

Code: CE6T3

**III B.Tech - II Semester – Regular/Supplementary Examinations  
AUGUST 2021**

**WATER RESOURCES ENGINEERING-II  
(CIVIL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) What is the difference between weir and barrage?
- b) Draw a neat sketch of diversion head works.
- c) Draw the sketches of zones of storage in a reservoir.
- d) Write the advantages of Arch dam.
- e) What is diaphragm dam? Draw a typical sketch of it.
- f) Briefly explain about phreatic line in earthen dam.
- g) What do you understand by a fall in a canal? What is its necessity?
- h) Draw the schematic sketch of off take alignment.
- i) Differentiate between Syphon aqueduct and Canal Syphon.
- j) What is Type-III aqueduct and when it is preferred to construct?
- k) Differentiate between steel dam and timber dam.

## PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. Discuss in brief various causes of failure of weirs and their remedies. 16 M
3. a) Discuss with illustrations the physical factors that govern the selection of type of dam. 8 M
- b) Give a practical profile of a low gravity dam. 8 M
4. a) What do you understand by “priming” and “depriming”? Describe various devices used for early priming in saddle Siphon spillway. 8 M
- b) Explain the method of stability analysis of d/s slope during steady seepage in earthen dam. 8 M
5. a) Design a Sarda type fall across a canal for the following data:
- Full supply discharge  $\frac{u/s}{d/s} = \frac{15}{15}$  cumecs
- Drop = 1.0 m
- Full supply level  $\frac{u/s}{d/s} = \frac{101.00}{100.00}$  m
- Full supply depth  $\frac{u/s}{d/s} = \frac{1.8}{1.8}$  m
- Bed width  $\frac{u/s}{d/s} = \frac{10}{10}$  m
- Design the floor on Bligh’s theory using coefficient of creep = 10. Sketch the longitudinal section of fall. 8 M

b) Distinguish clearly between non-modular and semi-modular outlets. Give examples. 8 M

6. Explain the method of fixation of water way of drain in an aqueduct. 16 M