



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY

Question Paper

B.Sc. Honours Examination 2021

(Under CBCS Pattern)

Semester - V

Subject: GEOGRAPHY

Paper : C 12-T & P

(Remote Sensing and GIS)

Full Marks : 60 (Theory - 40 + Practical - 20)

Time : 3 Hours

*Candidates are required to give their answer in their own words as far as practicable.
The figures in the margin indicate full marks.*

THEORY (Marks : 40)

Group-A

A. Answer *any three* questions from the following : 12×3=36

1. Mention the principles of Remote Sensing. What are the basic types of remote sensing satellites? 8+4

2. What is meant by sensor resolution? Describe the different types of sensor resolution. 2+10

3. Discuss the keys relating to visual interpretation of a satellite imagery. What are the sequential steps to be followed to prepare a LULC map from a satellite imagery in a software platform?
9+3
4. What is GPS triangulation? Discuss the principle of GPS triangulation for determining position on Earth Surface using a GPS receiver.
2+10
5. What are the advantage of radar imaging over optical instruments for earth observation? Briefly mention the applications of EOS-1 Satellite launched by ISRO on November 7, 2020.
20
6. Discuss the need of geometric transformation, sliver removal, edge matching and map projection transformation?

Group-B

B. Answer *any two* questions from the following : 2×2=4

1. Define topology.
2. What is data manipulation?
3. Differentiate non-spatial types of data from spatial types.
4. What are the four major criteria to assess the performance of GNSS?

PRACTICAL (Marks : 20)

Section-A

A. Answer *any one* question from the following : 10×1=10

1. Prepare a Land Use and Land Cover (LULC) map from any IRS/LANDSAT image (as it is provided by the examination centre) covering at least 6 land use classes and save the in jpeg/pdf format in any GIS software platform.
2. Perform georeferencing and assign suitable projection and datum on a scanned part of toposheet showing latitude and longitude (provided by examination centre) and save the referenced file in .img/.geotiff format (using any GIS software platform).
3. Digitise any two geographical feature from the given satellite image (provided by the examination centre) and save the file in .shp format in any GIS software platform.

Section-B

B. Answer *any one* question from the following :

5×1=5

1. Mention the requirements of class editing as an important post-classification technique.
2. Construct spectral profiles for at least 5 different spatial features from the satellite image provided to you.
3. What are the steps needed to digitize the polygon features?

Section-C

1. Practical Notebook and viva-voce.

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