

M. SC. (GEOINFORMATICS)

(MSCGI)

Term-End Examination

December, 2025

**MGY-010 : COMPUTER PROGRAMMING FOR
DIGITAL IMAGE PROCESSING AND GIS**

Time : 3 Hours

Maximum Marks : 75

Note : (i) *All questions are compulsory.*

(ii) *Marks for each question are indicated against it.*

(iii) *Draw well-labelled diagrams, wherever necessary.*

1. Answer any *two* of the following : $2 \times 15 = 30$

- (a) Describe in detail about GIS processing in Google Earth Engine giving suitable examples.

- (b) Give an account of use of 'R' in raster data processing and image enhancement.
 - (c) Write about vector data analysis using 'R', giving suitable examples.
 - (d) Discuss in detail about Python and its use in spatial data analysis.
2. Answer any *two* of the following : $2 \times 10 = 20$
- (a) Explain the use of GEE in raster data processing.
 - (b) Write about image classification using 'R', giving suitable examples.
 - (c) Discuss the use of 'R' in data plotting with suitable examples.
 - (d) Discuss GIS development environment using Python for GIS customisation.
3. Write short notes on any *five* of the following :
- $5 \times 5 = 25$
- (a) GEE and its importance

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- (b) Accuracy assessment using 'R'
- (c) Applying interpolation techniques in 'R'
- (d) Image classification in GEE
- (e) Web mapping and development
- (f) Usage and importance of open layers
- (g) Building and managing GIS database with Postgre SQL
- (h) GEE in visualising spatial data

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