B.E. 6th Semester Examination (Civil Engg.),

December–2011

IRRIGATION ENGINEERING-I

Paper - CE-304-E

Time allowed : 3 hours] *[Maximum marks :100*

***Note :** Attempt any **five** questions.*

1. (a) What is 'cistern element' in fall? Give various expression for its dimension. 10

(b) Explain the procedure of designing Sarda type fall. 10

2. (a) What do you understand by a head regulator? State function of a distributory head regulator and a cross regulator. 10

(b) Explain the procedure for designing the head regulator of a distributory. 10

3. (a) Describe with the help of sketches various types of cross drainage works.

(b) Differentiate between : 10

(i) Syphon aqueduct and canal syphon

(ii) aqueduct and super passage

4. (a) Explain the Hind's method of designing canal transition. 10

(b) Explain the method of determining uplift pressure on the roof of syphon aqueduct. 10

5. (a) Explain with help of a diagram, the various component part along with their function of a diversion head work. 10

(b) Explain Khosla's method of independent variables. How do you apply corrections for :

(i) thickness of floor

(ii) inclination of floor and

(iii) interference of piles? 10

6. (a) Design the practical profile of a gravity dam of stone masonary, given the following data : 10

R.L. of the base of dam	= 1250 m
R.L. of HFL	= 1280 m
Specific granite of masonary	= 2.4
Safe compressive stress for masonry of dam	= 120 t/m^2

(b) Explain various forces that act on a gravity dam. 10

7. (a) Discuss the recommendation for the section of an earth dam. 10

(b) Explain the method of plotting the flownet for seepage through anisotropic soil. 10

8. (a) What is a spillway? What are its function? Enumerate various type of spill ways? 10

(b) Compute the discharge over on Ogle spill way with a coefficient of discharge e = 2.5 at a head of 4m. The effective length of the spillway is 100m. Neglect the velocity of approach.