Degree/7th/UCE 714

2022

Irrigation Engineering

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	Explain the procedure of designing a channel with Kennedy's theory. List the drawbacks of Kennedy's theory	10
	b)	What is meant by canal fall. Why canal fall is necessary. Explain various type of canal fall with a neat sketch.	10
2.	a)	Explain Bligh's theory for design of weirs	7
	b)	Explain the various method of reclamation of saline and alkaline land	7
	c)	Explain lane's weighted creep theory	6
3.	a)	Design an irrigation canal with the following data: discharge of canal = 24 cumec, bed slope 1 in 5000, side slope 1:1, permissible mean velocity= 0.80 m/s, chezy's constant = 44.	8
	b)	List the advantages of canal lining	4
	c)	Design a channel section and find the bed slope of channel with the following data: full supply discharge =10 cumec, side slope 1/2:1, mean diameter of silt particles = 0.33 mm.	8
4.	a)	Explain in detail the design of sarda fall	15
	b)	Define streamline and equipotential line	5
5.	a)	why is Lacey's concept superior to that of Kennedy's. explain the design procedure of a canal based on Lacey's theory	8
	b)	Explain the causes of failure of weir or barrage on permeable foundation	5
	c)	Mention various types of lining that can be used in case of Indian canal.	7
6.	a)	What is cross drainage work. Explain various types of cross drainage work	12
	b)	Define waterlogging. Explain the causes, effects, and controls of water logging	8