[33] SEAT No.————   No. of Printed Pages : 2

Sardar Patel University
M. Sc. (Environmental Science & Technology)
Semester II
PS02CEST21: Remote Sensing and Geographical Information System
18th March 2019, Monday

Time: 10:00 am to 01:00 pm   Total Marks: 70

Note: Figures to the right indicate maximum marks.

Q1.   ***Multiple Choice Questions-***   [8]

(1)   The spectrum of interest to active remote sensing is the ……. region from 1mm to 1m.   [1]
    (a) microwave   (b) visible   (c) infrared   (d) none

(2)   If the signal is just recorded it is…………..   [1]
    (a) passive RS   (b) active RS   (c) no RS   (d) both

(3)   ………. indicates type of objects and their physical, biological, and cultural relationships.   [1]
    (a) pixel   (b) pattern   (c) photo   (d) pie

(4)   In the evaluation of flood hazard which parameters should be taken into account?   [1]
    (a) depth of water   (b) duration of flood   (c) flow velocity   (d) all

(5)   _____ type of data says what a feature is.   [1]
    (a) Spatial   (b) Non Spatial   (c) Vector   (d) Raster

(6)   _____ are rectangular arrays of cells (pixels).   [1]
    (a) Raster   (b) TINs   (c) Contours   (d) Terrain Dataset

(7)   The original *sources* for the data and the *processing steps* it has undergone is called ____   [1]
    (a) Precision   (b) Accuracy   (c) Lineage   (d) Resolution

(8)   Polygons with missing nodes are called as _____   [1]
    (a) Open Polygon   (b) Undershoot   (c) Weird Polygons   (d) Sliver Polygon

Q2.   ***Short answer type questions — attempt any 7***   [14]

(1)   What sensors are deployed on the platform?   [2]

(2)   Write the applications of Remote Sensing.   [2]

(3)   List Passive Microwave Applications.   [2]

(4)   What are the factors governing interpretability of image?   [2]

(5)   List the applications of GIS.   [2]

(6)   List out and define components of GIS.   [2]

(7)   Define Union and Intersect operation.   [2]

(8)   What does data classification do in GIS?   [2]

(9)   List out and define any 4 topological errors during digitizing process.   [2]

(P.T.O)

Descriptive questions-   *[48]*

Q3. **(a)** What is Resolution? Discuss different types of Resolution.   [6]

(b) How EMR is interacting with atmosphere? Discuss.   [6]
OR
(b) Write a short note on Thermal Scanning technique   [6]

Q4. **(a)** Explain the elements of Image Interpretation.   [6]

(b) Discuss the methodology for study of Urban sprawl.   [6]
OR
(b) Write a note on Supervised and Unsupervised Classification.   [6]
Q5. **(a)** Write a note on Vector and Raster Data model.   [6]

(b) Write a note on Components of Data Quality.   [6]
OR
(b) What is Projection? Explain various types of projection in detail.   [6]

Q6. **(a)** Explain symbolization in detail.   [6]

(b) Write a note on non-spatial Query.   [6]

OR
(b) What is spatial query? List out basic spatial queries and explain any four of them   [6]

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