SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025
HYDROLOGY, GROUND WATER & WELL ENGINEERING
(Agricultural Engineering)

Time: 3 Hours 　　　　　　　　　　　　　　　　　　　　**Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Write in detail about raingauges.	CO1	L1	6M
	b	Explain about non-recording type rainguage with diagram.	CO1	L2	6M

OR

2	a	Explain about non-rainguages with diagram.	CO1	L4	6M
	b	Explain mass curve and hyetograph.	CO1	L3	6M

UNIT-II

3	a	Explain briefly about hydrograph with its components	CO2	L1	6M
	b	Write the basic assumptions constitute the foundation for unit hydrograph.	CO2	L2	6M

OR

4	a	Explain s-curve method briefly.	CO2	L3	6M
	b	Write the concept and application of IUH.	CO2	L2	6M

UNIT-III

5	a	Write short notes on water resources status of India.	CO3	L1	6M
	b	The average thickness of a confined aquifer extending over an area of 500 km2 is 25 m. The piezometric level of this aquifer fluctuates annually from 10 m to 22 m above the top of the aquifer. Assuming a storage coefficient of the aquiferas 0.0006, estimate annual groundwater storage in the aquifer.	CO3	L1	6M

OR

6	a	Write the types of water bearing formations and define each of them.	CO3	L1	6M
	b	Name the regions of groundwater present in India.	CO3	L1	6M

UNIT-IV

7	a	Mention the groundwater exploration techniques.	CO4	L1	6M
	b	Write about multiple well systems.	CO4	L1	6M

OR

8	a	What are the methods of drilling of wells, Explain each of them.	CO4	L2	6M
	b	Explain about salt water intrusion and occurrence of salt water intrusion.	Co4	L2	6M

UNIT-V

9	a	What are factors must be considered in selection of centrifugal pump.	CO5	L1	6M
	b	Define the terminology with expression: water horse power, shaft horse power, break horse power, input horse power.	CO5	L1	6M

OR

10	a	What is reciprocating pumps and explain its components in brief.	CO5	L1	6M
	b	What is Mixed flow pumps and discuss Principle of operation.	CO3	L1	6M

*** END ***