

No. of Printed Pages : 3

MGY-010

M. SC. (GEOINFORMATICS) (MSCGI)

Term-End Examination

December, 2024

**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 diagram wherever necessary.*

1. Answer any **two** of the following questions :

2×15=30

(a) Write about Google Earth Engine and its importance. Discuss its role in raster data processing giving suitable examples.

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- (b) Discuss the use of “R” programming in image classification giving suitable examples.
- (c) Write about usage of “R” programming in visualising and analysing vector data.
- (d) Give an account of Python programming and its use in spatial data analysis.

2. Answer any **two** of the following questions :

2×10=20

- (a) Explain the use of “R” programming in creating various types of plots with examples.
- (b) Discuss the use of post-GIS and postgre-SQL in the context of geospatial data.
- (c) Write about map server its importance and use in GIS, giving examples.
- (d) Give an account of GIS processing in Google Earth Engine.

3. Write short notes on any **five** of the following :

5×5=25

- (a) Use of “R” programming in image enhancement

- (b) Deriving terrain attributes in “R”
- (c) Use of GEE in extracting and visualising time series data
- (d) Use of “R” in image transformation
- (e) Python in GIS customisation
- (f) Use of GEE in generating spectral profiles
- (g) Use of GEE in generating terrain attributes from DEMs
- (h) Use of “R” in handling and visualising raster data

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