Q.P. Code: 16CE128 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year II Semester Supplementary Examinations February-2022

WATER RESOURCES ENGINEERING - II

(Civil Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1 Describe with the help of sketches various types of Cross Drainage Works. **12M**

OR

2 Explain the procedure of designing of Sarada type fall **12M**

UNIT-II

3 During high flow water surface elevation of a small stream was noted at two sections A and B, 10km (A is upstream of B), these elevations and other salient properties are given below **12M**

Section	Water surface elevation (m)	Area of cross section (m^2)	Hydraulic radius (m)
A	104.771	72.293	2.733
B	104.500	93.375	3.089

The appropriate eddy loss coefficients are 0.3 for gradual expansion and 0.1 for gradual contraction. Estimate the discharge in the stream, assuming Manning's roughness coefficient (n) as 0.020.

OR

4 Compute the stream flow for the measurement data given below **12M**

Distance (m)	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6	6.6
Depth (m)	0	0.3	1.29	2.16	2.55	2.22	1.68	1.41	1.05	0.63	0.42	0
Avg velocity (m/s)	0	0.315	0.465	0.66	0.73	0.555	0.645	0.57	0.51	0.435	0.38	0

UNIT-III

5 **a** What are the objectives of river training? **4M**

b How to classify the river training works? **8M**

OR

6 **a** Describe various types of groynes used for river training. **8M**

b What is the purpose of a groynes? **4M**

UNIT-IV

7 Explain the mass curve method that can be used for determining:
i) Reservoir capacity for fulfilling given demand **12M**
ii) Demand rate from a reservoir of a given capacity.

OR

8 **a** Write a note on reservoir sedimentation. **6M**

b How do you estimate the probable life of reservoir? **6M**

UNIT-V

9 Classify various types of dams. Distinguish clearly between rigid and non-rigid dam. **12M**

OR

10 Discuss, with illustration the physical factors that governs the selection of type of dam. **12M**

*** END ***