

Code No: **R1641012**

R16

Set No. 1

IV B. Tech I Semester Supplementary Examinations, November - 2022

WATER RESOURCES ENGINEERING - II

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any FOUR questions from Part-B

PART-A (14 Marks)

1. a) What are methods of application of irrigation water? [2]
b) What do you understand by initial and permanent regime of channels? [2]
c) Define a fall. When is it necessary to construct a fall? [3]
d) Differentiate between a weir and a barrage. [3]
e) What are the factors to decide site for a reservoir? [2]
f) What is a stilling basin? [2]

PART-B (4x14 = 56 Marks)

2. a) Develop relation between duty and delta. [7]
b) Discuss the standards of quality for irrigation water. [7]
3. a) Discuss the design principles of channels by Kennedy's and Lacey's methods. [7]
b) What is canal lining? What are its advantages? Write the requirements of good lining material. [7]
4. a) What are the functions of cross-regulator and head-regulator? [7]
b) List out types of canal outlets and discuss them. [7]
5. a) What are the components of a diversion head work? Sketch the neat layout and show the components. [7]
b) Explain the causes and failures of weirs on permeable foundations and suggest suitable control measures for each type of failure. [7]
6. a) Explain how the storage capacity of a reservoir is fixed? [7]
b) Discuss the modes of failures and criteria for structural stability of gravity dams. [7]
7. a) Explain in detail different types of spillways. [7]
b) What is a phreatic line? How do you draw it to estimate seepage through an earth dam? [7]