

INFRACREATOR

Newsletter

ISSUE 11 (JUNE 2023)



**GOVERNMENT
POLYTECHNIC
PALANPUR**



**CIVIL ENGINEERING
DEPARTMENT**



ABOUT THE DEPARTMENT

Started in 1984, Civil Engineering Department, Government Polytechnic Palanpur offers 3 years (6 semester) Diploma Civil Engineering Program with 90 intake capacity.

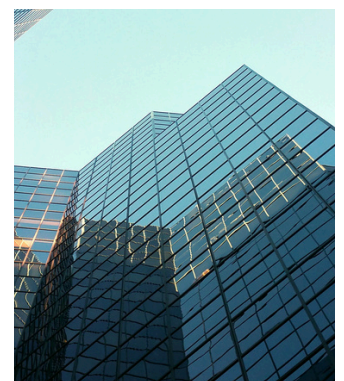
This Program is Approved by All India Council for Technical Education (AICTE) and Affiliated to Gujarat Technological University, Ahmedabad (GTU).

Vision

The department envisions to achieve professionals in emerging field of civil engineering to meet aspirations of the society, by transforming students to be technically skilled, managers, ethical, entrepreneur's leaders, and environmentally sensible civil engineers.

Mission

- To impart civil engineering skill to enhance their employability in the industries.
- Establish industry collaboration through internship and interaction with professional society through experts, workshops
- 3Promote leadership, management, entrepreneurship skills in a student through various projects, co-curriculum, extra-curriculum events.
- 4Impart social, environment awareness and responsibility in students to serve society and industry to promote sustainable growth.



01/12



HOD's Message

Welcome to the Department of Civil Engineering. The Department of Civil Engineering strives for Excellence in teaching and learning and ethical professional development. We are proud to have State-of-the-art laboratories and technical staff to support our academic program. We have well balanced and innovative teaching-learning atmosphere and qualified and well experienced dedicated academic staff. The students here are encouraged to participate in co-curricular and Extra-curricular activities for personal development.

There are many careers paths for Civil Engineers. They are essential in Government agencies, Private and Public sector undertaking to complete various Mega Projects.

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Republic Day Celebration

At Government Polytechnic Palanpur, On 26th January 2023, the occasion of 74th Republic Day, a flag salute program was arranged in which all the officials, employees and students of the institute enthusiastically participated.



Visit @ Amrutam Hospital for Building Services

A visit of Amrutam Hospital was arranged on 25 April, 2023 for Final Year Civil Engineering students. Students got the chance to see various Building services like, elevators, fire safety, plumbing, electrical lines etc.



Sports Week 2023

Sports week was celebrated in the second week of April, 2023. Students of all the departments participated in various sports like Cricket, Volleyball, Kabaddi, Rassa khench, Chess, Carrom, Badminton and newly introduced Online games.



Surveying by Total Station & DGPS

An expert session on Surveying by Total Station & DGPS was arranged on 08/06/2023 by the industry expert Mr. Salman Khurshid Shahu (Classic Engineering, Palanpur) Total 49 students participated in the session as well as hands on training.



Building Defects & Repair Techniques – An Expert Lecture

An expert lecture on Building Defects & Repair Techniques was arranged on 21/04/2023 by the Mr. Ritesh Vora (Manager Pidilite Industries). Total 96 students attended the lecture.



Three Legged Rotary Bridge @ RTO Circle, Palanpur

- Baghel Poonam
Sem - 2 Civil Engineering Department



- Three leg rotary bridge construction initiated at Palanpur RTO circle
- Central government approval for a three-leg elevated rotary railway overbridge at a cost of 123 crores
- Palanpur agency authorized for the construction with a budget of 90 crores
- Project completion expected in 18 months
- Three legs of varying lengths: 682 meters towards Danta, 700 meters towards Abu Road, and 951 meters towards Palanpur-Ahmedabad highway
- Innovative three-leg elevated rotary design, marking a significant infrastructure project for Gujarat
- Circular structure formed at a height of 18 to 20 feet above ground level, showcasing engineering excellence.

The Statue of Unity

The Statue of Unity is a 182-meter (600-foot) tall statue in Gujarat, India.

It's the world's tallest statue.

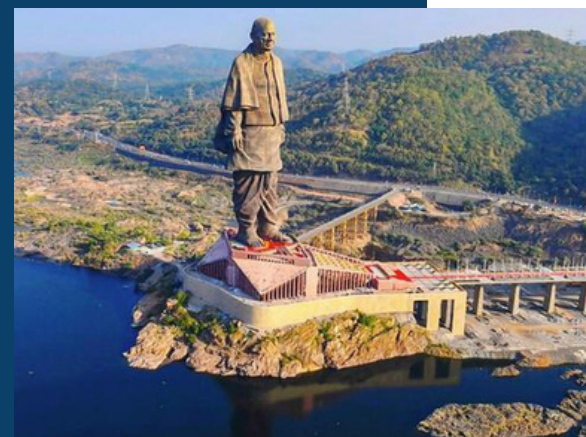
The statue is dedicated to Sardar Vallabhbhai Patel, who was India's first home minister and deputy prime minister.

