VTU. Project evaluation committee must make sure that the work is environment friendly, ensures safety, ethics and is cost effective. The projects are classified into different areas and their relevance to PO's and PSO's are identified to ensure its quality. Once the guide allocation is done,

the respective guides are responsible for the continuous monitoring of the progress of the project. The process of monitoring and evaluation is given below.

- The students should meet their respective guide once a week and update their progress.
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- After the completion of the project work, the students prepare the final report by following guidelines for report preparation and submit a draft copy to the concerned guides for corrections.
- After incorporating the suggested corrections, the students submit the final report duly signed by the guide, HOD, and Principal for the evaluation process.

Main Rubrics for CIE of Project Work (Phase 1 – 7th Semester)

Review No	Agenda	Assessment	Assessment Weightage	Overall weightage
Review 1	1st Evaluation of the Project Work (Phase 1)	**Rubric - R1**	**50 Marks**	**50 %**
Review 2	2nd Evaluation of the Project Work (Phase 1)	**Rubric - R1**		
Review 3	End Semester Internal Evaluation	**Rubric - R2**		
		Report	**30 Marks**	**50 %**
		Continuous Evaluation by the Project Guide	**20 Marks**	
		Total	**100 Marks**	**100 %**

Table 9.1.: Main Rubrics for CIE of Project (Phase 1 – 7th Semester)

Rubric - R1 for CIE of Project Work (Phase 1 – 7th Semester)

Sl. No.	Parameters for Assessment	Excellent	Good	Satisfactory	Need Improvement	Weightage
1	Presentation	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	20%
2	Relevance of the Project	Detailed and extensive explanation of the purpose and need of the project	Good Explanation of the purpose and need of the project	Average Explanation of the purpose and need of the project	Moderate Explanation of the purpose and need of the project	15%
3	Inference of the Project	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	15%
4	Question and answers	Answered all questions with proper justification	Answered 75% of questions	Answered50 % of questions	More preparation required	10%
5	PPT & Abstract	Relevant and properly organized	Relevant and moderately organized	Nearly relevant and properly organized	Correction is required	20%
6	Meeting with the guide	Meeting the guide once in a week	Meeting the guide once in two weeks	Meeting the Guide frequently	Rarely Meeting the guide	20%

Table 9.2.: Rubric - R1 for CIE of Project (Phase 1 – 7th Semester)

Rubric – R2 for CIE of Project Work (Phase 1 – 7th Semester)

Sl. No.	Parameters for Assessment	Excellent	Good	Satisfactory	Need Improvement	Weightage
1	Presentation	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	20%
2	Presenting Paper for conference	Presented paper in a reputed Conference	Presented paper in a moderately reputed Conference	Preparing to present in a conference	Yet to start the preparation for presenting in a conference	15%
3	Inference of the Project	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	15%
4	Question and answers	Answered all questions with proper justification	Answered 75% of questions	Answered50% of questions	More preparation required	10%
5	PPT & Abstract	Relevant and properly organized	Relevant and moderately organized	Nearly relevant and properly organized	Correction is required	20%
6	Meeting with the guide	Meeting the guide once in a week	Meeting the guide once in two weeks	Meeting the Guide frequently	Rarely Meeting the guide	20%

Table 9.3.: Rubric – R2 for CIE of Project (Phase 1 – 7th Semester)

Main Rubrics for CIE of Project Work (Phase 2 – 8th Semester)

Review No	Agenda	Rubric #	Assessment Weightage	Overall Weightage
Review 1	1st Evaluation of the Project Work (Phase 2)	Rubric R1	100 Marks	**50%**
Review 2	2nd Evaluation of the Project Work (Phase 2)	Rubric R2	100 Marks	
Review 3	End Semester Internal Evaluation	Rubric R3	100 Marks	
		Average	**100 Marks**	
External	**Semester End Examination (SEE) conducted by the**		**100 Marks**	**50%**
		Total	**200 Marks**	**100%**

Table 9.4.: Main Rubrics for CIE of Project (Phase 2 – 8th Semester)

