Innovative Teaching Learning Process

A subject teacher thoroughly researches the curriculum. Following discussions with other subject teachers, a common platform is established on which the relationship between various subjects is discussed. The curricular and knowledge gaps are identified, and a strategy for closing these gaps is developed.

Steps of Gap Identification

- Determine the Course Outcomes for each subject.
- Using POs and PSOs, map each Course Outcome.
- Map subject with POs and PSOs based on all CO-POs/PSOs mapping.
- The GAP is calculated using the CO attainment of individual courses.
- The Gap is discussed among the Departmental Committee (DC) meeting and the content beyond the syllabus is prepared accordingly to bridge the GAP.
- These contents are delivered to the students through Tutorial classes and / or Seminars or Webinars.

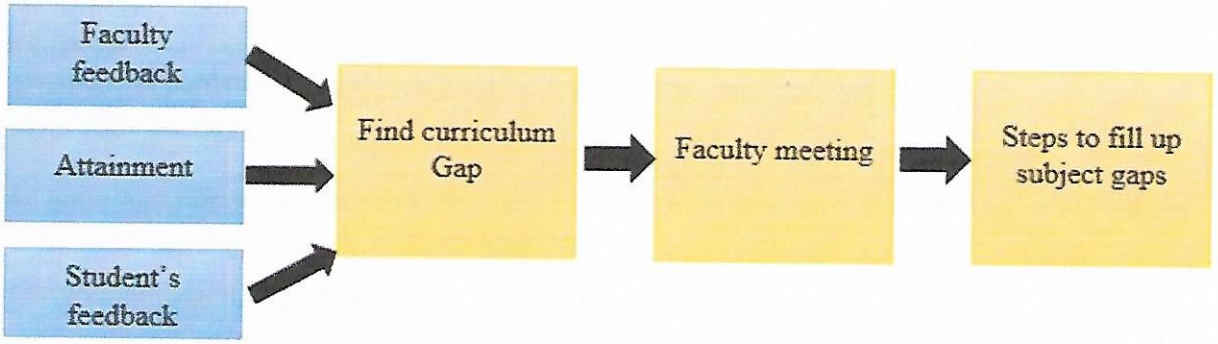
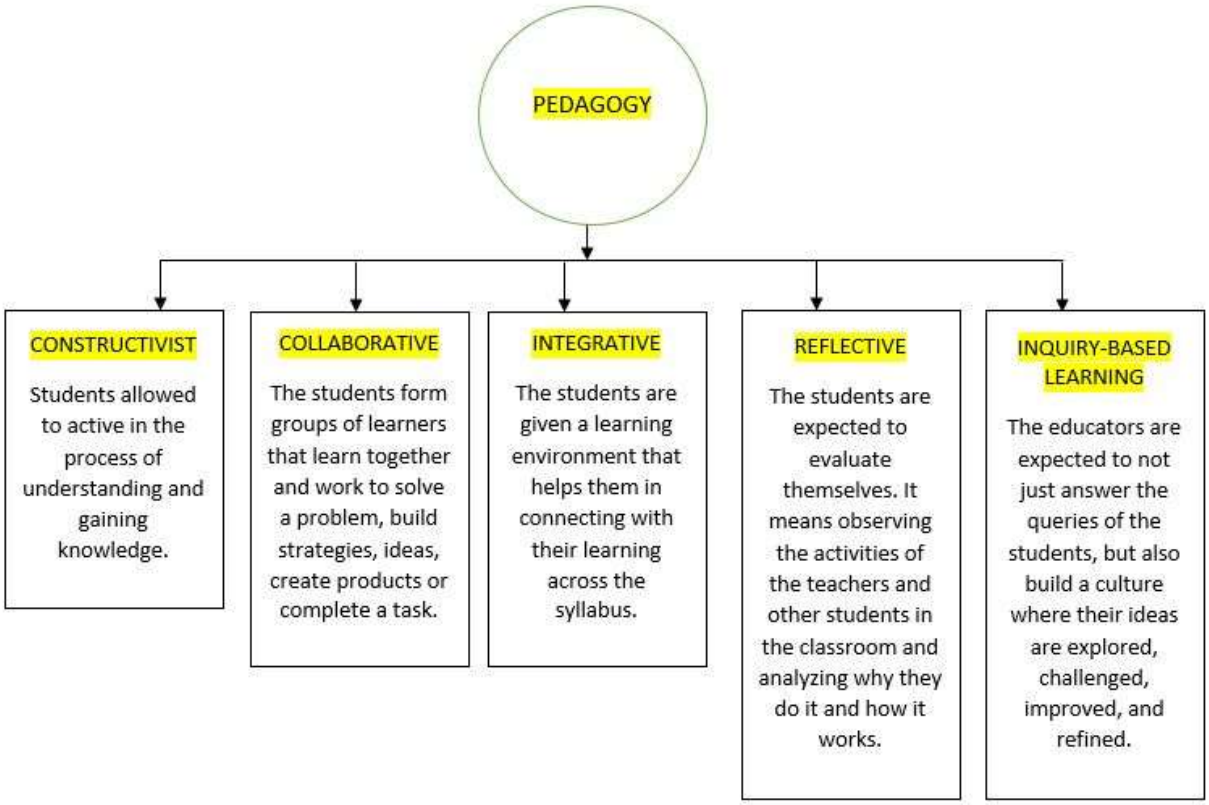