The statue is located on the Sadhu Bet island on the Narmada river. It was unveiled on October 31, 2018.

The statue is made of:

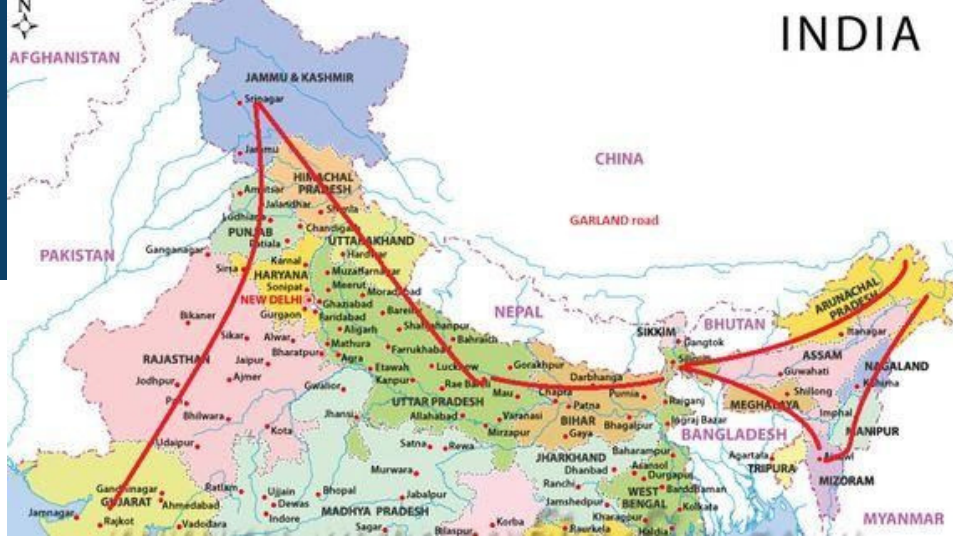
- 70,000 tonnes of cement
- 25,000 tonnes of steel
- 12,000 bronze panels, each weighing over 1700 tonnes

The statue is a patriotic symbol of the legacy of a man who spent his life in the struggle for freedom



Technical Details of Bharat Mala Road Project

- Raval Jaimin D.
Sem - 2 Civil Engineering Department



The Bharat Mala project, one of India's most ambitious road infrastructure initiatives, involves the construction of highways, expressways, bridges, and tunnels across the country. Here are the technical details:

1. Road Network Expansion:

- The project aims to develop over 83,000 kilometers of roads, including economic corridors, feeder routes, and border roads.
- It focuses on connecting major economic centers, ports, and border areas to facilitate trade and commerce.

2. Economic Corridors:

- Bharat Mala envisages the development of several economic corridors such as the Delhi-Mumbai Industrial Corridor (DMIC) and the North-South Corridor.
- These corridors are designed to reduce travel time and logistics costs, enhancing the efficiency of freight movement.

3. Expressways:

- Construction of expressways with high-speed limits, typically six-lane or more, to ensure seamless connectivity between major cities.
- These expressways incorporate modern features such as service lanes, grade-separated interchanges, and advanced safety measures.

4. Bridges and Tunnels:

- Bharat Mala includes the construction of numerous bridges and tunnels to overcome geographical barriers such as rivers, valleys, and mountainous terrain.
- These structures are engineered to meet international standards of safety, durability, and load-bearing capacity.

5. Technological Integration:

- Implementation of advanced technologies such as intelligent transportation systems (ITS) for real-time traffic monitoring, toll collection, and incident management.
- Use of Geographic Information System (GIS) for route planning, land acquisition, and environmental impact assessment.

6. Environmental Considerations:

- Adherence to environmental norms and regulations to minimize the project's ecological footprint.
- Integration of green infrastructure elements such as eco-friendly drainage systems, noise barriers, and wildlife crossings.

7. Project Management:

- Effective project management practices including detailed planning, monitoring, and coordination among multiple stakeholders.
- Emphasis on timely execution, cost optimization, and quality assurance throughout the construction phases.

Conclusion:

The Bharat Mala road project represents a paradigm shift in India's road infrastructure development, incorporating advanced engineering techniques, technological innovations, and environmental sustainability principles to create a modern and efficient transportation network.

