BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: M.TECH.   SEMESTER : I
BRANCH: Remote Sensing   SESSION :MO/2023

SUBJECT: RS507 REMOTE SENSING IN HYDROLOGY & WATER RESOURCES

TIME: 3 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Describe the differences between confined and unconfined aquifers with the help of suitable diagram(s).	[5]	[CO1]	[BL3]
Q.1(b)	Discuss the difference between porosity and permeability, along with examples.	[3]	[CO1]	[BL3]
Q.1(c)	Discuss the factors that govern the primary and secondary porosity.	[2]	[CO1]	[BL3]
Q.2(a)	Describe the role of remote sensing and GIS in assessing surface water quality.	[6]	[CO2]	[BL4]
Q.2(b)	Describe two hydro-geomorphological landforms in terms of their groundwater potential.	[2x2=4]	[CO2]	[BL3]
Q.3(a)	Explain any three types of drainage patterns in relation to the underlying rocks and structural features.	[3x2=6]	[CO3]	[BL3]
Q.3(b)	Explain the different factors considered for the interlinking of river basins.	[4]	[CO3]	[BL3]
Q.4(a)	Describe four different types of linear morphometric parameters.	[4x1.5=6]	[CO4]	[BL4]
Q.4(b)	Describe three types of water harvesting structures and their significance in controlling soil erosion with the help of suitable diagrams.	[4]	[CO4]	[BL4]
Q.5(a)	Describe the SCS-CN-based runoff estimation.	[5]	[CO5]	[BL4]
Q.5(b)	Explain three different types of drought and the significance of remote sensing and GIS in each.	[5]	[CO5]	[BL5]

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