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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12CE227** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **Water Resources Engineering** | **Max. marks :** | **100** |

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| **Q. No.** | | | **Questions** | | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | | | |
| 1. | | | What are the Infiltration indices? Briefly explain. | | (1) |
| 2. | | | Write the Dickens formula for estimating maximum flood. | | (1) |
| 3. | | | What do you mean by perched water table? | | (1) |
| 4. | | | Define Coefficient of Permeability. | | (1) |
| 5. | | | Define consumptive use and soil moisture deficiency. | | (1) |
| 6. | | | List out the necessity of Irrigation. | | (1) |
| 7. | | | List any 3 methods to forecast population for water demand. | | (1) |
| 8. | | | What are the different types of sources for drinking water? | | (1) |
| 9. | | | How are dams classified? Name any three types of dams. | | (1) |
| 10. | | | Briefly explain about the surge tanks and penstocks. | | (1) |
| **PART B(5 X 3= 15 MARKS)** | | | | |
| 11. | List out the different forms of precipitation. | | (3) | |
| 12. | Draw the layout of conventional water treatment plant. | | (3) | |
| 13. | Write short notes on participatory irrigation management. | | (3) | |
| 14. | Write a brief note on types of turbines in hydro electric scheme. | | (3) | |
| 15. | List out the methods of purification of water. | | (3) | |
| **PART C(5 X 15= 75 MARKS)** | | | | | |
| 16. | | a. | Describe hydrological cycle with a neat sketch. | 7 | |
| b. | Explain any one type of automatic rain gauge with a neat sketch. | 5 | |
| c. | What are the various forms of precipitation? | 3 | |
| (OR) | | | | | |
| 17. | | a. | Explain the various types of precipitation. | 8 | |
| b. | Discuss the factors affecting infiltration process. | 7 | |
| 18. | | a. | What are the various types of aquifer? Explain with neat sketches. | 7 | |
| b. | Derive an expression for the discharge for steady radial flow into a well in unconfined aquifer. | 8 | |
| (OR) | | | | | |
| 19. | | a. | Write short notes on   1. Artificial Recharge of Groundwater.   ii. Interference of open well. | 8 | |
| b. | Explain how yield of well is obtained by recuperation test. | 7 | |
| 20. | | a. | Discuss the factors affecting duty. | 7 | |
| b. | Explain the methods of measurement of consumptive use. | 8 | |
| (OR) | | | | | |
| 21. | | a. | Discuss the various methods of irrigation. | 8 | |
| b. | Design a trapezoidal concrete lined channel to carry a discharge of 100 m3/s at a slope of 25 cm/km. The side slope of the channel is 1.5:1. The value of N is 0.016. Assume the limiting velocity as 1.5 m/s. | 7 | |
| 22. | | a. | Discuss the various methods of determining the wastage of water. | 7 | |
| b. | What are the different methods of distribution system? Explain them. | 8 | |
| (OR) | | | | | |
| 23. | | a. | The population of 5 decades from 1930 to 1970 is given below in table. Find out the population after one, two and three decades beyond the last known decade, by using a incremental increase method.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Year | 1930 | 1940 | 1950 | 1960 | 1970 | | Population | 25000 | 28000 | 34000 | 42000 | 47000 | | 8 | |
| b. | What are the two major sources of water supply? Discuss the comparative merits and demerits of both these types from these sources. | 7 | |
| 24. | | a. | What are the factors governing the selection of particular type of dam? | 7 | |
| b. | Briefly explain how you would fix the capacity of a reservoir and height of dam required for this storage. | 8 | |
| (OR) | | | | | |
| 25. | | a. | Discuss the various methods of reservoir sediment control. | 8 | |
| b. | Discuss the mitigation measures for flood and drought. | 7 | |

ALL THE BEST