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B.Sc./6th Sem/GEO/26(NEP)

2026

6th Semester Examination (CCFUP : NEP)

GEOGRAPHY

Paper*: MJ 12-T

(Single Core Major)

[Remote Sensing and GIS]



Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *five* questions :

2×5=10

1. Define active and passive remote sensing.
2. What is the 'Atmospheric Window'?
3. What is 'Spectral Signature'?
4. Differentiate between PAN and Multispectral images.
5. What is Dark Object Subtraction (DOS)?
6. What is Digital Number (DN) of a pixel?
7. Differentiate between raster and vector data.
8. What is topology in GIS?

P.T.O.



(2)

Group - B

Answer any *four* questions : $5 \times 4 = 20$

9. Explain the interaction of electromagnetic energy with atmosphere.
10. Discuss the different types of sensor resolutions with examples.
11. Describe the characteristics of multispectral images.
12. Explain the methods of linear contrast stretching with diagram.
13. Describe the process of linear contrast stretching with an example.
14. Discuss the role of a Database Management System (DBMS) in GIS.

Group - C

Answer any *one* question : $10 \times 1 = 10$

15. Describe the interaction of electromagnetic radiation with different types of land surfaces. Explain the applications of image interpretation keys in remote sensing. $5+5$
 16. Explain the fundamental concepts of Digital Image Classification. Distinguish between 'Supervised' and 'Unsupervised' classification techniques, mentioning the typical steps involved in each. $3+7$
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