Fig. Gap analysis procedure

Pedagogical initiatives

Department follows Outcome Based Education (OBE) approach. Faculty use innovative teaching methods to cater the needs of OBE.

Dr. D. Sarkar
Principal
Dream Institute of Technology
Kolkata-700 104



Instructional methods

i) **NPTEL and SWAYAM:**

For effective instruction, faculty members use E-sources such as NPTEL and SWAYAM courses. Students were also given the opportunity to build self-learning and life-long learning abilities.

ii) **Assignment-based problem solving:**

Students are given assignments on problems that they must solve on their own. Assignments are based on COs, which aids in the achievement of Program Outcomes.

iii) **Laboratory/video-based demonstration:**

Use of modern tools to demonstrate a system or parts of a real-world system.

iv) **Presentation or Discussion**

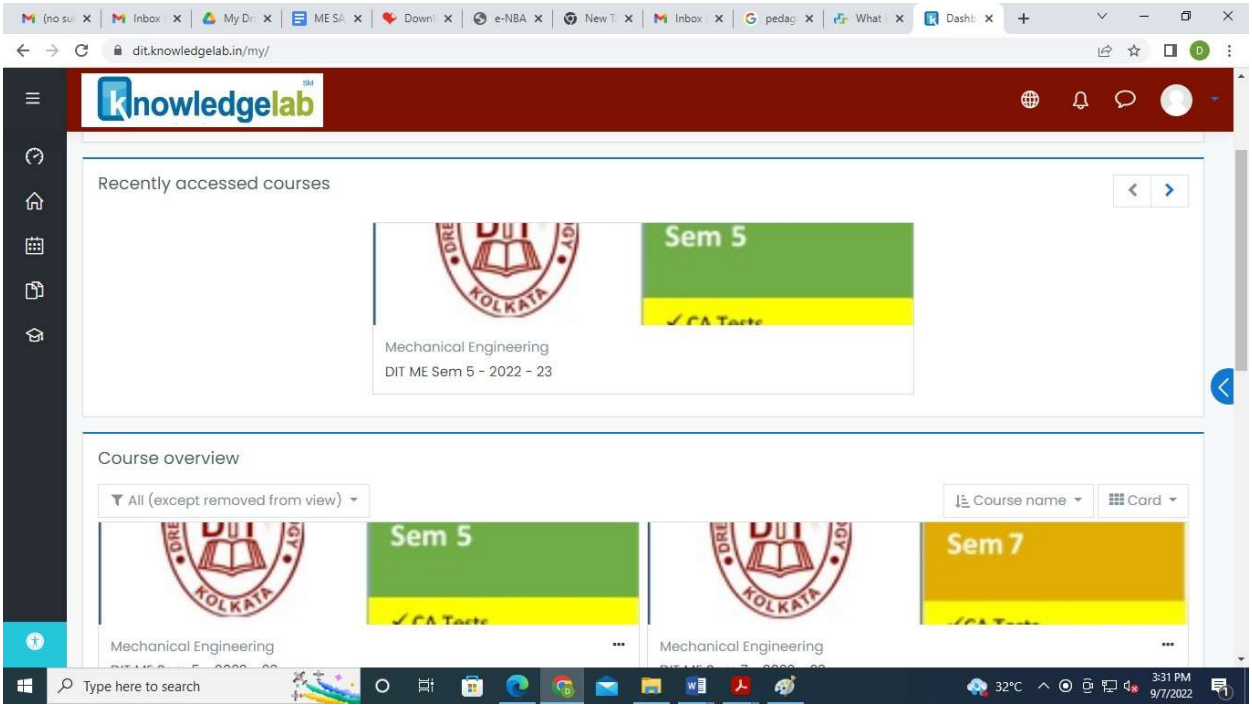
Students may be requested to participate in a group discussion or give a short presentation on a topic to learn more about it.

