LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING
MYLAVARAM
TRUTH ALWAYS TRIUMPHS
HARD WORK PAYS

CIVIL MAGAZINE

JAN – JUNE 2026

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DEPARTMENTAL EVENTS

Faculty Development Program on
" ROLE OF TECHNOLOGIES IN DISASTER RISK REDUCTION IN INDIA "

Event Type	Online Faculty Development Program
Date/Duration	11.05.2026 to 16.05.2026
Name of the Coordinator	Dr.J. Venkateswara Rao, Professor Sri J. Eeswara Ram, Sr.Assistant Professor
Target Audience	Faculty members of Civil, Research scholars and M.Tech students
Total no of Participants	72 (Internal-22, External-50)
Objective of the event	The main objectives of this FDP are to • To give an exposure on the utility of various technologies like GPS (Global Positioning System), GIS (Geographic Information System) in the disaster risk reduction • To understand the role of Geoinformatics and similar technologies in the disaster risk reduction in Indian climates. • To sensitize the impact of climate vulnerability, risk assessment, dissipative energy systems for structures. • To understand opportunities and challenges associated particularly in Indian climate will be addressed.
Outcome of Event	• Understand the application of modern technologies such as GIS, Remote Sensing, AI, IoT, and Drones in disaster management. • Analyze disaster risks and utilize technological tools for preparedness, mitigation, and response. • Interpret geospatial data and early warning systems for effective disaster risk reduction. • Integrate technology-driven disaster resilience strategies into teaching, research, and community development activities.
Feedback/ Suggestions	• Received positive feedback from participants regarding event conducted and about organizing the event.

6- DAY ONLINE Faculty Development Program on Role of Technologies in Disaster Risk Reduction in India from 11th to 16th May 2026.

Total no. of participants: 72.

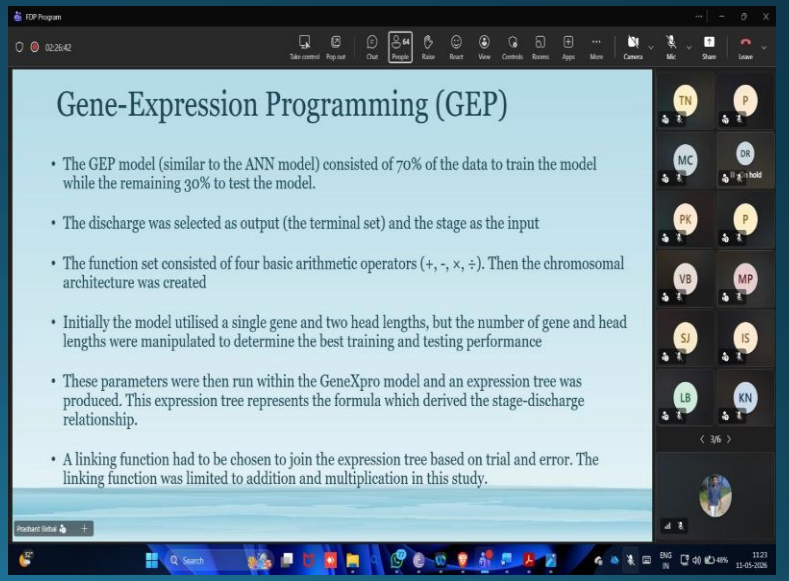
SESSION – 1 Topic: Application of Soft Computing Techniques in Hydraulic Engineering

Resource Person: Prof. Hazi Mohammad Azamathulla, Professor & Head, University of the West Indies at St. Augustine, Trinidad

The session focused on the application of soft computing techniques in solving complex hydraulic engineering problems. The resource person explained the use of Artificial Neural Networks (ANN), Fuzzy Logic, and Genetic Algorithms in flood forecasting, river flow prediction, sediment transport analysis, and water resource management. The session emphasized the advantages of soft computing methods in handling uncertainty and nonlinear behaviour, thereby improving the accuracy and efficiency of hydraulic models.

