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ET-536(B)

B.Tech. Civil (Water Resources Engineering)

Term-End Examination

June, 2012

ET-536(B) : HYDRAULIC STRUCTURES-II

00858

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 Inundation canals ? Discuss in brief the advantages and disadvantages of these canals. 7

(b) Draw a typical cross - section of a canal in cutting. 7

2. (a) Describe various types of Aqueduct. Explain the importance of cost factors while choosing an alternative out of these types. 7

(b) Explain the design of an unlined channel by Kennedy's theory. 7

3. (a) Design a triangular shaped concrete lined channel for the following data : 7

Discharge, Q = 45 cumec

Bed slope, S = 1/10000

Side slope = $1\frac{1}{4}$:1, Manning's n = 0.018

(b) Discuss the design requirements of a good outlet. 7

4. (a) Explain the objectives of a distribution system. Also discuss the control of a distribution system. 7

(b) Describe various types of falls commonly provided in canals. Discuss the suitability of each type. 7

5. (a) Discuss the procedure of minimising the entry of slit into off taking canals. 7

(b) What do you mean by silt ejector ? Explain various functions served by it with the help of a neat sketch. 7

6. (a) Explain various methods of river training. 7

(b) Describe the particular river training measures for flood protection. 7

7. Write short notes on the following : 4x3½

(a) Permanent canal

(b) Cost of lining

(c) Cross Regulator

(d) Design of Guide Banks.

8. Differentiate between the following : 4x3½

(a) Initial flow regime and final flow regime

(b) Water shed and side slope canals

(c) Super passage and Aqueduct

(d) Hyper - proportional and sub - proportional outlet.