1521

Code : 15CE52T

Register Number | | | | | | | |

V Semester Diploma Examination, Nov./Dec. 2017

WATER RESOURCE ENGINEERING

Time : 3 Hours | **| Max. Marks : 100**

Note : (1) Answer any **six** questions from Part – A. Each question carries **5** marks.
(2) Answer any **seven** questions from Part – B. Each question carries **10** marks.

PART – A

1. List any five disadvantages of irrigation. **5**

2. Define the following terms : **5**
   (a) Evaporation (b) Transpiration
   (c) Run off (d) Catchment
   (e) Infiltration

3. Determine the average rainfall over the catchment area by the Thiessen polygon method. The rainfall recorded at the various rain gauges stations and areas of the Thiessen polygon are tabulated below : **5**

Area of Thiessen Polygon (km^2)	Precipitation (cm)
50	3.5
105	4.2
84	5.4
145	4.8
45	4.4

4. What are the advantages and disadvantages of Drip Irrigation ? **5**

5. Define : **5**
   (a) Duty (b) Delta
   (c) Base period (d) Gross Commanded Area
   (e) Crop Ratio

6. What are the factors to be considered for selection of site for a Reservoir ? **5**

7. What is Gravity Dam ? Mention the various forces acting on a Gravity Dam. **5**

8. Mention the difference between weir and barrage. **5**

9. Define the following : **5**
   (a) Porosity
   (b) Specific yield
   (c) Aquifuge
   (d) Permeability of soil
   (e) Aquifer

PART – B

10. Explain with a neat sketch, the rainfall measurement by Simon's rain gauge. **10**

11. Explain the types of Precipitation. **10**

12. Explain Drip Irrigation method with a neat sketch. **10**

13. The gross commanded area for a distributary is 6000 hectares, 80% of which is culturable irrigable. The intensity of Irrigation for rabi season is 50% and that of Kharif season is 25%. If the average duty at the head of the distributary is 2000 hectares/cumec for rabi season and 900 hectares/cumec for Kharif season, find out the discharge required at the head of the distributary from average demand consideration. **10**

14. Draw a neat diagram of typical cross section of Gravity Dam and mention the factors to be considered for the construction of Gravity Dam. **10**

15. With a neat sketch, explain volute siphon spillway. **10**

16. Explain different methods of canal lining. **10**

17. With a neat sketch explain Syphon aqueduct. **10**

18. Explain with a neat diagram, the components parts of a weir. **10**

19. Explain the various methods of Artificial Recharge of ground water. **10**