Rubric - R1 for CIE of Project Work (Phase 2 – 8th Semester)

Sl. No.	Parameters for Assessment	Excellent	Good	Satisfactory	Need Improvement	Weightage
1	Preparation & Presentation	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	20%
2	Phase- I work Report	Relevant, Concise, and properly organized	Relevant and moderately organized.	Nearly Relevant and properly organized.	Nearly Relevant and not organized.	15%
3	Design and Methodology	Proper design of the system.	Moderate design of the system	Nearly relevant and system design.	Correction is required	20%

4	Question & Answers	Answered all questions with proper justification	Answered 75% of questions	Answered50% of questions	More preparation required	15%
5	Interim Report (R-1)	Relevant, Concise, and properly organized	Relevant and moderately organized.	Nearly Relevant and properly organized.	Nearly Relevant and not organized.	10%
6	Meeting with guide	Meeting the guide once in a week	Meeting the guide once in two weeks	Meeting the Guide frequently	Rarely Meeting the guide	20 %

Table 9.5: Rubric - R1 for CIE of Project (Phase 2 – 8th Semester)

Rubric – R2 for CIE of Project Work (Phase 2 – 8th Semester)

Sl. No.	Parameters for Assessment	Excellent	Good	Satisfactory	Need Improvement	Weightage
1	Preparation & Presentation	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	20%
2	Implementation	Properly Followed & Properly Justified	Properly Followed & Justified partly	Properly followed & not justified	Partially Followed and Partially Justified	15%
3	Interim Results and discussion	Properly demonstrated & Properly justified output	Properly demonstrated & Partially justified output	Partially demonstrated& justified	Partially demonstrated and Partially Justified	20%
4	Question & Answers	Answered all questions with proper justification	Answered 75% of questions	Answered50% of questions	More preparation required	15%
5	Interim Project Report (R-2)	Relevant, Concise, and properly organized	Relevant and moderately organized.	Nearly Relevant and properly organized.	Nearly Relevant and not organized.	10%
6	Meeting with guide	Meeting the guide once in a week	Meeting the guide once in two weeks	Meeting the Guide frequently	Rarely Meeting the guide	20%

Table 9.6.: Rubric – R2 for CIE of Project (Phase 2 – 8th Semester)

Rubric – R3 for CIE of Project Work (Phase 2 – 8th Semester)

Sl. no	Parameters for Assessment	Excellent	Good	Satisfactory	Need Improvement	Weightage
1	Preparation & Presentation	Substantially informative & clear	Informative & clear	Partially information & clear	Partially information & not clear	10%
2	Individual Contribution	Well Contributed For the	Good Contribution For the	Decent amount of work for the project development	More contribution is required for the	10%

		project development	project development		project development	
3	Results & Discussion	Properly demonstrated & Properly justified output	Properly demonstrated & Partially justified output	Partially demonstrated& justified	Partially demonstrated and Partially Justified	30%
4	Publication/ Patent	Published in indexed journals	Published paper in national conference	Attempted to publish in well reputed journals	No attempts to publish pattern	25%
5	Question & Answers	Answered all questions with proper justification	Answered 75% of questions	Answered50% of questions	More preparation required	10%
6	Final Project Report	Relevant, Concise, and properly organized	Relevant and moderately organized.	Nearly Relevant and properly organized.	Nearly Relevant and not organized.	15%
7	Meeting with the guide	Meeting the guide once in a week	Meeting the guide once in two weeks	Meeting the Guide frequently	Rarely Meeting the guide	10%

Table 9.7.: Rubric – R3 for CIE of Project (Phase 2 – 8th Semester)

D. <u>Process to assess individual and team performance</u>

To ensure the fool proof monitoring and evaluation of the student projects following is done:

- The project work is divided into small components.
- Each component of the work is assigned to each student in the group.
- The Project coordinator interacts periodically usually after one week with the students to determine the progress and to evaluate the contribution of each student.
- The rubrics used here measure the students' individual involvements in the project also.
- Each individual and team performance is purely based on this Project presentation, the vivavoice, progress work and individual & team involvement.
- Every student is tested thoroughly to assess his individual performance and involvement inproject activities.