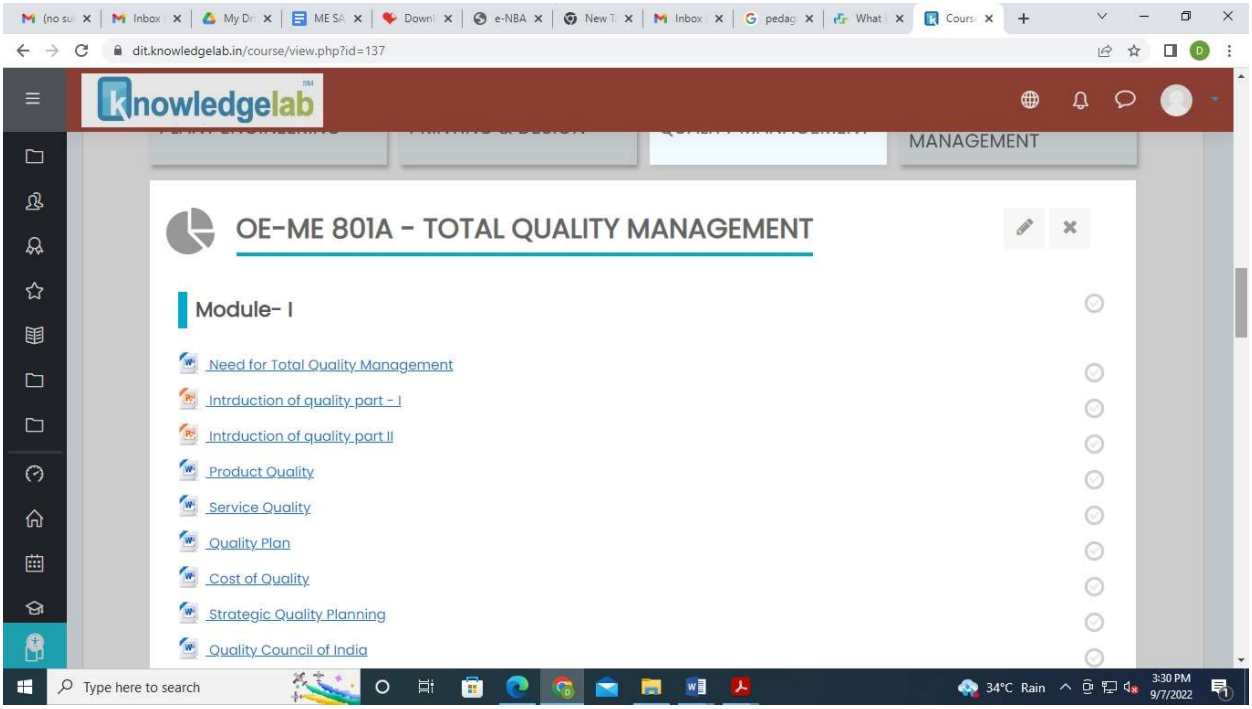
v) Lecture Note

Lecture note according to week related to module are included in the course file.

vi) **Content delivery**

Detailed presentation of course content uploaded our knowledge lab.





Methodology of support weak students and encourage bright students

Tutorial/remedial classes are held to bridge curriculum gaps and to assist slow learners based on their performance in external exams and after the first internals. Motivating and guiding students toward higher education and university positions. Industrial visits are organized to bridge the gap between industry and academia. Workshops are organized to assist students in understanding concepts outside of the curriculum.

Mentoring sessions are held to guide students toward professional fulfilment and to assess their academic progress as well as their personal growth. One-on-one discussions and interactions between Professors and students have increased students' confidence levels.

Students' strengths and weaknesses are identified. Encourage the struggling pupils to attend tutorials and assist them in solving more issues. Encourage the brilliant students to attend more technical seminars and workshops.