Outcomes:

- Understood the role of soft computing techniques in hydraulic engineering applications.
- Learned the use of ANN, Fuzzy Logic, and Genetic Algorithms for flood prediction and water resource management.
- Identified research opportunities in intelligent hydraulic system modeling.



SESSION – 2

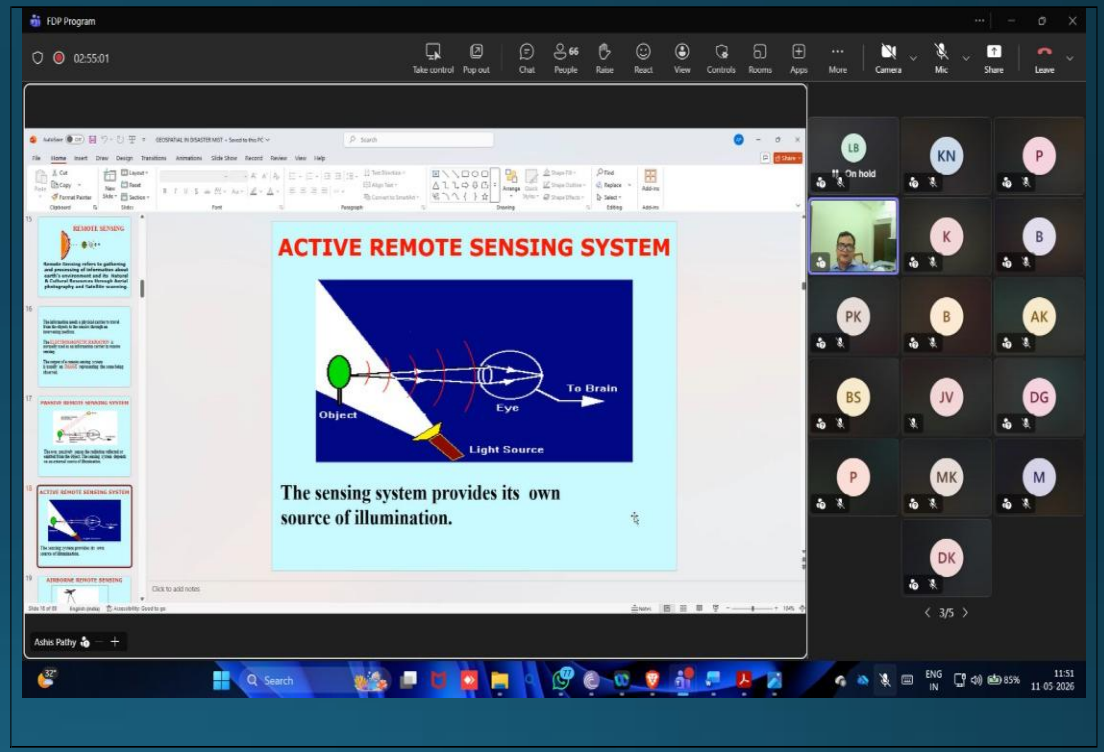
Topic: Geospatial Technology & its Application in Disaster Management

Resource Person: Dr. Ashish Chandra Pathy, Assistant Professor, Utkal University, Odisha

The session provided insights into geospatial technologies and their applications in disaster management. The speaker discussed Geographic Information Systems (GIS), GPS, spatial databases, and mapping tools used for hazard identification, vulnerability assessment, emergency planning, and disaster response. Various case studies demonstrated the effectiveness of geospatial technologies in enhancing disaster preparedness and decision-making.

Outcomes:

- Gained knowledge of GIS and geospatial technologies used in disaster management.
- Learned techniques for hazard mapping and vulnerability assessment.
- Understood the importance of spatial data in disaster preparedness and response.



