

Time: 3 HOURS

Total Marks:80

N.B:

1. Question No:1 is compulsory
2. Attempt any three questions from the remaining five questions.
3. Figures to the right indicates full marks

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| 1 | Write short notes on any four : | 20 |
| | a) Sinking Cofferdam | |
| | b) Earthquake resisting controls | |
| | c) Smart roads | |
| | d) Subgrade water proofing | |
| | e) Applications of Tunnel form systems | |
| | f) Amphibious & scrapper dredging system | |
| 2.a | Explain Incremental launching method of Bridge construction | 10 |
| b | Explain in detail about any two of the Advanced Piling Techniques | 10 |
| 3.a | Explain in detail the seismic Retrofitting Strategies of Structural members such as Beams, Columns and Slabs | 10 |
| b | Explain: | 10 |
| | a) Soil Heating and soil Freezing | |
| | b) Vibro floatation | |
| 4.a | How are high rise structures erected? Explain the equipment used | 10 |
| b | Enumerate the problems faced in the erection of roof truss in an Industrial Building. Also explain about the equipment and tackles used for erecting these. | 10 |
| 5. a | Explain the applications of in situ prestressing in high rise structures | 10 |
| b | Describe the methods of repairing works of Steel bridges, towers etc are carried out. | 10 |
| 6 | Write short notes on: Any Four | 20 |
| a | Zero Energy Building | |
| b | Slipform and jump form | |
| c | Silos and Chimneys | |
| d | Mud jacking and grouting for foundation, | |
| e | Solar Paints | |