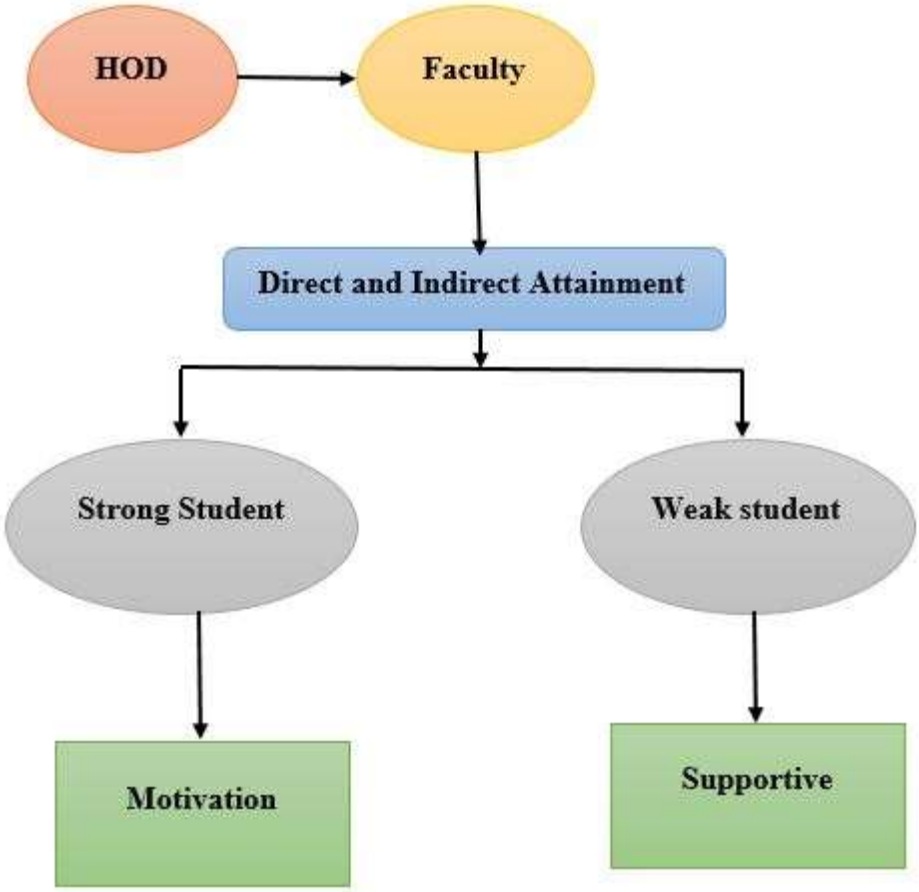


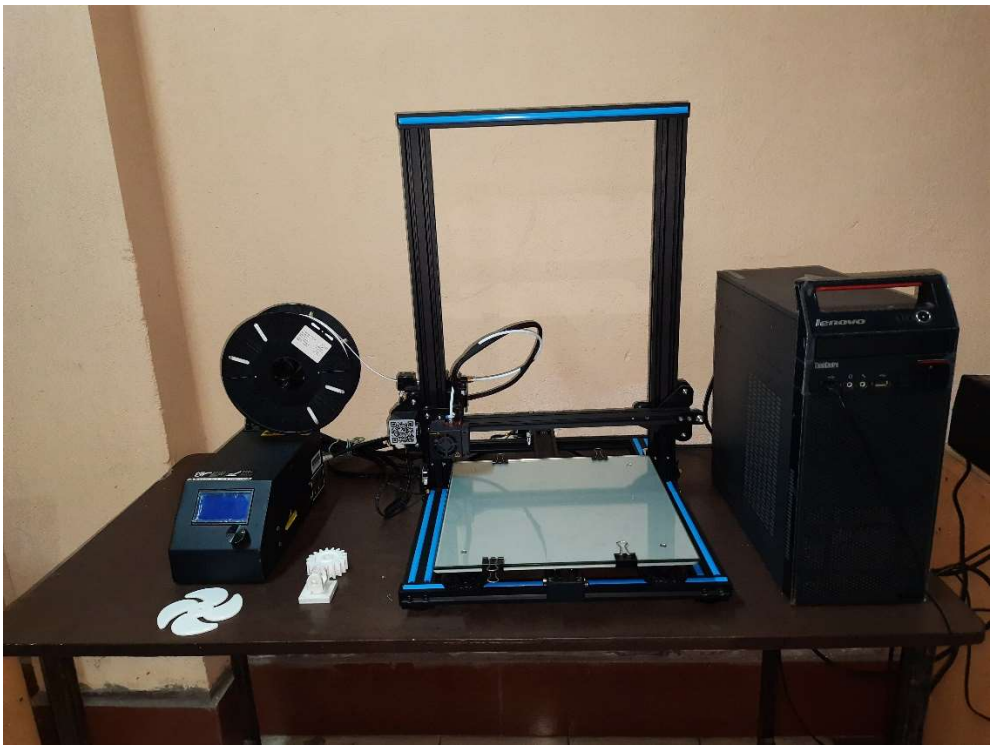
Fig. Instructional activities for weak and strong student