SESSION – 3

Topic: Application of Remote Sensing in Disaster Management

Resource Person: Dr. Aishwarya Narendr, DRR Expert and GIS Professional, CDRI, New Delhi

The session highlighted the significance of remote sensing technologies in disaster monitoring and management. The resource person explained the use of satellite imagery, aerial photographs, and drone-based surveys in monitoring floods, landslides, cyclones, droughts, and forest fires. The session also covered image interpretation and integration of remote sensing data with GIS for effective disaster management.

Outcomes:

- Understood the principles and applications of remote sensing in disaster management.
- Learned to utilize satellite and aerial imagery for hazard assessment.
- Gained knowledge of remote sensing-based disaster monitoring and damage assessment.

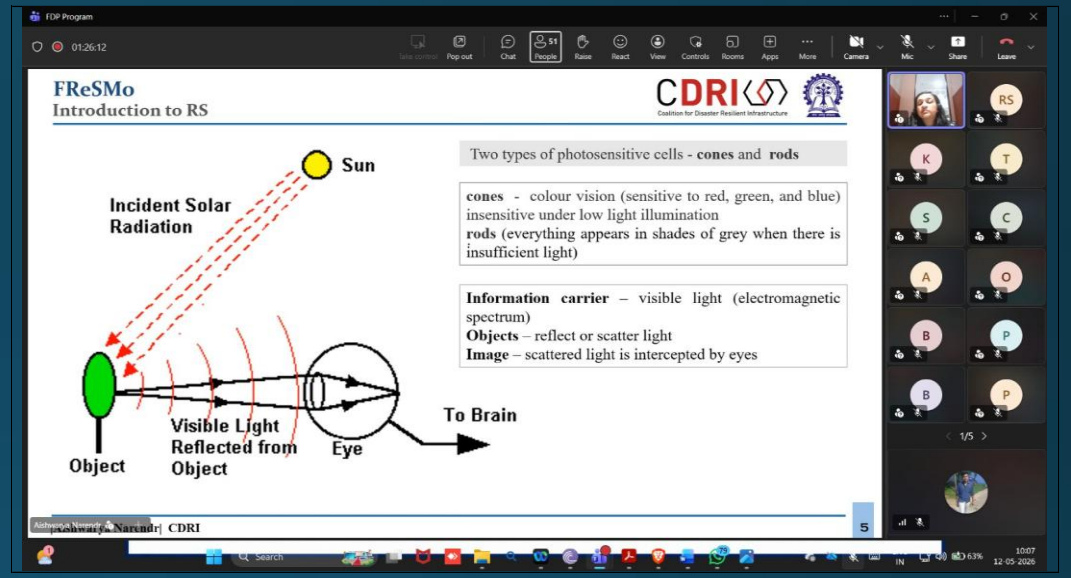
SESSION – 4

Topic: Role of Technology in Disaster Risk Reduction in India

Resource Person: Dr. Harjeet Kaur, Former Joint Commissioner, NIDM, MHA, Government of India This session focused on the role of emerging technologies in disaster risk reduction across India. The speaker discussed technological interventions such as early warning systems, communication technologies, digital monitoring platforms, and data-driven decision support systems. The importance of integrating technology with policy frameworks and community resilience was also emphasized.

Outcomes:

- Understood the contribution of technology to disaster risk reduction.
- Learned about national disaster management initiatives and technological interventions.
- Recognized the importance of technology-enabled resilience strategies.



SESSION – 5

Topic: Concept of Flood Control by Prediction of Scour Geometry using Soft Computing Techniques