E. <u>Quality of completed projects</u>

- Projects are assessed according to the project contribution towards attainment of Cos, POs and PSOs, Industry relevance, social usage, and Application/Research.
- Good projects are encouraged to publish in Conferences and Journals
- They are encouraged to participate in various project exhibitions conducted at intercollegiate or University level.

10. Process used for implementing Faculty Performance Appraisal and Development System (FPADS)

Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community

for understanding and contributing to the solution of real-life problems in industry. Another role relates to the shouldering of administrative responsibilities and co-operation with other Faculty, Heads of Departments, and the Head of the Institution. An effective performance appraisal system for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance. The assessment is based on:

- A well-defined system for faculty appraisal for all the assessment years
- Its implementation and effectiveness

The Institution has a well framed and a completely transparent appraisal process. This system helps in assessing the faculty member's contribution to the Department and the Institution on the whole. We strongly believe that, apart from their contribution to the Curriculum a delivery to the students, their involvement in administrative activities and Research activities are a vital part of their contribution. Appraisal happens at the end of one-year service since last appraisal or upgradation of qualification/designation. The following procedure is adopted by the College to review the performance of each of its staff member. Faculty submits self-assessment report along with proofs, documents to the principal office duly forwarded by HOD.

The HR will entrust the task of evaluation to the review committee members that includes the following steering committee:

1) HR 2) Principal 3) Concerned Department HOD

Review committee will recommend for probable increments to Principal, who in turn scrutinizes and sends to Management for final approval. Subject to approval from Management increment shall be duly implemented. These meetings will be held once in a year and all the cases are discussed accordingly.

Parameters considered for the appraisal

- Faculty Performance Appraisal is evaluated by collecting the self-appraisal form from each faculty in which they need to present their Academic progress and research progress for their self-renewal to cope up with changes in technology.
- Develop expertise for effective implementation of curriculum.
- The format of Faculty Performance Appraisal letter is enclosed in annexure.
- Head of the Department, based on his observations personal and from the following parameters, will recommend for the annual increments to principal.
- Principal based on his personal observations and recommendations from the HOD, in turn recommended to management for further action.

Subjects handled, Faculty Performance Index and Result Analysis

- Assessment is based on the number of hours engaged, pass percentage attained in each subject, faculty performance index calculated from students' feedback.

Curricular Activities accomplished

- Assessment is based on the number of invigilation/practical exam/external DCS/squad duties carried out during the academic year, University question papers set, number days and no. of answer scripts evaluated.

Innovative Teaching-Learning methodologies

- Faculty needs to give an explanation of innovative teaching learning methods adopted for explaining the subject content like showing animated videos and encouraging students to give presentations.

Co-curricular and Professional development related contributions

- Faculty contribution towards co-curricular and fields-based activities apart from the academics which includes cultural, sports, mentoring, counselling, organizing quiz, project exhibitions etc.

Professional Society Membership and development activities

- Memberships in various professional bodies like IEEE, ISTE etc.
- Participation in seminars, conferences, and faculty development programs.

Contribution towards management of department, administrative responsibilities

- Assignment will be based on faculty roles in department such as time table, test, mentoring coordinator, class teacher academic, discipline, placement coordinator, lab in-charges etc.

Research and Academic Contributions

- Faculty writing proposals for getting funds from various organizations.
- Paper publishing in national/ international conferences.