Conduct of experiments

All lab manuals are prepared well in advance of the semester's start date, as required by the university. Each class is divided into two groups, which are then sent to two separate laboratories; they are then divided into small groups of no more than four students.

Each group will conduct the experiments separately in order to ensure that they understand and conduct the laboratory experiment correctly, as well as to receive individual attention from the faculty. After completing the necessary calculations, the students record the experimental values in their observations, which they then submit for evaluation.

The laboratory course's total number of experiments is divided into two cycles (Cycle 1 and Cycle 2). This method of dividing the experiments into two groups has been used for many years.



3D printer

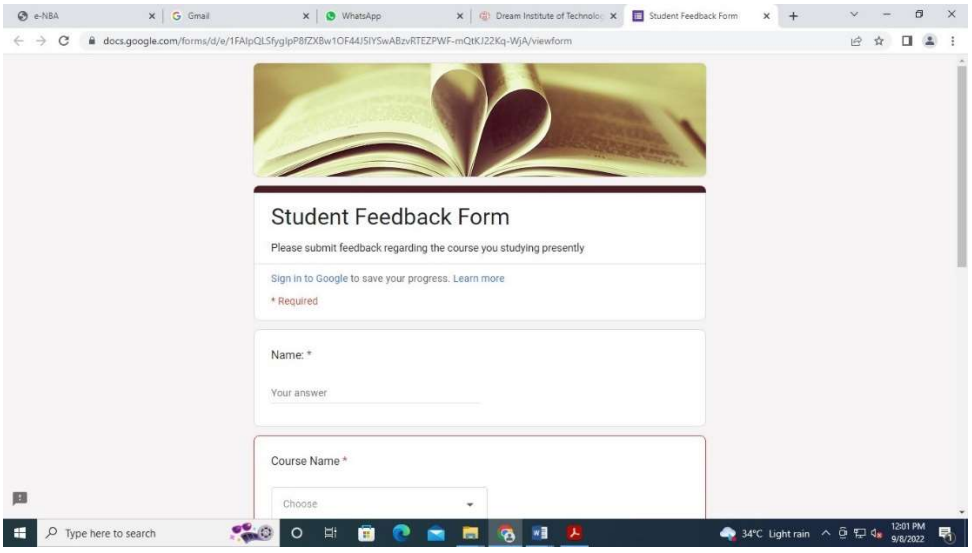
CNC Lathe & CNC Milling

Workshop

Continuous Assessment in laboratory:

Continuous assessment system is also implemented for assessment of laboratory work. The assessment is done on the basis of submission of laboratory records, understanding of the experiment through oral viva voce questions and participation in performing the experiment. Neatness of the laboratory record book is also given weightage in the assessment.

Student feedback of teaching learning process



2.2.2 Quality of the internal semester question papers, Assignments and Evaluation (20)

Tasks are given to the understudies to accomplish the results of the courses to advance oneself learning. The tasks are intended to survey the application-situated information acquired by the understudies in the important course.

Assessment of the task finished by the understudies will be finished by giving significance to the degree with which the understudies have involved various hotspots for gathering the data for the task as well as the introduction of the idea. Alongside assessment, the concerned staff will give the input for additional improvement if fundamental.

The assessments of the tasks depend on the essential ideas, inclusion of the courses and the manner in which the understudy present it. The HOD will likewise enhance the quality of the task inquiries by appropriate direction.

The question papers and assignments are given as per course outcome and blooms taxonomy based by the respective faculty members.

The department has a Scrutinizing Committee, comprising of Program Coordinator and one senior faculty members to check the quality of the question paper, blooms knowledge level, COs and POs attainment level. In each question paper, the blooms knowledge level, marks allocations for each question, CO attainment level is clearly mentioned.