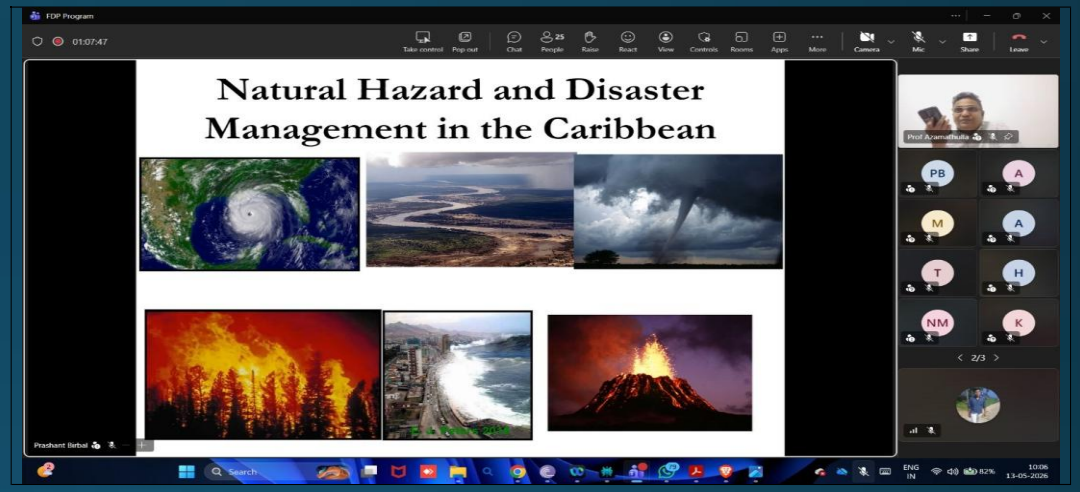
Resource Person:Prof. Hazi Mohammad Azamathulla, Professor & Head, University of the West Indies at St. Augustine, Trinidad

The session discussed scour formation around hydraulic structures and its impact on infrastructure safety. The resource person explained how soft computing models can accurately predict scour

geometry, helping engineers design safer hydraulic structures and reduce flood-related damages.

Outcomes:

- Learned the fundamentals of scour prediction in hydraulic structures.
- Understood the application of soft computing techniques in flood control.
- Gained knowledge of resilient hydraulic infrastructure design



SESSION – 6

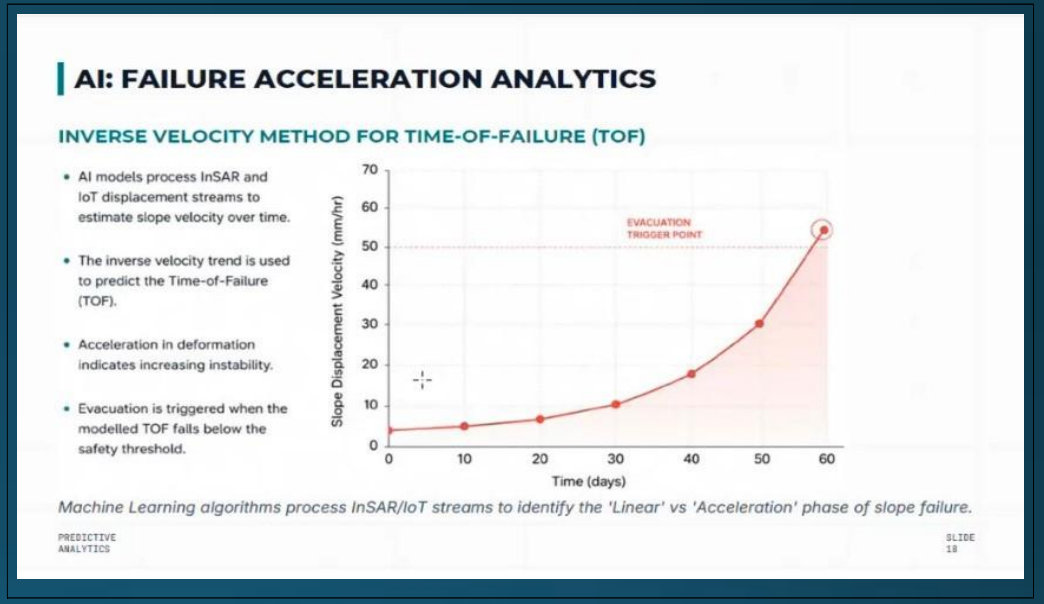
Topic: Integrating Geospatial Intelligence for Disaster Risk Mitigation and Infrastructure Stability in Mining Operations

Resource Person: Mr. Devi Prasad J, Deputy Manager, South Eastern Coalfields Limited

The speaker discussed the application of geospatial intelligence in monitoring mining environments and ensuring infrastructure stability. The session covered GIS-based monitoring, terrain analysis, remote sensing applications, and risk assessment methods for mining-related hazards.

