Code No: CE1520   **GEC-R14**

III B. Tech I Semester Regular / Suppl. Examinations, November 2017
WATER RESOURCES ENGINEERING-II
(Civil Engineering)

Time: 3 Hours   **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B**. All Questions carry equal Marks.

PART-A

$6 \times 2 = 12M$

1. Differentiate between Weir and barrage
2. Define Specific yield of a reservoir
3. What are the advantages of gravity dams
4. What do you understand by priming and deprimng
5. What is an outlet, define flexibility of an outlet
6. Differentiate between siphon aqueduct and canal syphon

PART-B

$4 \times 12 = 48M$

1. Using Khosla's theory, determine the following for the apron shown below:
    (i) Uplift pressure at points E,D,C, E_1 and D_1
    (ii) Exit gradient
    Assume floor thickness = 1 m
    Neglect the effect of floor thickness
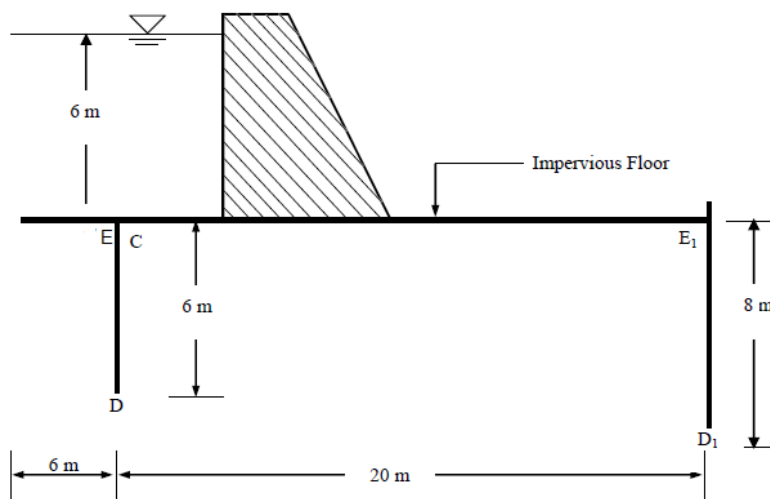
(12M)

2. a) Discuss in detail physical factors governing the selection of site for dams.   (6M)

    b) Explain how you would determine safe yield from a reservoir of a given capacity.   (6M)

3. a) What do you understand by gravity dam? Explain various forces that act on a gravity dam. (6M)

   b) Discuss in brief various modes of failure of a gravity dam. (6M)

4. a) Compute the discharge over an ogee spillway with a coefficient of discharge C=2.5 at a head of 4m.The effective length of the spillway is 100m.Neglect the velocity of approach. (5M)

   b) Explain the procedure of designing Sarda type fall. (7M)

5. a) What is meant by the terms flexibility, proportionality, setting and sensitivityas applied to modules. (6M)

   b) What is meant by canal regulation and what are the functions of a Distributary head regulator' and a Cross regulator in a canal project? (6M)

6. a) Describe with the help of sketches various types of cross-drainage works. (6M)

   b) Write a note on selection of suitable type of cross-drainage works. (6M)

*****