TE - CIVIL - SEM II - R-19 - C-Scheme

Duration: 3hours

Total marks: 80

Q.1 is COMPULSORY

Attempt any THREE out of remaining questions Assume suitable data wherever required.



Q.1 Attempt any FOUR of the following

(20)

- A. What is the necessity of Irrigation in India and what are the disadvantages of over-irrigation?
- B. Distinguish between Kennedy's and Lacey's theory.
- C. Explain recuperation test in wells.
- D. How to derive direct runoff hydrograph from flood hydrograph?
- E. Distinguish between Elementary & practical profile of gravity dam.
- F. What is head regulator? State functions of a distributary head regulator and a cross regulator.
- Q.2. A.i. Explain with the help of a diagram Symon's rain gauge.

(05)

A.ii. Define Precipitation. Explain different types of Precipitation

(05)

B. The ordinates of 3-h unit hydrograph for a drainage basin are given below. Obtain 9- hr UH by S-curve method (10)

Time (hours)	0	3	6	9	12	15	18	21	24	27	30
Ordinates of 3-h UH	0	6.5	12	25.5	45	86	79	42	9.5	4	0

Q.3. A.i Explain types of earth dam.

(05)

A.ii. What is the broad classification of principal crops in India?

(05)

B. Define Duty, delta & base period for a crop. Derive the relation between them.
Also determine the reservoir capacity of the canal system if the culturable command area is 40000hectares, canal losses are 25% and reservoir losses are 15%.

The details of crops are as follows:

(10)

Crop	Base period(days)	Duty at field (hec/cumec)	Intensity of irrigation (%)
Wheat	<u>2</u> 120	1800	20
Sugarcane	360	1700	20
Cotton	180	1400	10
Rice	120	800	15
Vegetable	120	700	15

SP Code 82792

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Prog code: 1T00636

Q.4. A. i. Draw a neat diagram of confined aquifer & show its various components.	(05)
A.ii. What are disadvantages and suitability of canal lining?	(05)
Q4.B. An artesian tube well has a diameter of 20cm. The thickness of aquifer permeability is 38m/day. Find its yield under a drawdown of 4m at the well fac	
influence as recommended by Sichardt.	(10)
Q5. A.i. Explain with diagram different zones of Storage in reservoir.	(05)
A.ii. Enlist types of Spillways and explain any ONE type of spillway.	(05)
B. Design the practical profile of a gravity dam from the following data:	
Reduced Level of base of Dam is 1600m Reduced Level of F. R. L. = 1625m,	wall d
Specific Gravity of masonry = 2.5.	reid 1
Safe compressive stress for masonry = 1500 kPa.	
Height of waves = 1m.	
Assume any suitable data if required and state the same clearly.	(10)
Assume any suitable data in required and state the same clearry.	(10)
Q.6. A. A channel has to be designed for the following data:	
Discharge = 30cumecs	
Silt factor = 1.00	
나는 사람들이 하는 사람들이 가장 하는 사람들이 되었다면 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는데 그렇게 되었다면 하는데 살아 없다면 하는데 나를 했다면 하는데 나를 했다면 하는데 그렇게 되었다면 그렇게 되었다면 하는데 그렇게 되었다면 그렇게 되었다면 하는데 그렇게 되었다면 그렇게 그렇게 그렇게 되었다면 그렇게	
Side slope 0.5:1	(10)
Find also the longitudinal slope by Lacey's theory.	(10)
D.D. H. M. J. J. C. J. C	(10)
B. Describe with the help of sketches various types of Canal falls.	(10)
RAL LIP	

(SOMCE)	





1T00636 - T.E.(Civil Engineering)(SEM-VI)(Choice Base Credit Grading System) (R-19) (C Scheme) / 89263 - Geotechnical Engineering -II

Correction in Q.P.CodE: 10083290

In Q.4.A.

Mistake: The slope angle of the cut is 320.

Correction: The slope angle of the cut is 32 degrees.

In Q.4.A.

Mistake: Assume a factor of safety of 1.8.

Correction: delete this line

In Q.4.B.

Mistake: From 7 to 12 m Correction: From 6 to 12 m

