

FACULTY OF ENGINEERING

B.E. 4/4 (Civil) I – Semester (New) (Main) Examination, November 2013

Subject : Water resources Engineering – II

Time : 3 hours

Max. Marks : 75

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Define flood routing. (2)
2. What is elementary principle of gravity dam? (2)
3. Define phreatic line. (2)
4. What is energy dissipater? (2)
5. Define base load plant and peak load plant. (2)
6. Define mass in flow and demand curve. (3)
7. What is economical height of the dam? (3)
8. The compressive stress of concrete dam is 2500 kN/m^2 and specific gravity of dam material is 2.3. Compute maximum limiting height of the dam. (3)
9. Explain briefly the appurtenances of stilling basins. (3)
10. Distinguish between zoned and diaphragm type of embankment dams. (3)

PART – B (50 Marks)

- 11.a) Explain the various surveys and investigations required for reservoir planning. (5)
 b) Explain the factors governing selection of site of a reservoir. (5)
- 12.a) Explain the classification of dams. (5)
 b) Explain the different modes of failure of gravity dams. (5)
13. Explain the criteria for safe design of an earth dam. (10)
- 14.a) Discuss various causes of hydraulic and method to prevent this failures. (6)
 b) List the functions of stilling bas in appurtenances. (4)
- 15.a) Discuss solid roller bucket type energy dissipater with a sketch. (5)
 b) List the various types of spillways and explain ogee spillway. (5)
- 16.a) The load on a hydel power plant varies from of 10,000 kW each have been installed. Calculate i) maximum demand ii) load factor (6)
 iii) plant factor iv) utilization factor
 b) Distinguish between storage and pandegel. (4)
17. Write short notes on two of the following : 2 x 5 = 10
 a) Galleries in gravitydam
 b) Forebay
 c) Types of hydel plants