Savitribai Phule Shikshan Prasarak Mandal's
SKN SINHGAD COLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to PAH Solapur University, Solapur)
Accredited by NAAC with 'A+' Grade
A/p- Korti, Tal- Pandharpur, Pin- 413304, Dist.- Solapur.
DEPARTMENT OF CIVIL ENGINEERING

Innovative Teaching Practices

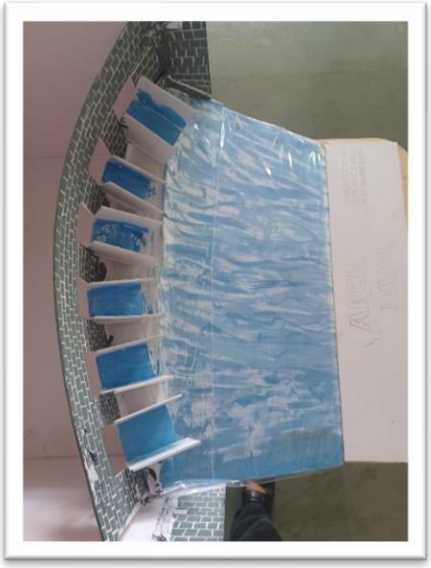
Course teacher: Mr. A. A. Kamble

Course name: Hydraulic Structure and water pawer engineering

Innovation in teaching through model making of Arch Dam

Arch Dam

This wall will structurally behave: partly as a **cantilever retaining wall** standing up from its base, and partly, the load will be transferred to the two ends of the arch span by horizontal arch action.
The arch load will be transferred to the **side walls of the canyon**, which must be strong, stable and rocky.
Economy in dam thickness can be further increased considerably by making the dam body not only curved in plan, but also curved in section. Such a non-vertical dam is known as **double curvature arch** dam or a **shell arch dam**, such dams are designed as shell-structures. Such three-dimensional designs are quite complex. We find only one arch dam in our country. (**Idukki Arch Dam, Kerala, 1976**) This arch dam too, is not a simple arch dam, but a shell-arch dam.



Students Participated
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S. Y. 02 Sakshi A. Babar
S. Y. 02 Swapnali B. Katare

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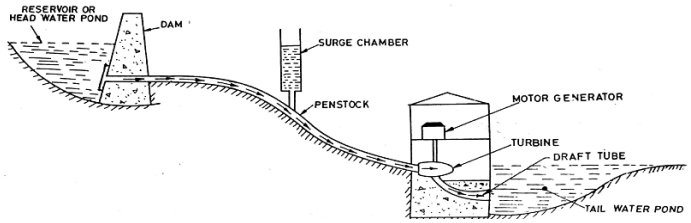
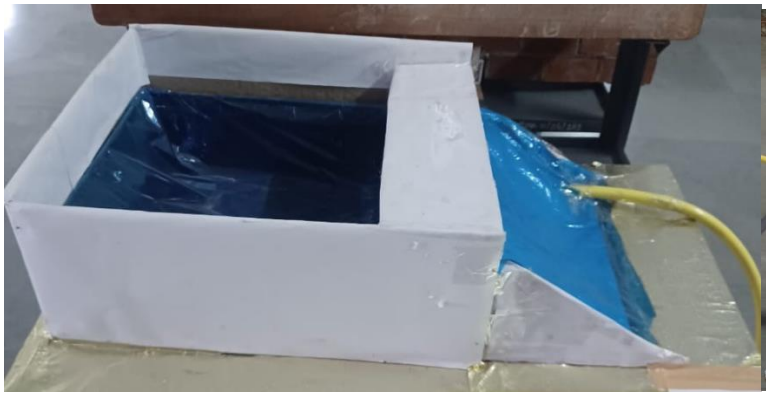
Innovation in teaching through model making of Components of Hydropower Plant

Hydropower Plant

Major components

- **The foreway** – storage basin
- **Intake structure** – provided with trash rack
- **Penstocks** – huge diameter pipe
- **Surge tank or surge chamber**
- **Hydraulic turbine** – which convert hydraulic energy to mechanical energy
  - **Impulse turbine – Pelton's wheel**
  - **Reaction turbine – Francis turbine, Kaplan turbine**
- **Power House**
- **Draft Tube**
- **Tailrace**





Students Participated

Mr. Ganesh D. Jadhav (S. Y. 2023-24) Mr. Sangram B. Gaikwad (S. Y. 2023-24)
Mr. Keshav C. Shingare (S. Y. 2023-24) Mr. Rohan R. Babar (S. Y. 2023-24)

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Innovative Teaching Practices

Course teacher: Mr. A. A. Kamble

Course name: Highway and Tunnel Engineering

Innovation in teaching through model making of Cable Bridge

Cable Bridge

A cable bridge is a type of bridge that uses **cables** as the primary structural element to support the bridge deck.

Cable bridges are known for their:

- Ability to span long distances
- Aesthetically pleasing appearance
- Resistance to seismic activity
- High strength-to-weight ratio

However, cable bridges also have some disadvantages, including:

- Higher construction costs compared to other types of bridges
- Requires careful design and construction to ensure stability and durability
- May be susceptible to cable degradation or failure over time

Students Participated

Mr. Ninad Karve
Mr. Vishal Kadam
Mr. Anil Chavan

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Course name: Highway and Tunnel Engineering

Innovation in teaching through model making of Suspension Bridge

Suspension Bridge

A suspension bridge is a type of cable bridge that uses suspension cables and suspender cables to support the bridge deck. The main components of a suspension bridge are:

1. Suspension cables: These are the main cables that suspend the bridge deck, typically made of steel or fibre ropes.
2. Towers: These are the vertical structures that support the suspension cables.
3. Anchors: These are the structures that secure the suspension cables to the ground or to the bridge's foundations.
4. Suspender cables: These are the cables that connect the suspension cables to the bridge deck.
5. Bridge deck: This is the driving surface of the bridge.

Students Participated

Mr. Kashid Nikhil Maruti
Mr. Mulik Vishwajeet Mahendra
Mr. Sawant Sachin Shankar