

No. of Printed Pages : 3

MGYL-008(Set-II)

M. SC. (GEOINFORMATICS)
(MSCGI)

Term-End Practical Examination

December, 2024

**MGYL-008(Set-II) : 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, results / outputs and viva-voice).*

(iii) *The data to be used in the examination are provided by the 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 approximately 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) Mosaic the given data (B) and create a colour composite from it. 2
- (b) From the output generated as a part of the answer to question 1(a), generate an unsupervised classified image having at least 5 landuse land cover (LULC) classes. Recode the classified output. 2+2
- (c) Apply majority filter on 3×3 window size on the classified image. Prepare a map showing the colour composite, recoded classified image and the output after applying the filter. 2+3
- (d) Write a 'R' pseudocode for creating a NDVI image from the given data (B). 2
- (e) Create an EVI image from the data (B). Prepare a map showing the SFCC and the EVI image. 1+2

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- (f) Create buffer of approximately 5 km around Ranchi from the data (C). 2
 - (g) Create a map of Alaska from the data (E) using dissolve and clip operations. 2
 - (h) Derive contours (of 100 m interval), aspect and slope from the given data (A). Prepare a map showing the input DEM in pseudo-colour and the derived contours, aspect and slope with all the map elements. 3+2
2. Viva-voce. 5

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