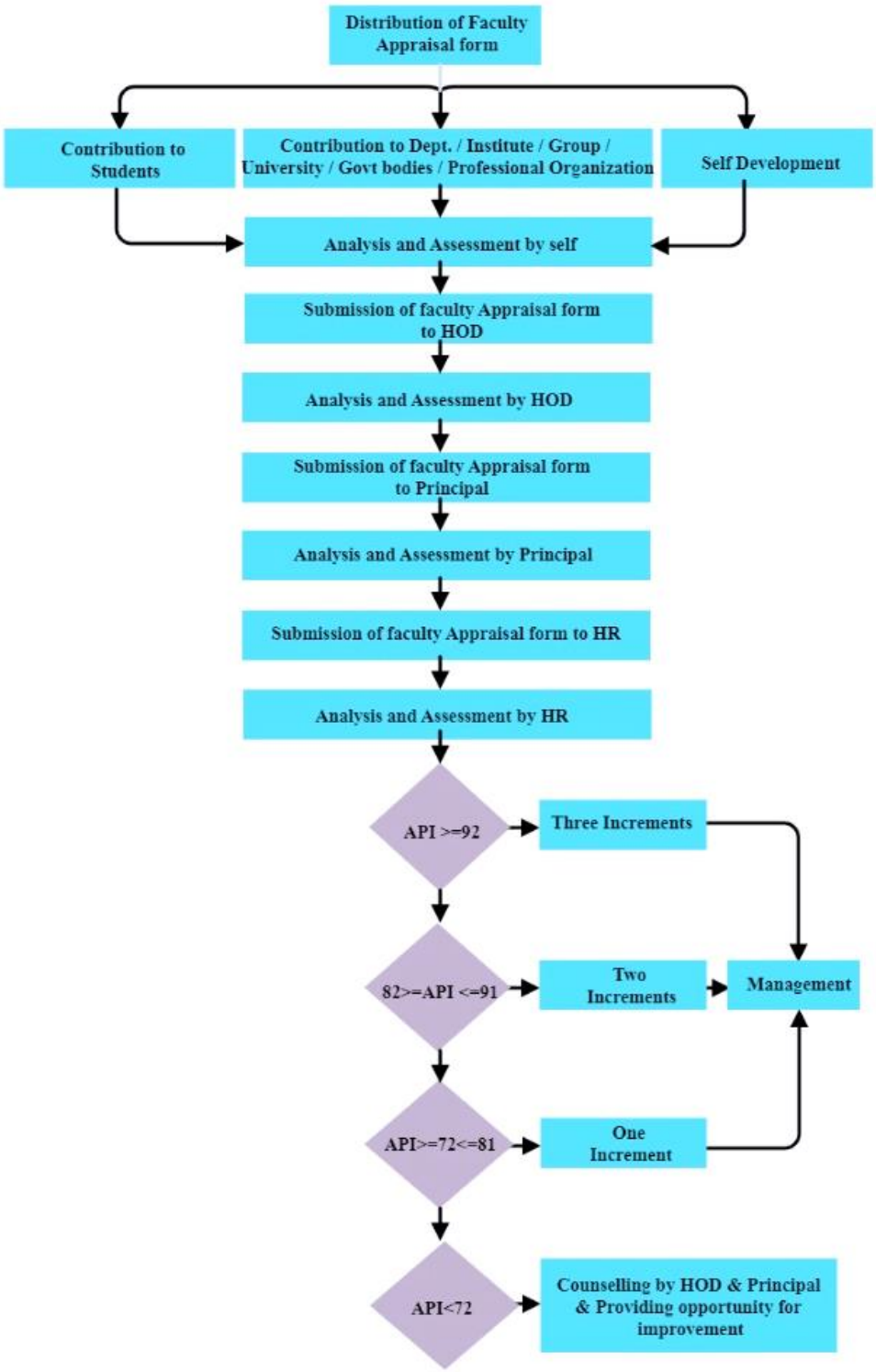

Figure 10: Process of Faculty Performance Appraisal and Development System

The goal of the Annual Faculty Performance Review process is to provide a meaningful assessment of faculty productivity, promote the development of goals and expectations, foster and support faculty development and mentorship, and guide junior faculty in career advancement through formative discussions with senior faculty. In addition to this, the transparent procedure adopted by the college will enable faculty to have set goals for the next year of service at the organization.

11. Process for Academic Audit and Actions taken thereof

The academic audits are being done by two bodies IQAC and ISO. Audits are conducted for faculties, Laboratories, and departmental activities.



