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ET-535(B)

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B.Tech. Civil (Construction Management)

Term-End Examination

June, 2011

ET-535(B) : HYDRAULIC STRUCTURES

Time : 3 hours *Maximum Marks : 70*

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

1. (a) Describe the storage zones of a reservoir. 7
   (b) Explain various types of earthen dams with the help of a neat sketches. 7

2. (a) Discuss in brief the various modes of failure of a gravity dam. 7
   (b) Draw a typical layout of Canal Headworks including river training works. Explain its various components. 7

3. (a) What are the various types of fish ladder ? Explain their general requirements. 7
   (b) Explain Khosla's theory for design of weir floors on permeable foundations. How do you apply correction for thickness of floor ? 7

4. (a) What do you mean by Inundation Canals ? Discuss in brief the advantages and disadvantages of these canals. 7

(b) Describe Kennedy's method of channel design if Q, N, M and S are given. 7

5. (a) Describe the purpose of lining an irrigation canal. 7

(b) Explain the design parameters of an outlet. Discuss the specifications of each. 7

6. (a) Discuss the design parameters of a canal fall. 7

(b) Explain various measures of controlling the entry of silt into off taking canals. 7

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

(a) Tractive Force Approach

(b) Aqueduct

(c) Transmission losses

(d) Sensitivity of an outlet

8. Differentiate between the following : 4x3½=14

(a) Firm and Design yield

(b) Modular and Non - modular outlets

(c) Lined and Unlined Canals

(d) Diversion and Storage headworks