

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION MO/SP20\*\*)

CLASS: MTECH  
BRANCH: REMOTE SENSING

SEMESTER : I  
SESSION : MO/22

SUBJECT: RS507 REMOTE SENSING IN HYDROLOGY & WATER RESOURCES  
TIME: 03 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. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

- 
- Q.1(a) Evaluate the difference between specific yield and specific retention. Does the grain size affect these? Describe. [5]  
[CO1, BL4]
- Q.1(b) Describe how groundwater discharge is related to the porosity and permeability of the rock types. [5]  
[CO1, BL4]
- Q.2(a) Compare the different hydrogeomorphological landforms based on their groundwater potential. [6]  
[CO2, BL3]
- Q.2(b) Describe the occurrence of major groundwater regimes in India. [4]  
[CO2, BL3]
- Q.3(a) Describe the different types of drainage patterns in relation to the parent rock and structural features. [5]  
[CO3, BL4]
- Q.3(b) Describe the different factors considered for the interlinking of river basins. [5]  
[CO3, BL2]
- Q.4(a) Explain the characteristics of any three morphometric parameters. [6]  
[CO4, BL4]
- Q.4(b) Describe any three groundwater recharge structures. [4]  
[CO4, BL3]
- Q.5(a) Describe the role of the slope, soil texture, and land use, land cover in assessing soil erosion. [6]  
[CO5, BL5]
- Q.5(b) Describe the significance of the snow area depletion curve in the context of climate change. [4]  
[CO5, BL5]

:::::24/11/2022:::::E