Outcomes:

- Understood the role of geospatial intelligence in mining safety.
- Learned techniques for monitoring infrastructure stability.
- Identified methods for disaster risk mitigation in mining operations.



SESSION – 7

Topic: Research Scope in Disaster Resilience: Emerging Directions, Methods and Collaboration Opportunities
Resource Person: Dr. Prashant Prasad, Assistant Professor, BIT Mesra

The session explored emerging research trends in disaster resilience, including climate adaptation, resilient infrastructure, urban resilience, and community-based risk reduction. The speaker highlighted various research methodologies and opportunities for interdisciplinary collaboration.

Outcomes:

- Identified emerging research areas in disaster resilience.
- Learned about interdisciplinary research methodologies.
- Explored collaboration opportunities for future research projects.

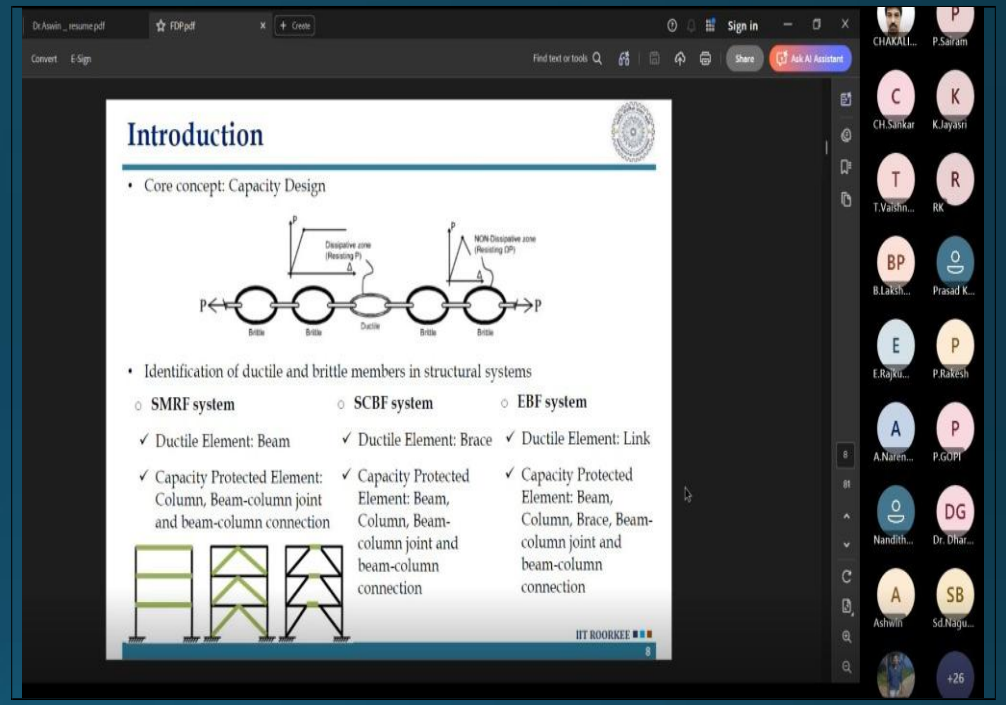
SESSION – 8

Topic: Energy Dissipating Devices for Seismic Resilience Resource Person: Dr. P.C. Ashwin Kumar, Assistant Professor, IIT Roorkee

The session introduced modern seismic protection technologies such as dampers, base isolation systems, and energy dissipation devices. The speaker explained how these systems reduce structural vibrations and improve building performance during earthquakes.

