Register Number:……..

KUMARAGURU
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B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Seventh Semester

CIVIL ENGINEERING

U18CET7002**:** Irrigation and Water Resource Management

COURSE OUTCOMES

CO1: Infer the water resource requirement.

CO2: Summarize the water resource management strategies adopted.

CO3: Estimate the consumptive use of water and design of canal lining.

CO4: Understand the components of various hydraulic structures.

CO5: Classify various irrigation methods and prepare the irrigation scheduling for various crops.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	State the various resources of water and mention its merits and demerits.	CO1	[K_2]
2.	Interpret the constraints in Water Resource Project.	CO1	[K_2]
3.	Classify water resource projects based on purpose and command area.	CO2	[K_2]
4.	Suggest your thoughts to manage the drought in our country.	CO2	[K_3]
5.	Define Kor watering, Kor depth and Kor period.	CO3	[K_2]
6.	Differentiate consumptive and non-consumptive use of water.	CO3	[K_2]
7.	How will you justify the necessity of canal lining for an existing canal?	CO4	[K_3]
8.	What do you understand by the term cross drainage works?	CO4	[K_2]
9.	State the objectives of Participatory Irrigation Management (PIM).	CO5	[K_2]
10.	Differentiate the terms organic farming and conventional farming.	CO5	[K_2]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	State the salient features of National Water Policy in detail.	8	CO1	[K_2]
	b)	What are the challenges faced by water resources in India and suggest few strategies to manage?	8	CO1	[K_3]

12.	a)	With neat sketch explain the storage capacity and various water levels of reservoir.	8	CO2	[K_2]
	b)	As a water resource engineer suggest ways to manage and mitigate flood in your region.	8	CO2	[K_3]
13.	a)	Define the term Duty and explain the factors affecting duty.	8	CO3	[K_2]
	b)	What do you understand by the term irrigation efficiency and explain the types of efficiencies?	8	CO3	[K_2]
14.	a)	Analyse the possible ways by which the gravity dams fail and suggest some precautions to prevent the failures.	8	CO4	[K_4]
	b)	What do you mean by Canal fall/drop and state its needs with neat sketch?		CO4	[K_2]
15.	a)	Comment on the digital tool Uzhavan app launched by the Tamil Nadu government in 2018 in detail.	8	CO5	[K_4]
	b)	Draw a drip irrigation system layout and explain the various components of the system.	8	CO5	[K_2]
16.	a)	An irrigation canal has gross commanded area of 80,000 hectares out of which 85 % is culturable irrigable. The intensity of irrigation for the kharif season is 30 % and for rabi season is 60 %. Find the discharge required at the head of the canal if the duty at its head is 800 hectares/cumecs for kharif season and 1700 hectares/cumecs for rabi season.	8	CO3	[K_3]
	b)	i) A canal was designed to supply irrigation needs of 1000 hectares/ cumecs of land growing rice of 140 days base period and having a delta of 130cm. If the canal water is used to irrigate wheat of base period of 120 days & having delta of 50 cm, Find the area that can be irrigated. ii) A water course has a CCA of 1200 hectares. The intensity of irrigation for a rabi crop is 5 % and kor period of 15 days. Calculate the discharge of water course if the kor depth for crop is 15 cm.	8	CO3	[K_3]

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