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Nagaon Assam

2026

GEOGRAPHY

(Major)

Paper : GGY0600204

(Introduction to Remote Sensing and GIS)

Full Marks : 45

Time : 2 hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions very briefly : 1×5=5

(a) What is the source of energy for passive remote sensing?

(b) What is the range of visible part of electromagnetic spectrum?

(c) Write the full form of FCC.

(d) What is the smallest unit of a digital image?

(e) Name one open source GIS software.

2. Answer any *five* of the following questions in brief : 2×5=10

(a) What is electromagnetic spectrum?

(b) Name two data products of remote sensing.

(c) What is aerial photography?

(d) Name two geo-stationary satellites.

(e) Write the electromagnetic spectrum according to wavelength.

(f) What is attribute data?

(g) Name two data products of remote sensing.

(h) What is metadata?

(i) Mention two important uses of GIS.

(j) What are the two main GIS data models?

3. Answer any *four* of the following questions in short : 5×4=20

(a) Differentiate between active and passive remote sensing with suitable diagrams.

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(b) Explain the basic principle of remote sensing with a neat diagram.

(c) What are the advantages and limitations of remote sensing?

(d) Differentiate between aerial photographs and satellite imageries.

(e) Discuss the trend of development of GIS in India.

(f) What is buffer analysis? Why is buffer technique important in GIS?

(g) Explain the structure and characteristics of raster data.

(h) What are spatial and non-spatial data types? Describe how these data types work in GIS.

4. Answer any *one* of the following questions : 10

(a) What is EMR? Discuss the interaction of EMR with atmosphere and Earth's surface. 2+8=10

(b) Define GIS. Discuss the components of GIS with a suitable diagram. 2+8=10

(c) Discuss the application of GIS in climate change and disaster management. 5+5=10

(d) What is image interpretation? Explain the different elements of visual image interpretation with suitable examples. 2+8=10

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