R20 Regulation *Subject code:* 3E7AA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VII Semester Supplementary Examinations, April 2024

WATER RESOURCES ENGINEERING-II

(CIVIL ENGINEERING)

Maximum Marks: 70 Date:30.04.2024 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)

1 List out the control measures for sedimentation.
2 Give the classification of reservoirs.
3 Write the effects of earthquake forces on a gravity dam.
4 Draw the practical profile of a gravity dam.
5 How are the earth dams classified based on methods of construction?
6 List the types of spillways.
7 Distinguish between weir and a barrage.
8 What is the purpose of providing a divide wall in a diversion headwork?
9 What is a cross drainage work?
10 What is an aqueduct?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 A. Explain the procedure to determine reservoir capacity using a mass curve. [5]
B. Explain about Reservoir Losses. [5]

OR

12 A. Write short notes on gravity dam and buttress dam. [5]
B. Explain the purpose of Flood Control Reservoir. [5]

13 Define the following parameters with respect to the gravity dam, (a) Dam base line (b) Structural height [10]

OR

14 Enumerate various methods of stability analysis of gravity dam. Explain any two of them. [10]

15 A. Explain earth dams with neat sketch [5]
B. Explain the structural failures of earth dams [5]

OR

16 A. Discuss solid roller bucket type energy dissipater with a sketch. [5]
B. List the various types of spillways and explain ogee spillway.[5]

17 A. Explain Khosla's method of independent variables. [5]
B. Describe briefly with neat sketches the various types of weirs. [5]

OR

18 Sketch the layout of a typical diversion headwork and briefly describe the functions of the various components of diversion headwork [10]

19 A. What are the necessity and functions of head regulators and cross regulators? [5]
B. Define outlet. What are the essential requirements of a good outlet? [5]

OR

20 A. Write the importance in a canal project? [5]
B. Describe with the help of sketches various types of cross-drainage works. [5]