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

Question Paper Code: 55A01

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Fifth Semester

Agricultural Engineering

15UAG501 IRRIGATION AND DRAINAGE ENGINEEERING

(Regulation 2015)

Duration: Three hours | Maximum: 100 Marks

Answer All Questions

PART A - (5 x 1 = 5 Marks)

1. In the National Water Policy (2002) the highest priority in the allocation of water resources of India is given to — CO1-R

   (a) Ecology (b) Irrigation (c) Drinking water (d) Industries

2. The average size of rainfall is about — CO2-R

   (a) 0.5 mm (b) 0.05 mm (c) 5 mm (d) 0.005 mm

3. The number of days between irrigation during periods without rainfall — CO3-U

   (a) Irrigation frequency (b) Irrigation Interval

   (c) Irrigation periods (d) Irrigation requirement

4. Factors affecting infiltration rate are — CO4-R

   (a) Texture (b) hydraulic conductivity

   (c) Both a & b (d) None of the above

5. A volume necessary to cover an area of 1 ha to a depth of 1 cm is — CO5-R

   (a) 1,00,000 liters (b) 10,00,000 liters (c) 10,000 liters (d) 1,000 liters

PART – B (5 x 3= 15Marks)

6. Write Gross irrigation & net irrigation requirement. — CO1-R
7. Define Evapotranspiration (Et) or Consumptive Use — CO2-U
8. Explain necessity of Irrigation — CO3-R
9. List the merits of lining in water courses . — CO4-R
10. Define Regime of a canal — CO5-R

PART – C (5 x 16= 80Marks)

11.	(a)	Summarize the concept and components of CADA programmed in Tamil Nadu	CO1-U	(16)
		Or		
	(b)	Write short notes on (i) Irrigation scheduling (ii) Crop water requirement and (iii) Irrigation efficiencies	CO1-R	(16)
12.	(a)	Write the Design procedure for a underground pipeline irrigation system.	CO2-U	(16)
		Or		
	(b)	Describe the design procedure of design of canals by Kennedy and Laceys theory.	CO2-U	(16)
13.	(a)	(i) Discuss the various factors affecting the selection of a Particular type of dam .	CO3-R	(10)
		(ii) Discuss about any one types spillway with neat sketch.	CO3-U	(6)
		Or		
	(b)	(i) Describe in detail about drainage systems used in flat areas with neat sketch	CO3 -R	(10)
		(ii) List the benefits of proper drainage system	CO3 -U	(6)
14.	(a)	List the types of canal drops. Explain any two types of drops with neat sketches	CO4 -R	(16)
		Or		
	(b)	Explain in detail about the on farm development works of CADA	CO4-U	(16)
15.	(a)	Differentiate surface drainage systems with sub-surface drainage systems	CO5-Ana	(16)
		Or		
	(b)	(i) Discus the design principles to be followed while designing a sub surface drainage system.	CO5-U	(8)
		(ii) What is leaching , also explain the methods of leaching and its merits	CO5-R	(8)