A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 54104

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Civil Engineering

15UCE404- WATER RESOURCES AND IRRIGATION ENGINEERING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Irrigation is basically required in CO1- R

(a) Humid region (b) Arid region (c) Semi-arid region (d) All of the above

2. Useful soil moisture for plant growth, is CO1- R

(a) Capillary water (b) Gravity water (c)Hygroscopic water (d) Chemical water

3. The duty of irrigation water for a given crop is maximum CO2- R

(a) On the field (b) At the head of the main canal

(c) At the head of the water course (d) None of them

4. The efficiency of water application does not depend upon CO2- R

(a)Climatic conditions (b) Type of soil

(c) Method of application (d) Geometry of the conveyance system

5. Which one of the following spillways is least suited to earthen CO3- R

dams?

(a)Syphon spillway (b) Chute spillway (c)Ogee spillway (d)Shaft spillway

6. In a concrete gravity dam with a vertical upstream face, the stabilizing force is provided by the CO3- R

(a) Weight of dam (b) Water supported against upstream slope

(c) Both (a) and (b) (d) None of them

7. Irrigation canals are generally aligned along CO4- R

(a) Contour line (b) Ridge line (c) Valley line (d) Straight line

8. A canal head works has nothing to do with a CO4- R

(a) Weir (b) Guide bank (c) Head regulator (d) Safety ladder

9. Water users associations are also known as CO5- R

(a) National association (b) User association

(c) Farmers association (d) Project association

10. PIM stands for CO5- R

(a) Participatory irrigation management (b) Public irrigation management

(c) Principle irrigation management (d) Plan irrigation management

PART – B (5 x 2= 10Marks)

11. Why irrigation is necessary? CO1- R

12. Define base period. CO2 -R

13. List the forces acting on a gravity dam. CO3- R

14. Why canal drop is constructed? CO4 -R

15. How canals are classifield? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Discuss the necessity and major recommendation made under national water policy. CO1- U (16)

Or

(b) Explain the various studies involved in planning a water resources project. CO1- U (16)

17. (a) Define and state the relation between duty and delta. Enumerate the various factors affecting duty of water. CO2- U (16)

Or

(b) Describe the various methods used to estimate the consumptive use of water and factors affecting it. CO2 -U (16)

18. (a) (i) Differentiate between Weir and Barrage. CO3- U (8)

(ii) Explain the factors affecting the location of the dam. CO3- U (8)

Or

(b) (i) Discuss in detail about the necessity, location and types of spillways. CO3- U (8)

(ii) What are the types of impounding reservoirs? Explain briefly. CO3- U (8)

19. (a) (i) Summarize the various design aspects of irrigation canals. CO4-U (8)

(ii) Write a note on living and maintenance of canals. CO4-U (8)

Or

(b) (i) Enumerate the necessity and types of cross drainage works. CO4- U (8)

(ii) State the merits and demerits of surface and subsurface irrigation. CO4- U (8)

20. (a) Predict the various functions performed by participatory irrigation management. CO5- U (16)

Or

(b) Describe the important functions of water users association. CO5- U (16)

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