The Delhi–Mumbai Expressway

- PRAJAPATI OM D
Sem 4 Civil Engineering Department

The Delhi-Mumbai Expressway is an 8-lane, 1,350 km long expressway that connects India's two most important cities, New Delhi and Mumbai. It will reduce the travel time between the two cities from nearly 24 hours to 12 hours. The expressway will also reduce the distance between the two cities by 12%, from 1,424 km to 1,242 km



Some details about the expressway:

- Total length: 1,350 km
- Operational length: 490 km
- Lanes: 8 (expandable to 12)
- Speed limit: 120 kmph
- Estimated cost: Rs. 1,00,000 crore (1 lakh crore)

The expressway will pass through six states: Delhi, Haryana, Rajasthan, Madhya Pradesh, Gujarat, and Maharashtra. It will connect major cities like Kota, Indore, Jaipur, Bhopal, Vadodara, and Surat.

The expressway's first phase, the Delhi-Dausa-Lalsot section, was inaugurated by Prime Minister Narendra Modi. The 246 km long section cost more than Rs 12,150 crore to develop. It will reduce the travel time from Delhi to Jaipur from 5 hours to around 3.5 hours.



Atal Tunnel

- PRAJAPATI OM D
Sem 4 Civil Engineering Department



Construction Methodology:

- The tunnel was constructed using the New Austrian Tunneling Method (NATM), a state-of-the-art technique for tunnel excavation in mountainous terrain.
- Construction commenced in 2010 and involved extensive drilling, blasting, and excavation through the rocky terrain of the Pir Panjal range.
- Advanced machinery and equipment, including tunnel boring machines (TBMs) and rock drilling rigs, were employed to expedite the construction process.

Design Features:

- The Atal Tunnel stretches over 9.02 kilometers, making it one of the longest tunnels in India and the world's highest highway tunnel.
- It is a horseshoe-shaped, single-tube tunnel with a width of approximately 10.5 meters and a height of 5.52 meters, allowing two-way traffic flow.
- The tunnel is equipped with modern safety features, including ventilation systems, emergency exit passages, and fire-fighting equipment, ensuring the safety of commuters.

Geological Challenges:

- The Atal Tunnel has strategic significance for India, providing a vital link to the border areas and enhancing military logistics and troop movement.
- It has opened up new opportunities for tourism, trade, and socio-economic development in the remote Himalayan regions, promoting connectivity and fostering regional integration.

WHERE IS THE ATAL TUNNEL LOCATED?

ATAL TUNNEL LOCATION MAP



FACTS

ATAL TUNNEL
(also known as Rohtang Tunnel)
Length: 9.02 Kms (5.60 mi)
Route: Leh-Manali Highway
Opened: 3 October 2020
Operator: Border Roads Organisation



Student's Corner

- Civil 6th Sem. Team won the GPP Cricket Cup in Sports Week organized by Government Polytechnic, Palanpur



देखी हे हमने जिंदगी, बिना यार के वो कुछ नहीं ।
यारो यारी देखके, अब गम को भी फुरसत नहीं ॥

मिल जी हे हमने वो खुशी, जो स्वर्ग से भी कम नहीं ।
बाते करू जो आपसे, वो गर्व से भी कम नहीं ॥

यहा धर्म की सिमा नहीं, और ना ही धन का फासला ।
मिलते थे हम जब भी कही, उठ जाता था वहा काफीला ॥

जब हो मुसीबत आपसी, डर कर के बैठे थे कही ।
वो तब ही आते थे वही, सब मिलके कर देते सही ॥

देखे थे सपने साथ मे, वादे किये थे जोश में ।
अफसोस बस इस बात का, आज वो तो हे पर तुम नहीं ॥

वादा हमारा आपसे, मुडकर के देखोंगे सही ।
यादो की अब वो बातो से, चल जाओगे मुमकिन नहीं ॥

होती थी बाते हर कही, ये यारियां भी कुच नहीं ।
जब भी मिलेंगे आपसे, कर देंगे इसको भी सही ॥

- On the Occasion of Friendship day, a Poem written by Mevada Harsh (Sem 6 Civil Department) with the subject of “**Friendship**”



Out Star Students

Semester	Name of Student	Enrollment No	SPI
5	Mevada Harsh Kirankumar	206260306006	9.1
3	Manasiya Talha Nizamuddinbhai	216260306003	9.8
1	Thakor Kishanji Ravaji	226260306082	7.9



Faculty Achievements

Sr No	Name of Faculty	Achievement
1	H P Patel	Attended 2 Weeks (19/06/23 to 23/06/23) Training on Building Information Modeling for Civil Engineers at NITTTR, Ahmedabad
2	N V Prajapati	Attended 2 Weeks (19/06/23 to 23/06/23) Training on Building Information Modeling for Civil Engineers at NITTTR, Ahmedabad