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Reg. No. : | | | | | | | | | | |

Question Paper Code: 95104

B.E. / B.Tech DEGREE EXAMINATION, DEC 2021

Fifth Semester

Civil Engineering

19UCE504 Water Resources and Irrigation

(Regulation 2019)

Duration: Three hours | Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. A useful soil moisture for plant growth _____ CO1- R

   (a) Capillary water (b) gravitational water

   (c) Hygroscopic water (d) all of the above

2. The moisture content of the soil, after free drainage has removed most of the gravity water, is known as _____ CO1- U

   (a) field capacity (b) saturation capacity

   (c) wilting co-efficient (d)available moisture

3. Which of the following is a perennial crop? CO2- U

   (a) Wheat (b)Tea (c)Gram (d) Sugarcane

4. Rate of rainfall is expressed in---- CO2- U

   (a) Meter (b) Centimeter (c) Millimeter (d) None of the above

5. The total depth of water required by a crop during the entire period the crop is in thefield is known as _____ CO3- U

   (a) delta (b)duty (c)base period (d) crop period

6. The duty is largest at _____ . CO3- U

   (a) at the head of the main canal (b) at the head of the water course

   (c) on the field (d) at all place

7. The total momentum of a system, if no external impressed force acts on it. CO4- U

(a) increases (b) decreases (c) remains constant (d) none of the above

8. The structure in a diversion work that is used to safeguard the life cycle of aquatic life is_____ CO4- U

(a) Divide wall (b) Irrigation Canal (c)Spillway (d) weir

9. What is the most water effecient system of irrigation CO1- U

(a) Flooding (b) Basin system (c) Sprinkler system (d) Drip Irrigation

10. Contour farming can be used in_____ CO2- A

(a) Hill tops (b) Riparian land (c) Dry palins (d) none of these

PART – B (5 x 2= 10 Marks)

11. State the methods to reduce evaporation CO1- U

12. Discuss the term runoff. CO1- U

13. Explain the term Crop water requirement. CO1- U

14. What are Impounding structures? CO1- U

15. Why would you choose drip irrigation over other systems? CO3- Ana

PART – C (5 x 16= 80 Marks)

16. (a) As a irrigation expert explain the importance of considering the factors of precipitation and evaporation CO2- App (16)

Or

(b) As a irrigation expert give a view to the farmers on the watershed and catchment area in order to save water to withstand summer. CO2- App (16)

17. (a) Consider a cloud burst and suggest various methods to calculates its hydrograph CO3- Ana (16)

Or

(b) What is your view on Chennai floods 2015 and as an water resource engineering what are the flood routing methods you suggest. CO3- Ana (16)

18.	(a)	A channel is to be designed for irrigating 5000 hectares in Kharif crop and 4000 hectares in Rabi crop. The water requirement for Kharif and Rabi are 60 cm and 25 cm, respectively. The Kor period for Kharif is 3 weeks and for Rabi is 4 weeks. Determine the discharge of the channel for which it is to be designed.	CO2- App	(16)
		Or		
	(b)	Explain why you think irrigation important to agriculture,compare and elaborate the positive and negative impacts of irrigation and irrigation structures.	CO2- App	(16)
19.	(a)	A river has to obstructed to divert water to a nearby city what are all the structures that will have to be constructed a the head of diversion.	CO3- Ana	(16)
		Or		
	(b)	Consider water flowing under a bridge,as an engineer how do you define the structure and list out similar other types of cross drainage works.	CO3- Ana	(16)
20.	(a)	As an expert in irrigation management, explain the importance of involvement of benefactors of irrigation system in management and methods to involve them.	CO3- Ana	(16)
		Or		
	(b)	For recent crisis in agriculture and climate change, among various systems of irrigation what is the most convenient system? And explain what other systems are available.	CO3- Ana	(16)