A   Reg. No. : [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Question Paper Code: 59101

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Civil Engineering

15UCE901- HYDROLOGY

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The Average Annual Rainfall (A.A.R) over the whole of India is estimated as__   CO1- R

    (a) 189 cm   (b) 319 cm   (c) 119 cm   (d) 89 cm

2. Lysimeter is used to measure   CO1- R

    (a) Infiltration   (b) Evaporation   (c) Evapotranspiration   (d) Vapor Pressure

3. Elements of a Hydrograph includes _____   CO2- R

    (a) Rising Limb   (b) Falling Limb   (c) Crest Segment   (d) All of the above

4. The flow mass curve is an integral curve of   CO2- R

    (a) Hydrograph   (b) Hydrograph   (c) Flow Duration curve   (d) S - Curve

5. In the Muskingum method of channel routing The weighting factor x can have a   CO3- R
    value of

    (a) -0.5 to 0.5   (b) 0.0 to 0.5   (c) 0.0 to 1.0   (d) -1.0 to 1.0

6. Short Range Forecasts give a advance warning of _____   CO3- R

    (a) 15 – 50 Hours   (b) 12 – 40 Hours   (c) 10 – 20 Hours   (d) 5 – 15 Hours

7. _____ dam which resists are the external forces by virtue of its self-weight.   CO4- R

    (a) Earthen Dam   (b) Storage Dam   (c) Detention Dam   (d) Gravity Dam

8. The rate of evaporation from reservoirs may be determined by_____   CO4- R
    (a) Pan Measurement Method   (b) Storage Equation method

    (c) Energy Budget method   (d) All of the above

9. The discharge per unit drawdown at a well is known as _____ CO5- R

    (a) Specific yield   (b) Specific storage   (c) Safe yield   (d) Specific capacity

10. The unit of intrinsic permeability is _____. CO5- R

    (a) cm/day   (b) m/day   (c) darcy/day   (d) None of the above

<div align="center">PART – B (5 x 2= 10 Marks)</div>

11. Define Rain gauge Density. CO1- R

12. Define Synthetic Unit Hydrograph. CO2- R

13. Define Attenuation. CO3- R

14. Differentiate Gravity dams & Earthen dams. CO4- R

15. Brief on Rain water harvesting. CO5- R

<div align="center">PART – C (5 x 16= 80 Marks)</div>

16. (a) Describe the Hydrologic Cycle. Explain briefly the various phases of CO1- U (16)
this cycle. Also explain Various forms of Precipitation.

<div align="center">Or</div>

    (b) Describe PAN Evaporation measurements with neat sketches. CO1- U (16)

17. (a) Explain in detail about Catchment Characteristics. CO2- U (16)

<div align="center">Or</div>

    (b) Discuss on various methods of estimation of runoff. CO2- U (16)

18. (a) Explain the various structural measures adopted for flood control. CO3- U (16)

<div align="center">Or</div>

    (b) Briefly explain the Muskingum method of channel routing and CO3- U (16)
discuss on extreme value series

19. (a) Explain the general principles and design of Earthen dam. CO4- U (16)

<div align="center">Or</div>

    (b) Discuss on estimation of reservoir storage capacity. CO4- U (16)

20. (a) Discuss on Rainwater Harvesting in Rural and Urban areas. CO5 U (16)
<div align="center">Or</div>
    (b) Discuss on Artificial Recharge & its methods. CO5 U (16)

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