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



**End Semester Examination – Nov / Dec – 2019**

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|  |  |  |  |
| **Code :** | **14CE2011** | **Duration :** | **3hrs** |
| **Sub. Name :** | **WATER RESOURCES ENGINEERING** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Enumerate hydrological cycle with a neat sketch. | CO1 | 10 |
| b. | Explain any one type of automatic rain gauge with a neat sketch. | CO2 | 5 |
| c. | List the various forms of precipitation. | CO1 | 5 |
| **(OR)** | | | | |
| 2. | a. | Explain the various types of precipitation. | CO1 | 10 |
| b. | Discuss the factors affecting infiltration process. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Infer about the various types of aquifer. | CO1 | 10 |
| b. | Derive an expression for the discharge for steady radial flow into a well in unconfined aquifer. | CO1 | 10 |
| **(OR)** | | | | |
| 4. | a. | Write short notes on:  i) Artificial Recharge of Groundwater.  ii) Interference of open well. | CO3 | 10 |
| b. | Explain how yield of well is obtained by recuperation test. | CO1 | 10 |
|  |  |  |  |  |
| 5. |  | A reservoir has the following areas enclosed by contours at various elevations. Determine the capacity of reservoir between elevations 200.00 and 300.00   |  |  | | --- | --- | | **Elevation** | **Area of contour (km2)** | | 200.00 | 150.00 | | 220.00 | 175.00 | | 240.00 | 210.00 | | 260.00 | 270.00 | | 280.00 | 320.00 | | 300.00 | 400.00 |   Use i) Trapezoidal formula ii) Prismoidal formula. | CO1 | 14 |
|  | b. | Illustrate the different types of reservoirs. | CO2 | 6 |
| **(OR)** | | | | |
| 6. | a. | Compare and contrast artificial recharge with natural recharge. | CO1 | 10 |
| b. | Interpret the factors considered for selection of site for reservoir. | CO2 | 10 |
|  |  |  |  |  |
| 7. | a. | Explain with sketch, the basic components of hydro-electric projects. | CO2 | 10 |
| b. | Discuss about reservoir sedimentation. | CO3 | 10 |
| **(OR)** | | | | |
| 8. |  | State the importance of flood protection and discuss about its structures. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | What are the factors governing the selection of particular type of dam? | CO2 | 10 |
| b. | Briefly explain how would you fix the capacity of a reservoir and height of dam required for this storage. | CO2 | 10 |