No. of Printed Pages : 2

ET-536(B)

00464

B.Tech. CIVIL (WATER RESOURCES ENGINEERING)

Term-End Examination

December, 2012

ET-536(B) : HYDRAULIC STRUCTURES-II

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **any five** questions. All questions carry **equal** marks. Use of scientific calculator is **permitted**.*

1. (a) What do you mean by main canal, branch canal, major distributaries and minor distributaries ? Draw their respective standard cross-section 7

(b) Define "Berm". Also explain various functions served by it. 7

2. (a) Discuss the layout plan of a Level crossing with the help of a neat sketch. 7

(b) Using Lacey's theory, design an irrigation channel for the following data : 7

Discharge, Q = 30 cumec

Silt factor , f = 1.0

Side slopes $\infty = \frac{1}{2}:1$

3. (a) Explain various purposes solved by lining of irrigation canals. 7

(b) What do you mean by Flexibility of an outlet ? Show that Flexibility (F) and Sensitivity (S) can be expressed as $S = nF$ 7

4. (a) Suggest various measures to control and remove silt from a water course. 7

(b) Discuss the purpose of control structures with the help of field examples. 7

5. (a) Explain the design of a venturi head regulator. 7

(b) Discuss the methods available for controlling entry of silt into a canal. 7

6. (a) Briefly discuss the design of spurs. 7

(b) Describe the particular river training measures for stabilisation of a river channel. 7

7. Write short notes on the following : **4x3½=14**

(a) Capacity of a canal

(b) Hydraulics of Locks

(c) Necessity of cross drainage works

(d) Selection of lining material

8. Differentiate between the following : **4x3½=14**

(a) Inundation and Permanent Canal

(b) Suspended and Bed load

(c) Head regulator and cross regulator

(d) Semi-modular and Non-modular outlets
