

Seat No.	
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B.E.(Civil) (Part - III) (Semester - VIII) (New)

Examination, April - 2017

WATER RESOURCES ENGINEERING - II

Sub. Code : 67749

Day and Date : Thursday, 27 - 04 - 2017

Total Marks : 100

Time : 02.00 p.m. to 05.00 p.m.

- Instructions :**
- 1) Solve any three questions from each section.
 - 2) Figures to the right indicate full marks.
 - 3) Assume any other suitable data, if required

SECTION - I

- Q1) a)** Explain with neat sketches a mass inflow curve and a demand curve. How will you determine the reservoir capacity using these two curves? (Assume constant rate of demand rate in a year) [8]
- b)** Define sedimentation. Explain with a sketch. Discuss various pre construction and post construction measures that control silting of a reservoir. [9]
- Q2) a)** What are the various factors that govern the selection of type of dam at a particular site. [9]
- b)** Discuss various types of earthen dams. What are the modes of failure of earthen dam. [8]
- Q3) a)** Explain the necessity of spillway. Discuss factors affecting choice of type of spillway. [9]
- b)** Discuss various outlets through concrete and earth dams with neat sketch. [8]

P.T.O.

Q4) Write short note on any four.

- a) Method of construction of earthen dam.
- b) Losses in reservoir.
- c) Stability of gravity dam.
- d) Galleries and joints in the dam.
- e) Instrumentation in dams.
- f) Seepage control measures of earthen dam.

SECTION - II

Q5) a) Explain salient features of Khosla and Bligh's theory with regard to the design of weirs on permeable foundation? [9]

b) What do understand by critical exit gradient. Compare Kennedy's and Lacey's silt theories. [8]

Q6) a) Discuss advantage of canal lining with various types of lining. [9]

b) Draw a typical cross section of canal partly in cutting and partly in embankment and describe various components. [8]

Q7) a) Explain the necessity and types of cross drainage works with neat sketches. [9]

b) Discuss classification, types of river with meandering phenomenon. [8]

Q8) Write short note on any four.

[4 × 4]

- a) Interlinking of rivers; National perspective plan.
- b) Typical layout and functions of components of Hydro power plant.
- c) Head regulator and cross regulator.
- d) Types and alignment of canal.
- e) Types of weir and barrages.
- f) Groynes.