



R18 Regulation **Subject code: 2E7AA**
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VII Semester Supplementary Examinations, July 2022

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

Maximum Marks: 70

Date:04.07.2022 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 What are the various storage zones of a reservoir?
- 2 What is meant by Reservoir Yield?
- 3 What are the forces acting on a gravity dam?
- 4 Define spillway.
- 5 State the causes of failure of earth dam.
- 6 What is a Stilling Basin?
- 7 Distinguish between weir and a barrage.
- 8 Draw a neat sketch of layout of a diversion headwork and mention the components.
- 9 Define: Exit Gradient.
- 10 What is an Aqueduct?

Part-B

Answer All the following questions. (10MX 5=50Marks)

- 11
 - A. Discuss the steps involved in selecting a site for reservoir construction
 - B. Explain the classification of reservoirs. [5+5]
- OR
- 12 Discuss the various measures that can be applied to control Reservoir Sedimentation. [10]
 - 13 Enumerate various methods of stability analysis of gravity dam. Explain any two of them. [10]
- OR
- 14 A concrete gravity dam 20 m in height has top width 6 m and free board 2.5 m, upstream face is vertical, while downstream face has a slop of 0.6 H:1 V right from top to bottom. Check the stability of the dam. Take specific weight of concrete as 2.4 t/m³ consider full uplift. There is no tail water. Assume any other data necessary. [10]
 - 15 Write short notes: [10]
 - (a) Hydraulic failures of earthen dams
 - (b) Significance of pore pressure in relation to earthen dam construction
 - (c) Slope protection in earthen dams
 - (d) Filters in earthen dams

- OR
- 16 Explain the various types of spillways with suitable diagrams.
- 17 Explain the functions of various components of a diversion work. [10]

- OR
- 18 A. Write a short note on the following also draw the relevant sketches.
(i) Dropping shutters. (ii) Stop logs
B. What is the difference between diversion head works and storage head works (dam)? [5+5]
- 19 A. Explain super passage in detail with neat sketch.
B. Write short notes on siphon aqueduct. [5+5]
- OR
- 20 A. Explain the procedure for the design of trapezoidal notch fall.
B. Define outlet. What are the essential requirements of a good outlet? [5+5]