

CE 7

8E8091

Roll No. _____

[Total No. of Pages : 2

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B.Tech. VIII Semester (Main/Back) Examination, April/May - 2017
Civil Engineering
8CE1 A Water Resources Engineering-II

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 26

Instructions to candidates :

Attempt any **five questions**, selecting **one question** from **each unit**. All questions carry **equal marks**. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitable by assumed and stated clearly). Units of quantities used/calculated must be stated clearly.

Unit - I

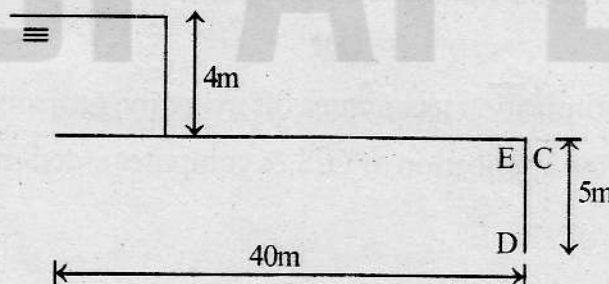
1. a) Write a brief note on classification of falls. (8)
- b) Write the various steps for design of sarda type fall. (8)

OR

1. a) Describe various types of cross Drainage works. (8)
- b) What factors will you consider while selecting a suitable type of CD Works? (8)

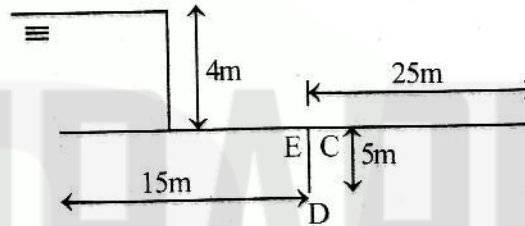
Unit - II

2. a) Describe Bligh's creep theory with its limitation. (8)
- b) Determine the uplift pressure at the points E, D & C of the d/s pile shown in fig. Also determine the exit gradient. (8)



OR

2. a) Describe Khosla's theory. (8)
 b) Determine the uplift pressure at the sailent points E, D & C of intermediate pipe shown in fig. (8)



Unit - III

3. a) Describe various forces acting on a gravity dam, with their expressions. (8)
 b) A masonry dam 6m high is 1.5 m wide at top & 4.5m wide at bottom, with vertical water face. Determine the normal stresses at toe & heel for reservoir empty & full condition. Take $\rho = 2.4 \text{ g/cc}$ & $C = 1$. (8)

OR

3. a) Describe various types of failure of Earth dam. (8)
 b) Explain the application of flow net & phreatic line in an earthen dam. (8)

Unit - IV

4. a) What is siphon spillway? Sketch a saddle siphon spillway & explain functions of various components. (8)
 b) Discuss various method used for energy dissipation below spillways. (8)

OR

4. a) Describe various elements of power house. (8)
 b) Describe factors effecting the selection of turbines. (8)

Unit - V

5. a) What are the various impacts of water resource project. (8)
 b) Write a short note on water shed management. (8)

OR

5. a) Explain the optimization techniques for irrigation projects. (8)
 b) Write in brief the application of GIS & computer aided irrigation design. (8)