Outcomes:

- Understood the working principles of seismic energy dissipation devices.
- Learned the role of dampers and base isolators in earthquake-resistant design.
- Gained knowledge of seismic resilience enhancement techniques.



ALUMINI INTERACTION

Event Type : Student Interaction

Date: 23-02-2026

Venue: classroom 3F09

Resource Person(s): MONIKA MUSALI Name of Coordinators: Eeshwar Ram

J Target Audience: B.Tech. IV Sem Students

Total no of Participants: 45

Our Alumni, Monika.M (16761A0135), working PMC Consultancy Group as a Project Management consultant, interacted with students on 23-02-2026. She discussed with the second-year students regarding Project Management and Career Guidance, opportunities in core companies and higher education importance.sincere thanks to Monika.M for attending this interaction. Alumni In charge Mr. Eeshwar Ram J are also participated in this interaction. Total of 45 students are participated in this interaction.


Joints

Event Type: Student Interaction Date: 26-03-2026

Venue: classroom 3F09

Resource Person(s): P. Dharma Teja

Name of Coordinators: Eeshwar Ram J

Target Audience: B.Tech. VI Sem Students

Total no of Participants: 49

Our alumnus, Mr. P. Dharma Teja (22765A0118), who is currently preparing for Government job examinations, interacted with the third-year Civil Engineering students on 26-03-2025.

During the session, he emphasized the importance of the GATE Examination, shared valuable career guidance, discussed employment opportunities in core engineering companies, and highlighted the significance of pursuing higher education.

The Department of Civil Engineering extends its sincere thanks to Mr. P. Dharma Teja for his valuable time and insightful interaction with the students. Mr. Eeshwar Ram J, Alumni In-charge, also participated in the session.

A total of 49 students participated in the alumni interaction program.


14:20

FAMOUS ENGINEER

Kanwar Sen

Kanwar Sain, also known as Rai Bahadur Kanwar Sain Gupta OBE (1899–1989) was a civil engineer from Haryana state in India. He was the chief engineer in the Bikaner state who came up with idea of Rajasthan Canal. He also successfully implemented the Ganga canal project which expanded into Indira Gandhi Canal. He was considered a leading irrigation engineer of his time.

He was born in 1899 in Tohana district Fatehabad (Haryana). He was educated at D.A.V. College, Lahore. He graduated as a civil engineer with honors from Thomason College of Civil Engineering, Roorkee (now, IIT Roorkee) in 1927. He was awarded the Padma Bhushan in 1956. His memoir, 'Reminiscences of an Engineer' was published in 1978.

He was chairman of Central Water and Power Commission, Ministry of Irrigation and Power, Government of India. Kanwar Sain and Karpov (1967) presented enveloping curves for Indian rivers.

Kanwar Sain contributed to the design and establishment of the Central Water and Power Commission. Sain's passionate involvement with his work - especially in saving Dibrugarh from floods and during the mishap at the Bhakra Dam, endeared him to his colleagues, both in India and abroad. He was associated with the Mekong Development Project for nine years as an UN expert. For nearly half a century, Sain was involved with river projects and development of water resources both in India and abroad. He was closely connected with major projects-from the Damodar Valley to the Rajasthan Canal, from Hirakud Dam, to the Narmada River Project.

Sain was recognized with several honors, including the Order of the British Empire, O.B.E., and the Padma Bhushan.[1]

He was offered the Order of the Elephant by the Government of Thailand, but could not accept it, as he was serving with the United Nations. He was elected President of Central Board of Irrigation and Power in 1953, Vice President of International Commission on Irrigation and Drainage 1954 and President of the Institute of Engineers India in 1956.

