



BHILAI INSTITUTE OF TECHNOLOGY RAIPUR
DEPARTMENT OF CIVIL ENGINEERING

AAKAAR

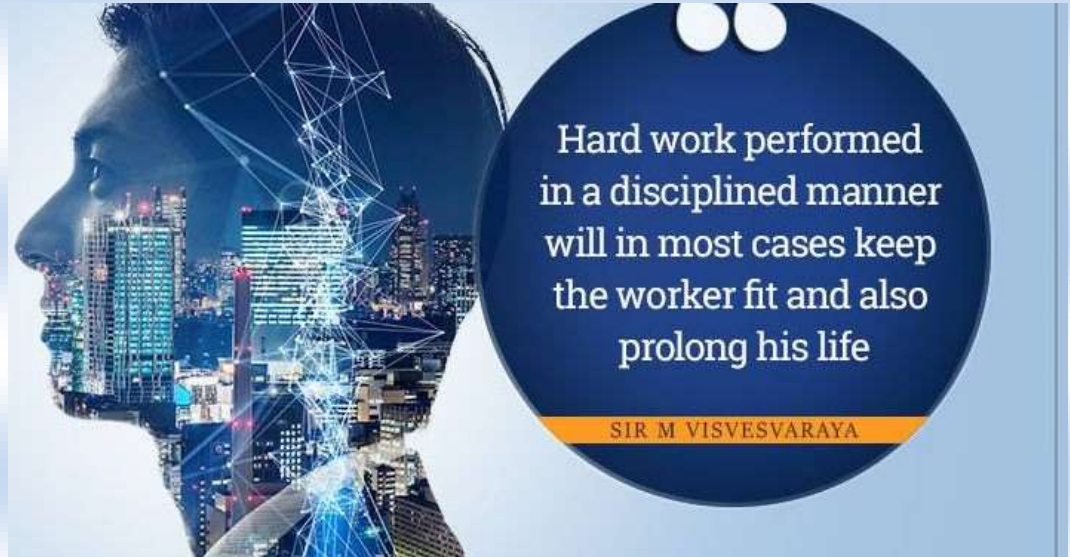
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Hard work performed
in a disciplined manner
will in most cases keep
the worker fit and also
prolong his life

SIR M VISVESVARAYA

Famous Civil Engineers

Sir Mokshagundam Visvesvaraya

More commonly known as Sir MV, was an Indian civil engineer, statesman and the 19th Diwan of Mysore, serving from 1912 to 1919. He pursued his degree from one of the best and the 3rd oldest engineering college in Asia, College of Engineering, Pune. He received India's highest honour, the Bharat Ratna, in 1955. He was knighted as a Knight Commander of the British Indian Empire (KCIE) by King George V for his contributions to the public good. His birthday, 15 September, is celebrated as Engineers' Day in India, Sri Lanka and Tanzania in his memory. He was the Chief Engineer of Krishna Raja Sagara dam in the north-west suburb of Mysuru city, and also served as one of the Chief Engineers of the flood protection system for the city of Hyderabad.

Statue of Unity: Salient features of the world's 'tallest statue'

The Statue of Unity is a colossal statue of Indian statesman and independence activist Vallabhbhai Patel (1875–1951), who was the first Deputy Prime Minister and Home Minister of independent India and an adherent of Mahatma Gandhi during the nonviolent Indian Independence movement. It is the world's tallest statue with a height of 182 metres (597 feet).

Location– around 3.5 km downstream from Sardar Sarovar dam, on an islet Sadhu Bet on the bed of River Narmada.

- Cost– Rs. 2989 crore.
- Sculptor– Padmama Bhushan Ram V. Suthar, a 93 year-old acclaimed sculptor.
- Materials consumed- 70,000 tons of cement, 18,500 tons of reinforcement steel, 6,000 tons of structural steel and 1700 tons of bronze which was used as outer cladding of the structure.
- Specialities: The statue is slender most at the base, which goes against the norms of what other tall statues have followed. The walking pose also opened up a gap of 6.4 metres between the two feet which then had to be tested to withstand wind velocity. Engineered to withstand wind speeds of up to 50 m per second (almost 180 km per hour wind speed).



Photovoltaic Glaze

One of the most exciting new technologies used in civil engineering is building integrated photovoltaic (BIPV) glazing, which can help buildings generate their own electricity, by turning the whole building envelope into a solar panel. Companies such as Polysolar provide transparent photovoltaic glass as a structural building material, forming windows, façades and roofs. Polysolar's technology is efficient at producing energy even on north-facing, vertical walls and its high performance at raised temperatures means it can be double glazed or insulated directly. As well as saving on energy bills and earning feed-in tariff revenues, its cost is only marginal over traditional glass, since construction and framework costs remain, while cladding and shading system costs are replaced.

Alumini Section



Civil Engineering
2009-13 Batch

Mr Saptarishi Pandey of civil engineering 2009-13 batch got selected selected as estimator in Structure Tone, New York, which is one of the top companies of civil engineering in the world. He shared his experince telling us that concepts studied during his B.E helped him immensely to get selected in the company.

Faculty Section

- Indian water resource society (IWRS) lifetime membership was awarded to Prof. Deepmala.
- Dr. R.K. Mishra published a paper on "Mechanoluminescence: A Novel Method for Identification of Crack Initiation in Concrete Structures" in UKIERI Concrete Congress.

Students Acheivement

- Mr. Nitin Mohan, Aditya pandey & Miss Madhvi Gawai won the intra zonal badminton championship.
- Institution of engineers' students' chapter was established in the department to enhance the technical knowledge of the students.

Pir Panjal Railway Tunnel

The Pir Panjal Railway Tunnel or Banihal railway tunnel is an 11.215 kilometres (6.969 mi) long railway tunnel located in Pir Panjal Range of middle Himalayas in Jammu and Kashmir, India, north of Banihal town. It is a part of the Jammu–Baramulla line.

Silent Features

Amongst the longest transportation tunnel in India (11.215 km).
Provision of 3-m-wide concrete road along side railway track inside the tunnel throughout the length for maintenance and emergency relief purpose.
The tunnel passes about 440 m below the existing Jawahar Road Tunnel.
The alignment of the tunnel crosses the NH-1A at three locations.
First large-scale use of NATM in India
Highest overburden: 1,100 m
Total excavation quantity: 11 lakh cum
Execution of rock bolting: 315,000 m



Self Healing Concrete

In the simplest terms, self-healing concrete is concrete with the capacity to repair its own cracks and imperfections. When it comes to using concrete in construction, structural integrity is a major concern. As a result, a great deal of time and effort is put into ensuring that the concrete is in excellent condition. Self-healing concrete requires no human intervention to remain in tip-top shape. In order to obtain self-healing concrete, a mechanism is needed to trigger the healing action. While for some self-healing mechanisms, activation through ingress of liquids and gasses or through exertion of heat is mentioned, for self-healing by means of encapsulated polymeric healing agents, the most common trigger mechanism is crack appearance.