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Civil Engg. Department

Topic Name:	DESIGN AND DRAWING OF STEEL STRUCTURES
Name of the Guest Speaker:	Mr. Ajay Shinde
Designation:	Propreitor
Organization/Institution:	Sunteck Center
Date:	29/03/19
Time:	11.00 Onwards

Programme/ Summary Details:

The speaker advised the students to pursue this domain in civil engineering, as it would greatly increase in the coming few years. He said that a major field in civil engineering would be rehabilitation, and this is a good time to start a venture in rehabilitation. Rehabilitation of another Rail-Over Bridge, the Markapur ROB, for the Public Works Department of Hyderabad was done. Design defects were found in 13 slabs, where the reinforcement provided was 28% less than that of what was required. Hence, strengthening had to be carried out. Various cracks were already present, and a linear potentiometer was used to measure the deflection caused. Two testing vehicles (trucks) of 41.5-ton capacity each were placed over the deck slab. The cost for demolishing and reconstructing the span of 7 meters was ₹27 crores, while the rehabilitation cost was ₹2.5 crores. Since the rehabilitation cost was less than 10% that of reconstructing, it was a very beneficial method. A check for extreme loading condition was carried out. The last project was a Rail-Over Bridge for the Western Railway. The bridge being restored in this case was a 40-year-old bridge, numbered as Bridge 114. It had a 20- PAGE 3 meter-long, 1.7-meter depth PSC girder, having permissible limit of deflection of 8- 9 mm. However, the deflection had gone up to 22 mm. A simple solution to such a problem in the railways would be to reduce the speed of trains passing in that section. The Railways wished to monitor the bridge for two years, and hence a number of sensors were installed. Grouting of cracks, rust protection of reinforcement and rust removal were carried out. A window of two hours was given to carry out the 8 pre-stressings required.