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BRILLIANT INSTITUTE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, New Delhi, Affiliated to JNTU-Hyderabad)
Abdullapur(V), Abdullapurmet (M), R.R. Dt. Hyderabad - 501505
Website: www.b-iet.ac.in, e-mail: principal@b-iet.ac.in

DEPARTMENT OF CIVIL ENGINEERING

Faculty Innovations in Teaching & Learning Process

Summary of Innovative Teaching Learning Method brought by the Faculty for the Academic Year 2021 – 22

S.No	Faculty Name	Class - Year	Course	Topics	Methodology/AID
1	Dr. Shaik Rusthum	II-I	Fluid Mechanics	Properties of Fluid	Flipped Classroom
2	B.S. Rakesh kumar	II-II	Structural analysis - I	Deflection of Propped Cantilever and Fixed Beam	Problem based Learning
3	K. Praveen	III-I	GeoTechnical Engineering	Boussinesq's theory forPointload,Uniformly loaded,Circular, Rectangular Areas	Flipped Classroom
4	D. Satyanarayana	III-II	Structural Engineering-II	Design of Tension members	Flipped Classroom
5	A. Sowjanya	IV-I	Irrigation and Hydraulic structures	Design Principles of weirs on Permeable foundations using Creep Theories	Problem based Learning

URL: https://b-iet.ac.in/departments/ug-civil/faculty-innovations

Coordinator

Head of the Department

Head of the Department
Department of Civil Engineering
Brilliant Institute of Engineering & Technology
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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2021 – 22

Course	**Fluid Mechanics**	Year / Semester	**II / I**
Topic	**Properties of Fluid**	Innovative Method Chosen	**Flipped Classroom**

Flipped Classroom:

Flipping the classroom is an inverting the classroom approach to teaching. In this approach, the traditional in-class teaching is "flipped" to better meet the needs of individual learners. Students gain control of the learning process through studying course material outside of class, using readings, pre-recorded video lectures. It helps the faculty/lecturer to redefine in-class activities and include homework problems and keep the students engaged in the content.

Details of the Implementation:

It Works

1. Before class: Students watch recorded lectures, audio–video lessons, or read study materials related to the properties of fluids, such as density, specific weight, specific gravity, viscosity, surface tension, and capillarity.
2. During class: Students participate in activities, group discussions, numerical problem-solving, and concept-based exercises. The teacher guides the students, clarifies doubts, and provides individual support, resulting in more interactive and practical learning.

It is useful

Students can learn the basic concepts of fluid properties at their own pace. More classroom time is available for discussion and doubt-clearing. It encourages active learning, better engagement, conceptual understanding, and application of fluid mechanics principles.

Example: A civil engineering teacher explains the basic properties of fluids, including density, specific gravity, viscosity, and surface tension, using a short video before the class. Students watch the video at home. The next day in class, they work in groups to solve numerical problems involving density, specific weight, specific gravity, and viscosity, while the teacher guides them and explains their practical applications in water-supply systems, pipelines, hydraulic structures, and other civil engineering works.