Figure 11: Academic Audit Process

A. IQAC Audit

Purpose of Audit:

- To promote self-reflection among all departments/sections/student activity centers of the Institution being audited.
- To promote self-improvement measures among all departments/sections/Student activity Centers of the Institution being audited
- To conduct quality checks on different activities undertaken in all departments/sections/Student activity Centers of the Institution to meet expected outcomes.
- To promote adoption of best practices

Scope of Academic Audit:

All departments of Institution: The departments are expected to have developed a strong outcome-based approach in teaching-learning. The audit team will assess the activities involved in developing learning outcomes, design and development activities in curriculum, teaching-learning process, student learning assessment process and student engagement programs. The audit team will also assess the quality and quantity of research outcomes during last three years. The audit team will also assess the quality of resources and general ambience from perspective of meeting the learning outcome.

Academic Audit Committee (AAC)

- The Academic Audit Committee is formed for each Academic Year with the following members:
  - IQAC Coordinator (Chairman)
  - Two Senior Faculty Members from Non-Auditing Departments/Sections (Members)

Audit Process

- Formation of AAC for each Academic Year in the Academic Council chaired by Principal.
- Conduction of AAC Meeting to provide necessary instructions and awareness on Audit Process.
- Distribution of the circulars to the Departments for submitting the required documents to IQAC Room for auditing.
- Conduction of the audit by AAC and providing time for re-submission of the documents, if required.
- Preparation of the audit report by AAC and getting it approved by the Principal.
- Discussion on the summary of audit report with the Heads of Departments/Sections in the Academic Council.
- Submission of ATR by the concern Head based of the Audit Report to the IQAC Coordinator.

B. <u>ISO 9001: 2015</u>

ISO 9001:2015 brings management process and tool for organizations that operate in the educational sector. The organizations providing education-based products and services require certification. It indicates their capability of serving the requirements of the service seekers. The ISO certification promotes the educational organization management system and its standardization. The certification focuses on improving and defining a successful linkage between the organization and the learners. The ISO framework benefits the management and enhances the learner's experience with the service provided by the organization.

Audit Process:

- Formation Internal inter-college auditors' team. Two faculties from each college.
- Training the auditors by BSI Training Academy.
- Internal Audit: Quarterly once by Internal auditor.
- External Audit: Yearly Once

12. Processes for implementing the Mentoring System to help at individual level

In Mentor-Mentee system, Students are allotted a mentor based on the preferences of students as well as approach ability / personality of both involved- mentor and mentee. Each mentor maintains a Mentee profile with all details like parent's name, addresses, contact numbers, academic details and academic scores. Along with self-analysis of student. Mentor counsel the students individually to improve their progress in the different areas like aspirations related to academics, inert-personal problems, career plans and other grievances. All Mentor encourage the students' participation in extra-curricular, co-curricular

and other professional activities, along with the curricular guidance which motivates them and stimulate their growth and support in transforming them as employable.

A. Mentoring System:

A customized mentoring system is adopted by the institute. Mentoring starts at the entry of the program in the first year and continues till the completion of the program. We have Advisory Council Committee (ACC) which ensures correct procedure for Mentoring of students of all courses.

Procedure:

- Mentor-Mentee List is prepared for all classes from First Year.
- Each Mentor is allocated with 20 mentees for mentoring.
- Mentor should meet the mentees fortnight or on need basis.
- Discuss issues in Overall Development of the mentees.
- Mentor should document in the Mentoring Record.

