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SARDAR PATEL UNIVERSITY

M. Sc. (ENVIRONMENTAL SCIENCE AND TECHNOLOGY)

SEMESTER – II

PS02CEST21 (REMOTE SENSING & GEOGRAPHIC INFORMATION SYSTEM)

10TH APRIL, 2018 – Tuesday

Time : 10:00 a.m. to 01:00 p.m.

Marks : 70

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Note: Figures to the right indicate maximum marks.

Q1. Multiple Choice Questions-

[8]

- (1) Wavelength of the Red spectrum lies in the range.
(a) 400 to 440 nm (b) 500 to 578 nm (c) 620 to 700 nm (d) all
- (2) If the signal is first emitted and then recorded it is.....
(a) passive RS (b) active RS (c) no RS (d) both
- (3) provide information on biological aspects useful for fisheries and coastal ecosystems.
(a) MODIS (b) INSat (c) EnviSar (d) none
- (4) refers to relative brightness or colour of objects in an image.
(a) pattern (b) shape (c) texture (d) tone
- (5) In TIN, I stands for _____
(a) Information (b) Irrelevant (c) Irregular (d) None of above
- (6) _____ is not a surface model.
(a) Raster (b) Vector (c) TIN (d) LAS dataset
- (7) _____ spatial query, extract all objects in the map that are intersected by line I.
(a) Line Intersection (b) Enclosure (c) Containment (d) None
- (8) Small polygons produced by digitizing adjacent lines between polygons is known as _____
(a) Dangling Node (b) Sliver Polygon (c) Pseudo Node (d) Overshoot

Q2. Short answer type questions — attempt any 7

[14]

- (1) List the applications of Remote Sensing.
- (2) Which sensors are deployed on the platform?
- (3) What are the factors governing interpretability of image?
- (4) List the Remote sensors used to study Wetland and water quality monitoring.
- (5) Explain average filter and mean filter in detail.
- (6) What is GIS? List out M's of GIS.
- (7) What are surfaces? List out different surface models.
- (8) Define symbolization, classification
- (9) Define: Overshoot, Undershoot

C.P.T.O.)

Descriptive questions-

[48]

- Q3. (a) What is Resolution? Explain Spatial Resolution and Radiometric Resolution. [6]
(b) What is the significance of Spectral Signatures? Discuss spectral signature of Vegetation and Water. [6]

OR

- (b) Describe components of LiDAR technique for remote sensing. [6]
Q4. (a) What are the elements of Image Interpretation? Explain each one. [6]
(b) Differentiate between Supervised and Unsupervised Classification. [6]

OR

- (b) Discuss the issues of Coastal zone management to be studied by remote sensing. [6]
Q5. (a) Write a note on components of GIS. [6]
(b) Differentiate cartographic map and GIS map [6]

OR

- (b) What is datum? Explain local datum and earth centered datum with figure [6]
Q6. (a) What is Map? List out and explain all elements of map [6]
(b) What is spatial query? List out basic spatial queries and explain any four of them [6]

OR

- (b) Write a note on GIS data errors [6]

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