

Roll No.

Total No. of Pages : 01

Total No. of Questions : 08

PHD (CIVIL)
ADVANCED CONSTRUCTION TECHNOLOGY

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carry TWENTY marks.
3. Assume suitable data, not given.

1. (a) Explain how sudden draw down of reservoir affects the design of earthen embankment. (8)
(b) Discuss briefly the criteria for safe design of an earthen dam. (12)
2. (a) Define seepage force, piping and roofing as understood in the study of stability of an earth dam resting on a relatively porous media. (10)
(b) Give details about 'Monitoring of post construction behavior' with reference of Earthen Dams. (10)
3. (a) List the typical damage that a structure resting on an expansive soil is likely to suffer.
(b) Discuss the design steps for chimney design. Also discuss codal provisions. (10)
4. (a) Explain the open sumps and vacuum well dewatering systems. (10)
(b) Discuss general planning considerations for high rise buildings. (10)
5. (a) Discuss the types of cladding used and temperature induced movements in high rise construction. (10)
(b) Discuss structural aspects of high rise buildings. (10)
6. (a) Write a note on 'Modular Coordination and Tolerances' with reference to Prefabricated construction. (8)
(b) Discuss any two types of excavating and earth moving equipment in detail. Give Sketches. (12)
7. (a) Differentiate between Pretensioning and Post tensioning. Explain any one method of Post-tensioning. (10)
(b) What are functions of Geosynthetics? Discuss in detail. (10)
8. Write short note on (any two) :
(a) Sealants and Adhesives (10)
(b) Post grout test (10)
(c) Polymers (10)