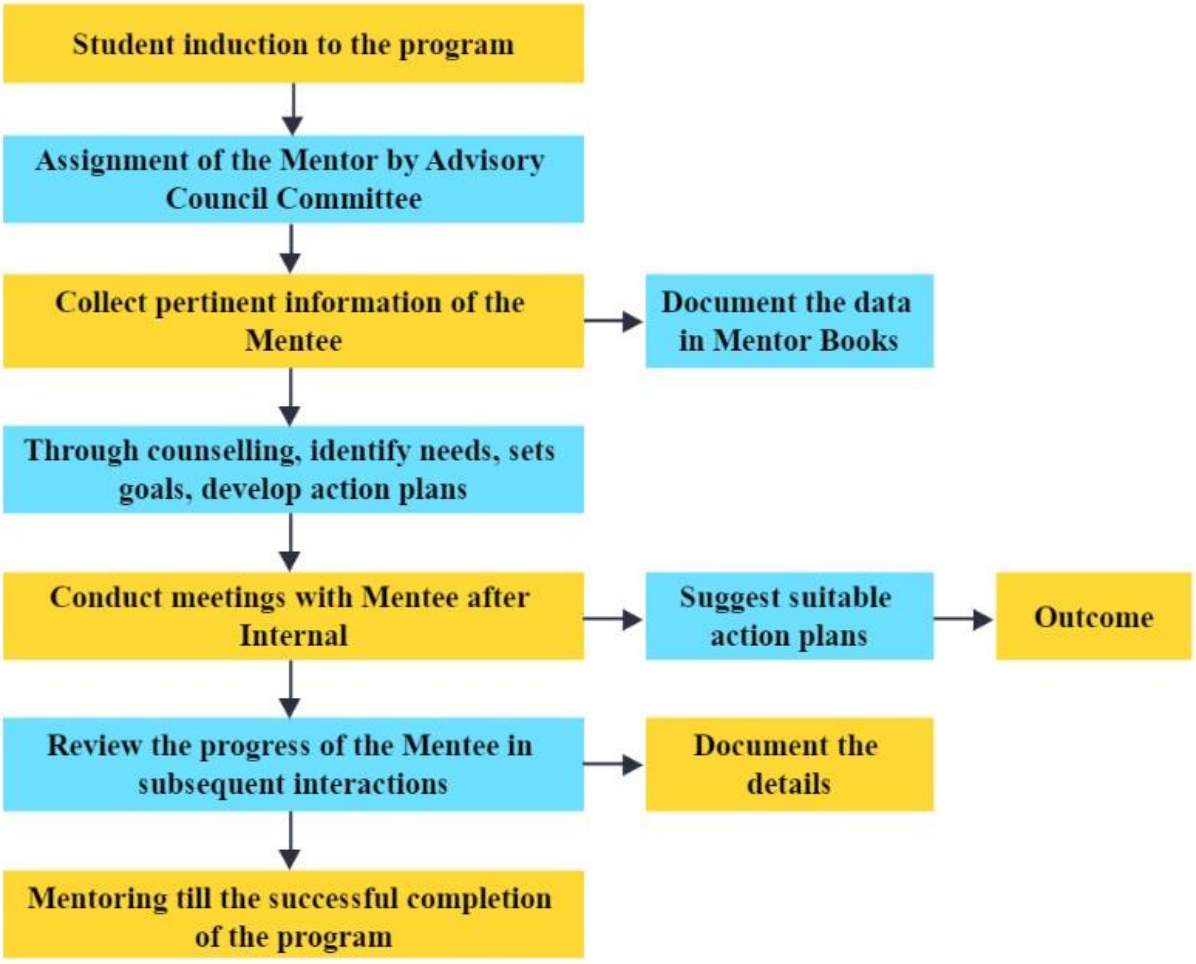

Figure 12: Process of Student Mentoring System

B. Description of Mentoring System:

1. **Professional guidance:** Mentor guides mentees in number of areas and issues like:
   Employability empowerment by Skill Building: Mentor helps to mentee to empower their development and learning skills through attending hands on training programmes, technical workshops etc. Industry based training via mini and major project is offered to student to enhance their chances of employability.
   Research & Review Publication: Mentor faculty encourage mentee to upgrade their overall

knowledge through active contribution to publish research articles, review, and technical papers in journals, National and International conferences.

Industrial projects: By catering needs of industry live projects assigned to students to know the real time experience and understand the expectations of the industry and making them familiar with the working culture & nature of the IT industry and mold them as per IT industry ready.

