A   Reg. No. :

Question Paper Code: 56A02

B.E./B.Tech. DEGREE EXAMINATION, DEC 2021

Sixth Semester

Agriculture Engineering

15UAG602 - HYDROLOGY AND WATER RESOURCES ENGINEERING

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10x 1 = 10 Marks)

1. Hydrology helps in   CO1- R

   (a) Predicting maximum flows   (b) Deciding reservoir capacity

   (c) Study of run off   (d) All the above

2. Rain gauges are used to find the _____ rainfall over an area   CO1- R

   (a) Maximum   (b) Minimum   (c) Average   (d) All the above

3. In India generally rainfall is recorded at   CO2- R

   (a) 10 am   (b) 6 am   (c) 8 am   (d) 4 pm

4. Hydrograph is a graph showing   CO2- R

   (a) Cumulative rainfall versus time   (b) Cumulative rainfall versus velocity

   (c) Average rainfall versus time   (d) Cumulative rainfall versus intensity of rainfall

5. Surface run off is the quantity of water   CO3- R

   (a) Number of voids present in the soil   (b) Shape and size of soils particles

   (c) Compaction of the soil particles   (d) All the above

6. Following one is not used to control floods   CO3- R

   (a) Levees   (b) Guide banks   (c) Groynes   (d) Regulators

7. Infiltration capacity of soil depends upon   CO4- R

    (a) Number of voids present in the soil   (b) Shape and size of soils particles

    (c) Compaction of the soil particles   (d) All the above

8. Rain Water Harvesting is practiced to   CO4-R

    (a) Control flood   (b) Protect environment   (c) Save water   (d) Save forest

9 The following is not the type of aquifer   CO5- R

    (a) Confined aquifer   (b) Complete aquifer   (c) Aquifuge   (d) Aquitard

10 Artificial recharge means   CO5- R

    (a) Increasing the Ground water table   (b) Increasing the Reservoir water table

    (c) Decreasing the Ground water table   (d) None of the above

PART – B (5 x 2= 10 Marks)

11. Write any three practical applications of hydrology.   CO1- R

12. Define Hydrograph.   CO2- R

13. Write the uses of run-off.   CO3- R

14. List the various zones in reservoir.   CO4- R

15. Distinguish between aquiclude and aquitard.   CO5- U

PART – C (5 x 16= 80 Marks)

16. (a) Explain in detail the different methods of determining the average rainfall over a catchment due to a storm   CO1- App   (16)

Or

(b) Calculate the potential evapotranspiration from an area near TamilNadu in the month of November by penman's formula. The following data are available: Latitude - 20°, Elevation – 200m (Above MSL), Mean monthly temperature - 23°C, Mean relative humidity- 60%, sunshine – 8hrs/day, Wind velocity (u2)- 80km/day. Consider the land surface is close – ground green crop. Assume A is 1.3 mm/°C, ew-20.80 mm of Hg, Ha- 11.2 mm of water per day and N- 11.2 hrs per day. .   CO1- App   (16)

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17. (a) Discuss the various characteristics of catchment and factors affecting the runoff. CO2- Ana (16)

Or

(b) Write briefly about the methods of estimating the run-off in detail. CO2- Ana (16)

18. (a) Discuss the various meteorological and hydrological data's required for estimation of flood. CO3- Ana (16)

Or

(b) Explain natural disaster in India with suitable examples. CO3- Ana (16)

19. (a) Summarize the general principles to be followed while designing the reservoir. CO4- U (16)

Or

(b) Discuss the various flood control methods . CO2- Ana (16)

20. (a) Elaborate on Rain Water Harvesting. With neat sketch the explain the Rain Water Harvesting for a school building. CO5- U (16)

Or

(b) Discuss the classification of aquifers with neat sketches. CO5- U (16)

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