R18

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular Examinations February-2021
HYDROLOGY & WATER RESOURCES ENGINEERING
(Civill Engineering)

Time: 3 hours   Max. Marks: 60

PART-A
(Answer all the Questions **5 x 2 = 10** Marks)

1 a What is precipitation? List out the various forms of precipitation.   2M
   b Write about an Aquifuge?   2M
   c What is kor depth?   2M
   d What is mass inflow curve?   2M
   e What is diversion dam?   2M

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2 Explain with the help of a diagram the hydrological cycle with components?   10M

OR

3 Explain the construction and limitations of unit hydrograph.   10M

UNIT-II

4 a Explain ground water well and basic assumptions?   5M
   b With a neat sketch, explain Dupuit's theory for confined aquifer.   5M

OR

5 a Explain the necessity and importance of Irrigation.   5M
   b Explain in detail about the methods of improving duty.   5M

UNIT-III

6 a Explain any three irrigation efficiencies   6M
   b Illustrate about G.C.A. and C.C.A   4M

OR

7 Write the design step-by-step procedure for sarada type falls with formulas?   10M

UNIT-IV

8 Elaborate about cross drainage work and detailed its types.   10M

OR

9 a Write a procedure for calculation of life of a reservoir   5M
   b Explain various types of reservoirs?   5M

UNIT-V

10 Classify all the various classifications of dams according to use in detail with sketches.   10M

OR

11 a A masonry dam 6 m high and 1.5 m wide at the top and 4.5 m wide at the bottom,   6M
       with vertical face. Determine the normal stresses at the toe and heel for reservoir
       empty and reservoir full conditions. Take $\rho=2.4$ and c=1.
    b Explain various modes of failure of a gravity dam.   4M

END