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V Semester Diploma Examination, Oct./Nov.-2019

WATER RESOURCE ENGINEERING

Time : 3 Hours]

[Max. Marks : 100

- Note :** (i) Answer any six questions from Part – A. Each question carries 05 marks.
(ii) Answer any seven questions from Part – B. Each question carries 10 marks.

PART – A

1. What are the objectives of Water Resources Development ? 5
2. List any five advantages of Irrigation. 5
3. What is precipitation ? Explain orographic precipitation. 5
4. What are the factors affecting duty ? 5
5. Mention the factors to be considered for selection of site for a Dam. 5
6. Explain the classification of canals based on discharge capacity. 5
7. Write short note on maintenance of canals. 5
8. Mention the effects of over exploitation of Ground Water Resources. 5
9. Define cloud seeding. Explain briefly cloud seeding technique. 5

PART – B

10. List the types of Rain gauges and explain the working of Symon's Rain gauge with a neat sketch. 10
11. The Isohytel map of 24 hour storm gave the areas enclosed between different Isohytes, as follows :
- | | | | | | | | |
|--------------------------|----|-----|-----|-----|-----|-----|-----|
| Isohytes in mm | 40 | 38 | 36 | 34 | 32 | 30 | 28 |
| Enclosed area in sq. km. | 72 | 102 | 216 | 310 | 379 | 419 | 488 |
- Determine the average depth of rainfall over the catchment. 10
12. List the different methods of irrigation and explain drip irrigation with a neat sketch. 10
13. A water course has a culturable command area of 4000 hectores out of which the intensity of irrigation for perennial sugarcane and rice crop are 20% and 40% respectively. The duty of these crops at the head of the water course and 800 ha/cumec and 1900 ha/cumec respectively. Find the discharge required at the head of water course, if the peak demand in 20% of the average requirement. 10
14. What is meant by gravity dam ? List the various forces acting on gravity dam. How do you estimate the water pressure in the design of gravity dam ? 10
15. Define spillway. List the types of spillways and explain chute spillway with a neat sketch. 10
16. What is Canal linking ? What are it's advantages and disadvantages ? List the methods of canal lining. 10
17. State the different types of cross drainage works. Explain with a neat sketch the cross drainage work required when the canal runs over the drainage. 10
18. Explain canal head regulator with a neat sketch. 10
19. List different methods of artificial recharge. Explain ground recharge through wells. 10