

TCE-503

1158

Printed Pages : 3

Paper Code & Roll No. to be filled in your Answer Book

Roll No.

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B.Tech V Sem.

Even End Semester Examination-2015

HYDROLOGY

Time : 3 Hours]

[Maximum Marks :100

Answer Any Four:

(4x5=20)

1. Describe the hydrologic cycle.
2. List the major activities in which the hydrological studies are important.
3. Two and half centimeters of rain per day over an area of 200 km² is equivalent to average rate of input of how many cubic meters per second of water to that area?
4. When will convective precipitation occur?
5. Explain a recording type of rain gauge with a neat sketch.

Answer Any Four:

(4x5=20)

1. Discuss the role of land use on
 - a) Interception
 - b) Infiltration.
2. Discuss the importance of evaporation control of reservoirs and possible methods of achieving the same.

3. Describe hydrological modeling for stream flow estimation and methods for peak discharge estimation.
4. Sketch a typical hydrograph and mention its components.
5. List the qualities of a good tracer for use in dilution technique of flow measurement.

Answer Any Two: (2x10=20)

1. How flood frequency analysis is useful in flood protection?
2. Flood frequency computations for the river Chambal at Gandhi sagar dam , by using Gumbel's method yielded the following results.

Return period T(years)	Peak flood(m^3/s)
50	40,809
100	46,300

Estimate the flood magnitude in this river with a return period of 500 yrs.

3. The ranks of 10 students in the beginning and at the end of course are as follows. Find out the coefficient of rank correlation.

Students	A	B	C	D	E	F	G	H	I	J
Before course	1	6	3	9	5	2	7	10	8	4
After course	6	8	3	7	2	1	5	9	4	10

Answer Any Two: (2x10=20)

1. Explain the behavior of water level in wells in confined aquifers due to changes in the atmospheric Pressure.
2. Explain briefly:

1. Safe yield of an aquifer.
2. Mining of water.
3. Groundwater reservoirs.
3. Two lines of regression are given by $x+2y=5$ and $2x+3y=8$. Calculate the value of x^- , y^- , b_{xy} , b_{yx} and r .

Answer Any Two:

(2x10=20)

1. Distinguish between-
 1. Hydraulic and hydrologic method of flood routing.
 2. Hydrologic storage and hydrologic channel routing.
2. Explain:
 - a) Specific yield of an aquifer.
 - b) Specific capacity of a well.
3. State the Dupuit's assumptions and derive the equation of Steady flow into a well in unconfined aquifer.

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