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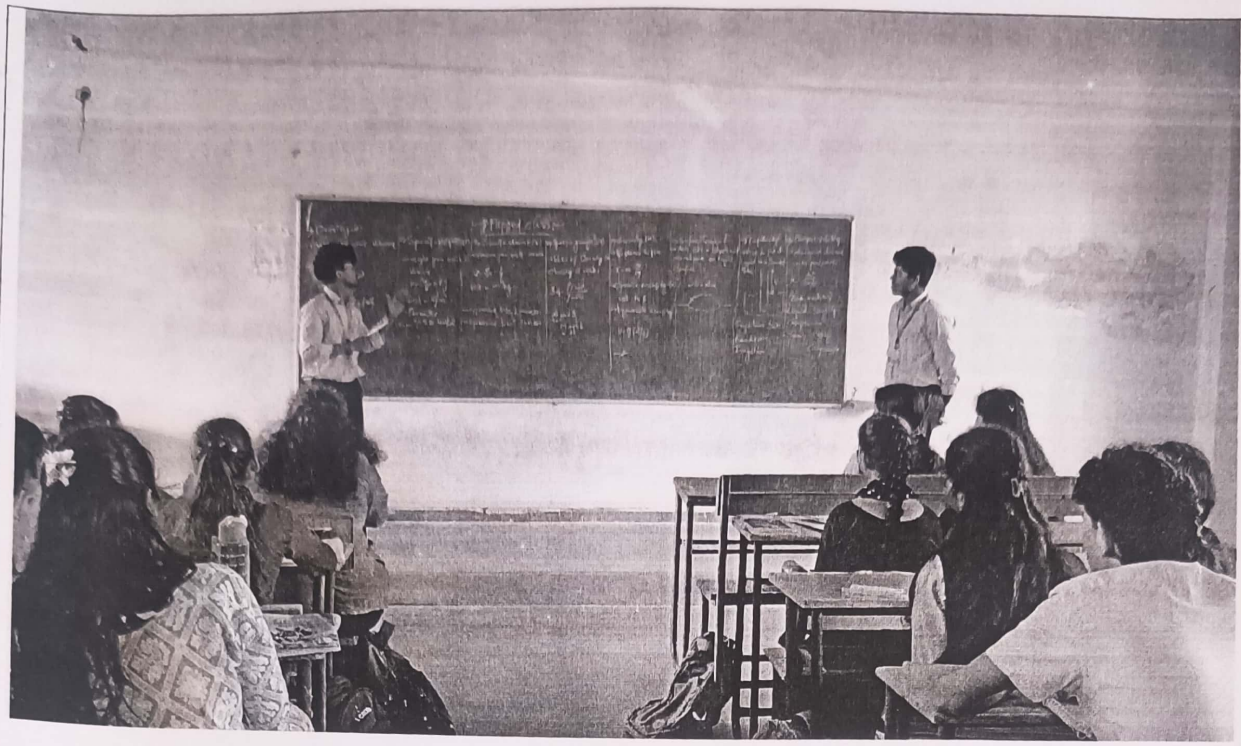


Figure 1: : Flipped Class Room on Properties of Fluid 21QA5A0127(M.Ajay), 21QA5A0138 (V.Ganesh),

