No. of Printed Pages : 4 **MGYL–008(Set-I)**

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

Term-End Practical Examination

June, 2025

MGYL-008(Set-I) : DIGITAL IMAGE PROCESSING AND SPATIAL ANALYSIS LABORATORY

Time : 3 Hours *Maximum Marks : 30*

Note : *(i) All questions are compulsory. Marks are indicated against each question.*

(ii) Evaluation would be done under three parameters (i.e., performance, result/output and viva-voce).

(iii) The data to be used in the examination are provided by your exam centre in the computer allotted to you.

(iv) The data to be used for the examination are in the folders named as A, B, C, ... which are mentioned in the question paper as (A), (B), (C), ... , respectively.

(v) Keep all the soft copy results/outputs appropriately in the computer in a folder with your enrollment number. Other answers are to be written in the answer-sheet provided to you.

(vi) Incomplete and illegible results/ outputs will not be evaluated.

1. (a) Create a False Colour Composite (FCC) from the given dataset (B). Prepare a map showing the colour composite with appropriate map elements. 1+2

(b) From the output generated as part of the answer to the question 1(a), generate spectral profiles of *built up land, vegetation* and *water body* classes in a single plot in your answer-sheet and write its interpretation. 3+3

(c) Based on the spectral profiles generated as part of the answer to the question 1(b), generate a supervised classified image (using Maximum Likelihood Classifier) having any *five* landuse land cover classes (including the three classes i.e. *land*, *vegetation* and *water body*). Prepare a map showing the FCC and the classified image. 5+2

(d) Write 'R' pseudocode in your answer sheet for creating NDVI image from the dataset (B). 2

(e) Extract boundary of Brazil from the data (E) using dissolve and clip operations. 3

(f) Derive hill shade and aspect from the given data (A). Prepare a map showing the input DEM in pseudocolour and the derived hill shade and aspect with all the map elements. 2+2

2. Viva-voce. 5

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