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ESC-508

Environmental Remote Sensing and GIS-II

M.Sc. Environmental Science (MSCES)

2nd Semester Examination, 2023 (June)

Time : 2 Hours] **[Max. Marks : 35**

Note : This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

SECTION–A
(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only. (2×9½=19)

1. Differentiate between spatial and non-spatial data in detail. Explain arithmetic operations, logical operations and conditional expression of spatial data analysis.

2. What are the GIS data editing processes? Describe types of accuracy/precision error associate with GIS data.

3. Remote Sensing, GIS and GPS data are increasingly becoming the driving force for decision making from local to global continuum. Justify the above statement with suitable examples.

4. What are the key elements of image interpretation? Explain the methods of image classification.

5. How remote sensing is useful in watershed management studies? Give account on satellite data requirement and specifications for continuous flood monitoring.

SECTION–B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Write brief note on the components and importance of GPS,

2. Classify the data in the context of GlS. Describe point, line and polygon features of GIS data.

3. Explain spatial data editing methods. What is GIS neighborhood function?

4. What is spatial filter? Explain various types of spatial filters.

5. What do you mean by overlay operation? Describe various vector and raster overlay operations.

6. What are raster data models and vector data models? Write the basic differences between raster and vector data models.

7. Discuss sensor specification for crop inventory and crop monitoring.

8. How do you conduct hazard zonation using remote sensing and GIS techniques?

9. Explain various vegetation indices and their application. Briefly discuss how remote sensing is useful in wildlife habitat management?

10. Explain the applications of remote sensing in ground water prospects and potential ground water zonation.