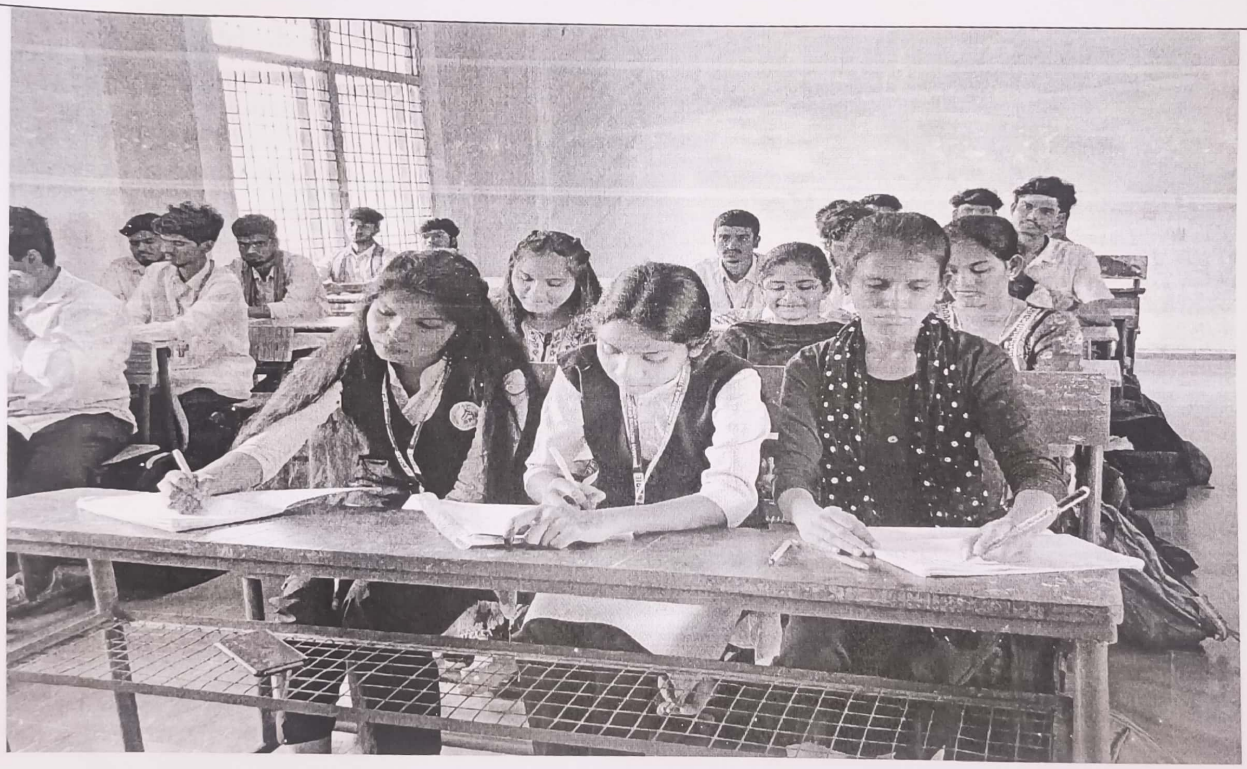


Figure 2: Learning Properties of Fluid

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DEPARTMENT OF CIVIL ENGINEERING

Date: 28-10-2021

To
The Principal,
Brilliant Institute of Engineering and Technology,
Adbullapur (V & M) - 501505,
R. R. District, Hyderabad.

Respected Sir,

Sub: Seeking Permission – Innovative TLP – Req. – Reg.

* * *

We are hereby bringing to your kind notice that the department of Civil engineering department is going to conduct an innovative session i.e., flipped class room conducting by our faculty members to our students. where the traditional learning order is reversed Students learn the lesson before class. A technique where people share ideas freely without criticism to solve a problem or think creatively. We are scheduled the program on 12-11-2021 at 2:05pm to 3:45 pm to II year I semester. This will be a good knowledge sharing platform for students.

We are confident that you will continue to serve the institution diligently and will have a satisfying and rewarding career with the institution.

In this regard, we are requesting you kindly permit us to conduct the program to the students.

Thanking you sir.

Yours Sincerely,

Head of the Department

Head of the Department
Department of Civil Engineering
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DEPARTMENT OF CIVIL ENGINEERING

Date: 08-11-2023

Circular

This is to inform faculty members and students in the department of civil engineering that the department is going to conduct a flipped class room involving faculty along with students (Fluid Mechanics on topic Properties of fluid) on 12-11-2021 between 2:05pm to 3:45 pm. This will be a good knowledge sharing platform for students' ideas and solutions through disciplined idea generator on this method. Hence, it is directed that all the students of II year I Semester and who are interested to participate enroll their names with concerned faculty on or before 10-11-2021.

Head of the Department

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Copy to:

Circulate in all Civil classrooms.
Display in the all notice boards
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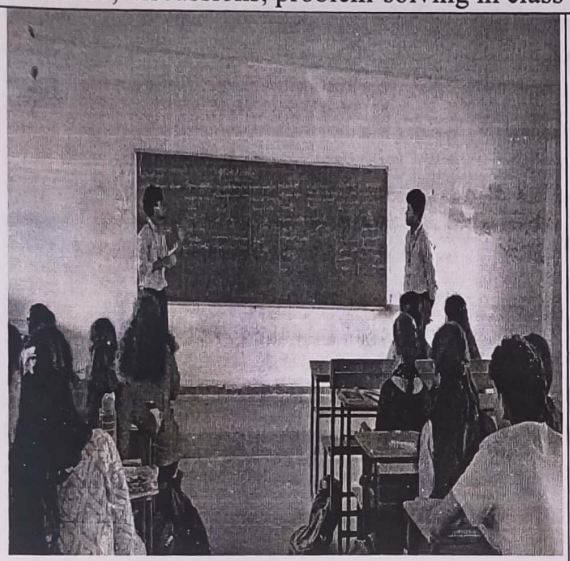
DEPARTMENT OF CIVIL ENGINEERING

