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

CLASS: M.TECH **SEMESTER : I**
BRANCH: REMOTE SENSING **SESSION : MO/18**

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.

Q.1(a) List the data required to study a basin hydrology (surface water as well as ground water). [5]
Q.1(b) How a rainfall map is prepared in GIS using satellite data? [5]

Q.2(a) Explain with a diagram the yield of water in a confined aquifer. [5]
Q.2(b) Ground water discharge rate is proportional to hydraulic gradient and inversely proportional to the length of flow path. Explain with a diagram. [5]

Q.3(a) Write suitable approach of mapping lineaments and landforms using satellite and collateral data. [5]
Q.3(b) How satellite remote sensing data are useful in determining water quality? [5]

Q.4(a) What are common types of drainage pattern and how these are used in drawing inferences about subsurface Geology? [5]
Q.4(b) How various morphometric parameters are used to evaluate basin characteristics? [5]

Q.5(a) What are Hydrological Soil Groups? How are they mapped using satellite data? [5]
Q.5(b) What are different curve numbers? How curve numbers are determined for an area to compute surface runoff using SCS model? [5]

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