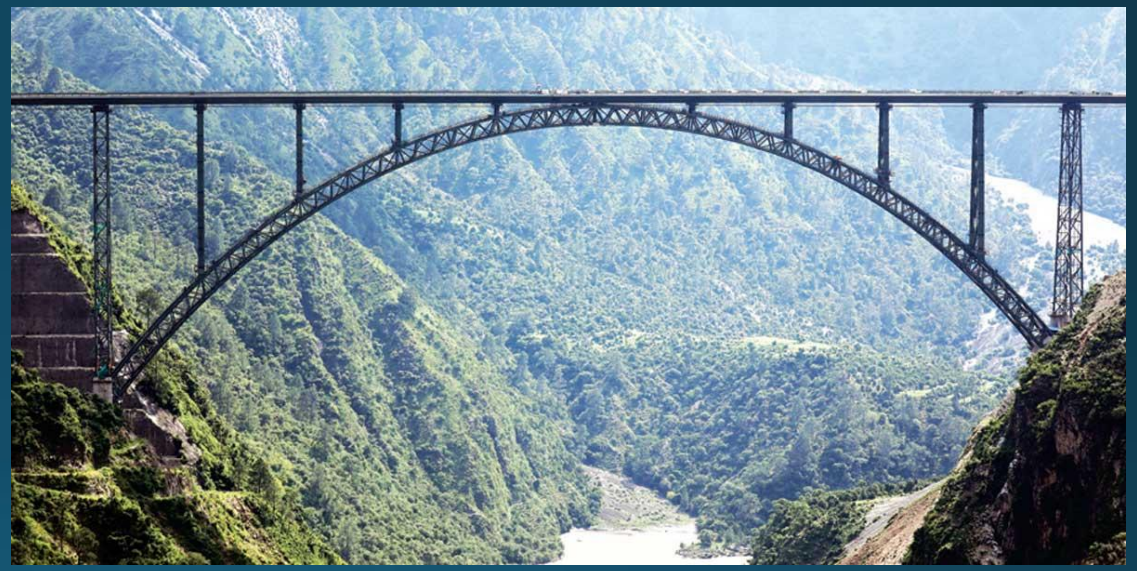
He was awarded Honorary Life Membership by the American Society of Civil Engineers and an Honorary Life Fellowship by the Institution of Engineers India. His alma mater, the University of Roorkee (now Indian Institute of Technology, Roorkee), awarded him an honorary doctorate of engineering.

FAMOUS CONSTRUCTION

Chenab Rail Bridge

The **Chenab Rail Bridge** is a railway bridge over the Chenab River in Reasi district of the union territory of Jammu and Kashmir in India. It is a steel and concrete bridge spanning 1,315 m (4,314 ft) across the river gorge. The structure consists of an approach bridge which is 530 m (1,740 ft) long and a 785 m (2,575 ft)-long deck arch bridge. With a deck height of 359 m (1,178 ft) from the river bed, the arch bridge is the highest rail bridge in the world. It is located between Kauri and Bakkal rail stations on the Jammu–Baramulla line.

The bridge was constructed at a cost of ₹14.86 billion (US$150 million). The project was overseen by Konkan Railway Corporation of the Indian Railways. The construction work started in 2017, and the base supports were completed in November 2017 with the arch constructed by April 2021. The bridge was fully completed in August 2022, and the first trial runs were conducted in June 2024. The bridge was opened for rail traffic on 6 June 2025 by prime minister Narendra Modi.



In the late 1970s, the Government of India planned to establish a railway line to connect Jammu with the Kashmir Valley. The line would connect Kashmir with the rest of the Indian railway network and aid in the economic activity of the region.[1][2][3] It would also serve as a strategic link to the Kashmir region all round the year as the road link between Jammu and Kashmir region is often cut off by snowfall during winters.[4][5] Though the foundation stone for the Jammu-Baramulla railway project was laid in 1983, constructed started only when the funds were allocated only in the mid 1990s.[6][7][8]

