

2025

**M.Sc. 1st Semester Examination
OCEAN GEOMATICS WITH AI**

Paper : OGAC402X0

**(Physics of Remote Sensing and
Fundamental of GIS)**

Full Marks : 50

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 *four* questions : $2 \times 4 = 8$

1. What is meant by imaging sensor?
2. What is an active sensor with suitable examples?
3. State Kepler's first law of planetary motion.
4. Define 'Atmospheric Window'.
5. What is attribute data?
6. What is map scale?

P.T.O.

(2)

Group - B

Answer any *four* questions : $4 \times 4 = 16$

7. What is a sensor? Explain its role in remote sensing.
8. Distinguish between active and passive sensors.
9. What is an along-track scanning system? Mention its advantages.
10. What are the elements of spatial data in GIS?
11. Differentiate between raster and vector data.
12. Differentiate between spectral and radiometric resolution.

Group - C

Answer any *two* questions : $8 \times 2 = 16$

13. Describe the electromagnetic spectrum and explain the remote sensing bands used for Earth observation.
14. Write a brief note on the interaction of electromagnetic radiation with the Atmosphere and Earth's surface features.
15. What are GIS data types and their data structures with diagrams?
16. Discuss applications of GIS in environmental and oceanographic studies.

Internal Assessment : 10 marks
