Code No: RT32014 **R13** SET - 1

III B. Tech II Semester Supplementary Examinations, November - 2018

WATER RESOURCES ENGINEERING – I

(Civil Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	Explain IDF curve.	[3M]
	b)	Disuses the factor affecting infiltration.	[4M]
	c)	Explain Unit Hydrograph with sketch.	[4M]
	d)	Differentiate between SPF and MPF.	[3M]
	e)	Disuses various aquifer parameters.	[4M]
	f)	Explain any two methods of groundwater modeling.	[4M]

PART -B

2	a)	Discuss with a neat sketch the Hydrological cycle indicating different components and their significance.	[8M]
	b)	Explain step by step the procedure adopted for preparing the depth-area-duration curve for a particular storm, in a basin having a number of recording rain gauges.	[8M]
3	a)	Describe the various abstractions from precipitation.	[4M]
	b)	Explain in brief the evaporation process. What are the factors that influence the process of evaporation?	[8M]
	c)	Discuses the methods to reduce reservoir evaporation losses.	[4M]
4	a)	Define Hydrograph. What are the components of Hydrograph? Explain any one method of base flow separation.	[6M]
	b)	A drainage basin has an area of 4000 km^2 . find out i) Lag period ii) Peak discharge and iii) Base period of 6-hour unit hydrograph from the following data L=375 km, L_{ca}=250 km, C_t=0.8, C_p=3.5	[10M]
5	a)	Describe the cause, effects and methods of control of floods.	[5M]
	b)	What is flood routing? Describe the usual assumptions made in routing a flood in a reservoir.	[5M]
	c)	Explain Puls method of flood routing?	[6M]
6	a)	Define the terms porosity, permeability and transmissivity.	[8M]
	b)	An artesian aquifer of 37m thick has a porosity of 2150kg/cm^2. Find out the storage coefficient of the aquifer.	[8M]
7		Write explanatory note on: i) Determination of yield of an open well ii) Dupuit's equation and its importance iii) Chow-Kulandaiswamy model	[5M] [6M] [5M]

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