A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 59101

B.E. / B.Tech. DEGREE EXAMINATION, NOV 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. Rainfall is also known as CO1- R

   (a) Precipitation (b) Condensation (c) Infiltration (d) Down pour

2. How many types of rain gauges are there? CO1- R

   (a) 2 (b) 3 (c) 4 (d) 5

3. The surface Run-off is the quantity of water CO2- R

   (a) Absorbed by soil (b) Intercepted by buildings and vegetative cover

   (c) Required to fill surface depressions (d) That reaches the stream channels

4. What does a hydrograph display? CO2- R

   (a) Variations in sediment concentration against river discharge

   (b) Variations in water temperature against discharge

   (c) Variations in river discharge over time

   (d) Variations in snowfall over time

5. Period of dry weather longer than normal is known as CO3- R

   (a) Flood (b) Disaster (c) Drought (d) Famine

6. Flat land next to river is known as CO3- R

   (a) Flood plain (b) Drought Plain (c) Valleys (d) Scarcity

7. The reservoirs for small storage and short period of time are CO4- R

(a) Storage and conservation reservoirs (b) Flood control reservoirs

(c) Distribution reservoirs (d) Drought control reservoirs

8. The level up to which the reservoir shall be full of water is called CO4- R

(a) High level (b) Maximum level (c) Pool level (d) Surface level

9. Permeability is CO5- R

(a) the ability of a solid to allow fluids to pass through

(b) the process by which plants release water vapor to the atmosphere

(c) the amount of water vapor in the air relative to the maximum amount of water vapor the air can hold

(d) the percentage of pore space in the rock

10. The boundary between the saturated zone and the unsaturated zone is called the CO5- R

(a) Water table (b) Aquifer (c) Aquiclude (d) Porosity

PART – B (5 x 2= 10 Marks)

11. What is the importance of hydrology? CO1- R

12. Define unit hydrograph. CO2- R

13. Define return period. CO3- R

14. What is the use of spillway in a dam? CO4- R

15. What do you mean by groundwater recharge? CO5- R

PART – C (5 x 16= 80 Marks)

16. (a) Explain the process of evapotranspiration and its measurement. CO1- App (16)

Or

(b) Explain the measurement of infiltration rate by double ring infiltrometer with neat sketch. CO1- App (16)

17. (a) Explain the various climatic factors affecting runoff. CO2- U (16)

Or

(b) The ordinates of 3 hour unit hydrograph are given below: CO2- U (16)

Time	0	3	6	9	12	15	18	21	24	27	30
Ordinates	0	10	25	20	16	12	9	7	5	3	0

Find the ordinates of 6 hour unit hydrograph for same.

18. (a) Explain flood wall and levees with suitable figure. CO3- U (16)

Or

(b) Explain Non-structural mitigation measures. CO3- U (16)

19. (a) Explain with neat sketch storage zone of a reservoir. CO4- U (16)

Or

(b) What are the Classifications of reservoirs? Explain detail. CO4- U (16)

20. (a) What is Darcy's law? What are its limitations? How will you measure the coefficient of permeability of soil? CO5- U (16)

Or

(b) Describe a method of determining the yield from an open well. CO5- U (16)

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