2. **Academic guidance:** Mentor guides mentees in number of areas and issues like

   To secure good score in SEE: With student centric teaching and in a few cases, hand-hold teaching methodologies, all potential students are supported meticulously to make them competent enough to earn appreciable results.

   Assist to slow learners: Mentor faculty in coordination with course coordinator give more focus on academically slow learners, by providing them model questions along with solutions, additional reading materials and extra classes.

3. **Career advancement:** Mentor guides mentees in number of areas and issues like

   Value added training programmes: Students undergone vigorous training & Certification programmes such as Coursera, Udemy, Python and Android Development Programme to increase the job opportunities in corporate.

   T&P Cell guidance: Mentor faculty in coordination with Training & Placement Cell helps student by providing Career Guidance and other Training apart from arranging campus recruitment drives.

4. **Holistic development**

   Support and encourage mentee towards universal development through participation in social, cultural and sports activities which helps to ripen decision making abilities, leadership qualities, team structure building, and shapes their lives into rationally cohesive personality. Mentor to counseling to reinforce student's social relationships thereby improving their attitude, ethics and acts as boost their morale when in stress.

Sl. No.	Parameters for mentoring	Implementation	Outcome
1	Professional guidance	• Educate & Motivate students to expand their domain knowledge. • Stimulate students to bring innovation in projects.	Progress in academic performance and technical skills.
2	Academic Guidance	• Identify and counsel irregular students in presence of Head of the Department to ensurepunctuality. • Identify slow learners based on their performancethrough oral queries and internal assessment marks. Arrange tutorial classes. • Provide with relevant study materials, university exam question papers with solutions.	Improvement in students' regularity.
3	Career advancement	• Encourage students to undertake a certification course which adds value to their qualifications indeveloping their career. • Provide career counselling and guidance besides the activities of Training & Placement Cell. • Enlighten students on Overseas-Higher studies, GATE, and Civil service exams.	Enhances the scope for career advancement of individual student.

4	Holistic development	• Encourage students toinvolve in group eventsthrough co-curricular and extra-curricular activitieswhich promote teamwork and associated leadership qualities. • To inculcate ethical values, motivate students to participate in social, environmental awarenessprograms and National Service Scheme activities.	Results in overall development as an individual.

Table 12: Parameters for Mentoring

13. Process for Feedback Analysis and Reward/Corrective Measures taken

The feedback system is confidential and operated twice in an academic year. Students' login to feedback portal and provide feedback. Feedback on courses is taken from students through a customized questionnaire once in a semester.
Link: www.tjohncollege.com

Feedback collection process:

Online: once in a semester the Feedback about Faculty Performance from the Students through the provision provided in the Enterprise Resource Planning (ERP) software, which has the customized questionnaire covering all aspects of teaching - learning process.

Feedback analysis:

The data is analyzed and evaluated on no. of students rated for each measure in ERP software. Suitable corrective measures are indicated for the faculty with Faculty Performance Index (FPI) less than 75%.

- FPI less than 75% - Needs Improvement
- FPI 76 to 85% - Good
- FPI 86 to 95% - Very Good
- FPI above 95% - Excellent

Steps	Description
Step-1	Collection of online feedback for each course.
Step-2	Calculation of Faculty Performance Index (FPI) is an average of all the parameters.
Step-3	Analysis of FPI: • If faculty achieves FPI less than 75%, they are counselled by Head of the Department (HOD) along with senior faculty and suitable corrective measures are suggested like undergoing faculty development program to improve further. • For all the faculty with FPI greater than 75%, are issued an appreciation letter for their remarkable contributions. • If faculty achieves FPI more than 95% for three consecutive years in the same theory course, an appreciation letter with a reward is recommended.

Table 13: Feedback Methodology

Feedback on facilities

Following standardized procedure is adopted for collecting the feedback on facilities at theinstitute:

- Collection of student feedback on classroom infrastructure, training and placement,toilets, library, labs, canteen, playground, parking facility, hostel etc., by theconcerned class teachers.
- Analysis of feedback is made on a scale of 1-5 and the recommendation ofcorrective measures for further improvement.