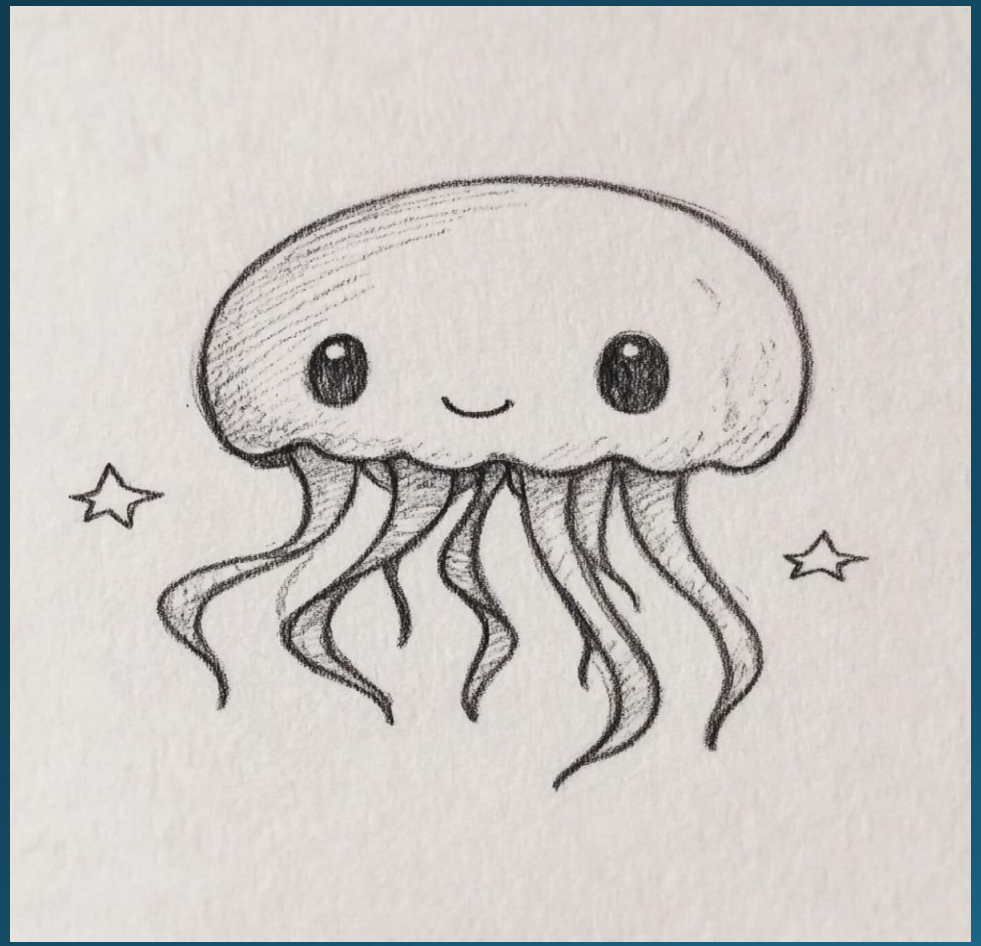
A survey was conducted in 1997 a feasibility study was conducted for connecting Udhampur in the Jammu region to Srinagar in the valley.[7][8] The line would have to pass through the Pir Panjal range of the Himalayas,[6] which necessitated multiple tunnels and bridges.[1][3][9] The line between Katra and Srinagar necessitated a crossing of a deep gorge formed by the Chenab River.[1][10][11] A high-altitude rail bridge was approved to cross the river between Kauri and Bakkal, about 23 km (14 mi) north of Katra, in Reasi district.[1][12][13][14] The planned construction area was located in a major seismic zone (zone V–highest risk[15]) with a fractured geology,[14] and in a conflict prone zone.[5]

The Jammu–Udhampur section of the planned Jammu–Baramulla line was opened in April 2005.[1][7] Subsequently, the section between Banihal and Baramulla via Srinagar, was opened in phases from 2008 to 2013.[6][9] The section between Udhampur and Katra was opened for traffic in July 2014

TRICK ZONE


Which Path Reaches First?
B
A
C
D
Follow each path carefully
Avoid dead ends,
Choose the correct one

ARTS



Y. KISHORE
25765A0109