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MGY–005

POST GRADUATE DIPLOMA IN GEOINFORMATICS/ M. SC. (GEOINFORMATICS) (PGDGI/MSCGI)

Term-End Examination

June, 2025

MGY-005 : TECHNIQUES IN REMOTE SENSING AND DIGITAL IMAGE PROCESSING

Time : 3 Hours *Maximum Marks : 75*

Note : *All questions are compulsory. Marks for each question are indicated against it. Draw well-labelled diagrams, whenever necessary to support your answers.*

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1. Answer any **two** of the following : 2×10=20

   (a) Write about multispectral imaging system with focus on the across-track and along track scanning systems.

   (b) Give an account of the supervised image classification approach.

   (c) Discuss univariate statistics with focus on measures of dispersion and distribution in remote sensing data.

2. Answer any **two** of the following : 2×10=20

   (a) Discuss the systematic and non-systematic geometric errors in remote sensing images.

   (b) What is the application potential of R in image analysis ? Discuss the *four* control structures used in R.

   (c) Give an account of the accuracy assessment.

3. Write short notes on any **four** of the following : 4×5=20

   (a) Change detection techniques

   (b) Artificial Intelligence in image classification

   (c) Image fusion

   (d) Basic components of LiDAR

   (e) Radiometric calibration of thermal scanners

   (f) Commonly used programming languages for image processing

4. Discuss the principles of passive microwave remote sensing. Add a note on potential of microwave remote sensing in various applications. 15

Or

Explain the information recorded on aerial photographs, projection characteristics of aerial photographs and also the reference marks on aerial photographs.

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