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ET-535(B)

B.Tech. Civil (Construction Management)

Term-End Examination

00955 **June, 2014**

ET-535(B) : HYDRAULIC STRUCTURES

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any* ***five*** *questions. All questions carry equal marks.*

1. (a) What do you mean by Reservoirs ? Explain the procedure of preparation of capacity curve of reservoirs. 7

(b) Define mass curve. Explain the use of mass curve to determine the possible yield from a reservoir of specified capacity. 7

2. (a) Describe the various forces acting on a gravity dam. 7

(b) Discuss the causes of failure of gravity dam. 7

3. (a) Explain the various factors required to be considered in the selection of the type of dam. 7

(b) Describe briefly the foundation treatment for a rockfill dam. 7

4. (a) Explain headworks. What are the various stages of a river where headworks may or may not be located ? 7

(b) Define "Exit Gradient". Explain the formula used for determining its value. 7

5. (a) Draw a schematic layout of a Canal Distribution System and explain the functions of its various parts. 7

(b) Describe the design of unlined channel by Lacey's theory. 7

6. (a) What do you mean by Flexibility and Sensitivity of an outlet ? Derive the relationship between the two. 7

(b) Discuss the necessity of cross-drainage works. 7

7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Corrections applied in Khosla's theory

(b) Uplift pressure

(c) Level crossing

(d) Canal Head Regulator

8. Differentiate between the following : $4 \times 3\frac{1}{2} = 14$

(a) Reservoir capacity and Reservoir yield

(b) Low and High Gravity Dams

(c) Inundation and permanent canals

(d) Aqueduct and Syphon Aqueduct