Theory subject evaluation process		
Type	**Evaluation**	**Marks**
Attendance	Above 80% = 5 Above 70% = 4 Above 60% = 3 Above 50% = 2	5
Mid-Semester	4 CA exams are done and make average	25
End-Semester	As per University pattern	70
Total		100

Practical Assessment Plan			
Type of Evaluation		**% Contribution in Grade**	
Internal	Performance	10	40
	Viva	10	
	Report Book	15	
	Attendance	5	

External	Presentation	15	60
	Conducting Experiment	15	
	Experimental Result	10	
	Viva	20	

Project Examination	
Report	30
Presentation	50
Viva-Voce	20
Total	100

2.2.3 Quality of the student project (25)

The project work is divided into two stages. The first stage encourages students to recognize projects based on their interests, and the second stage encourages students to do interdisciplinary projects. The students were also stimulated to select industrial problems based on previous in-plant training in the relevant industries. HOD assign the guides based on their specialization.

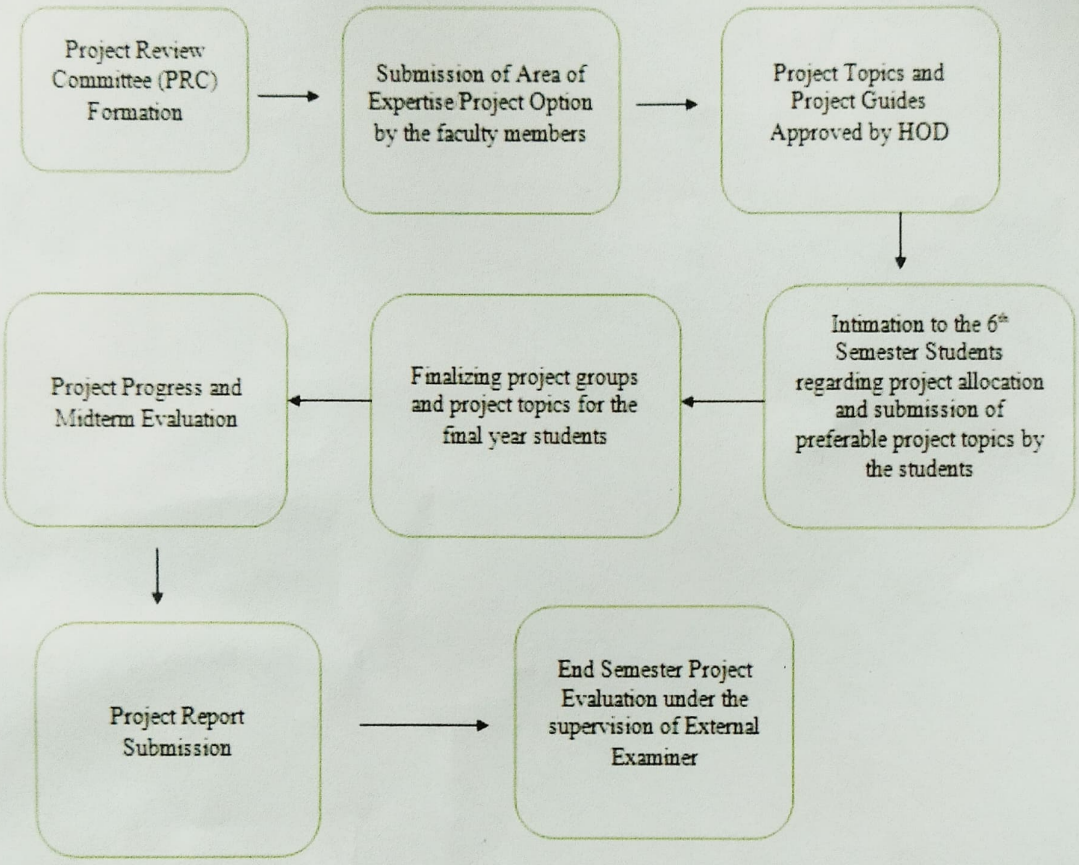
First Stage

Collect literature survey for previous research work, consolidate the work plan and budget through continuous evaluation through reviews. Likewise, industrial projects are planned and scheduled.

Second Stage

Complete their project work and submit the project report according to the first stage plan, which can then be evaluated by reviews at appropriate intervals.

Process of monitoring and evaluation



Project group allocation

- Students are allowed to do the project as a group consisting maximum of ten members as per the University guidelines.
- Students are also encouraged to do inter-disciplinary projects with the help of other branch students.
- Student groups are formed by combining slow learners and fast learners.

Dr. D. Sarkar
Principal
Dream hnology
Kolkata-700 104