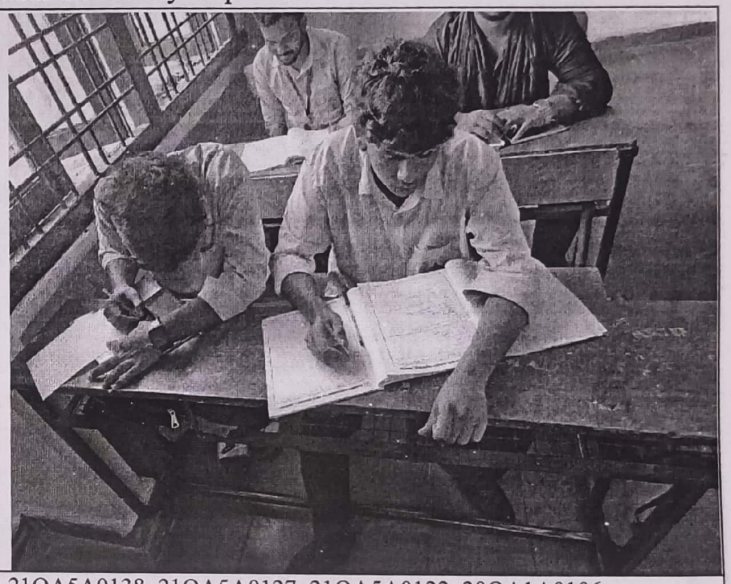
Flipped classroom :

A flipped classroom is a modern teaching method where the traditional way of learning is reversed.

Explanation:

In a normal classroom, faculty teaches the lesson in class. Students do homework after class Students learn the lesson at home (through videos, presentations, readings), Students do activities, discussions, problem-solving in class with the faculty help.





Flipped class on Properties of Fluid	21QA5A0138, 21QA5A0127, 21QA5A0122, 20QA1A0106

It Works

1.Before class: Students watch recorded lectures, audio–video lessons, or read materials.

2.During class: Students do activities, group work, problem-solving, Teacher guides, clarifies doubts, and helps individually, more interactive and practical learning

It is useful

Students learn at their own pace, More time for discussion and doubt-clearing, encourages active learning, better engagement and understanding.

Example: A civil engineering teacher records a video explaining the basic properties of fluids, including density, specific weight, specific gravity, viscosity, surface tension, and capillarity. Students watch the video at home. The next day in class, they solve numerical problems related to fluid properties in groups while the teacher guides them, clarifies doubts, and explains their practical applications.

Coordinator

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DEPARTMENT OF CIVIL ENGINEERING

Summary Report

On

Flipped class room

The Department of Civil Engineering conducted a **Flipped Classroom** session on the topic **"Properties of Fluid"**. The main objective of this event was to enhance the communication skills, debate skills, and technical knowledge of students. The activity also helped students develop confidence in expressing and presenting their understanding of the subject.

The event was organized in the form of a group discussion on properties of fluid in **Fluid Mechanics**, and their engineering applications. The session encouraged active participation and collaborative learning among students. It was mapped to **Program Outcome (PO1, PO2, PO3)** which focuses on effective communication and teamwork.

A large number of students actively participated in the event and shared their views and knowledge on the topic. On this occasion, **Dr. Shaik Rusthum, Principal**, motivated the students to take part in such academic activities and appreciated their enthusiasm. He congratulated the organizing committee for successfully conducting the event and advised the faculty members to organize more such interactive learning activities to inculcate confidence, leadership qualities, and technical competence among students.

The program concluded successfully with positive feedback from both students and faculty members. The flipped classroom approach proved to be an effective method for improving student engagement, knowledge sharing, and conceptual understanding of Fluid Mechanics.

The competitive spirit among the students. The total number of students participated 24.

Winner Notification

S.NO	Roll Number	Name Of The Student
1	20QA1A0106	E. Mounika
2	21QA5A0122	M. Laxmipriya
3	21QA5A0127	M. Ajay
4	21QA5A0138	V. Ganesh

Coordinator

Head of the Department

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