Roll. No:

Avinashilingam Institute for Home Science and Higher Education for Women
Coimbatore – 641 043
Bachelor's Degree Examination – November 2017

V Semester

Class : III UG **Time : 3 Hrs**
Major : Physics **Max. Marks : 100**

15BPHC13 Geographic Information System

Part – A **10 x 1 = 10**

Choose the Correct Answer

1. The two types of special data models in GIS are
   a. Direct Model & Indirect Model
   b. Constant and variable
   c. Vector data Model & Raster Data Model
   d. DEM and DTM

2. Synonym of non – spatial data is
   a. Vector and Raster data
   b. Attribute data or Aspatal data
   c. Non – Linear data
   d. 3D data

3. OODS stands for
   a. Object Oriented Data structure
   b. Office Oriented Data Structure
   c. Oracle Oriented Data Structure
   d. Ordered Object Data Structure

4. Compact methods of Raster data structures are
   a. Ordered Sequential and Hierarchical data structure
   b. RLE, Block and Quad tree encoding
   c. Relational and Network data structure
   d. None of the above

5. In raster GIS data structure, RLE stands for
   a. Ratio Level Entry
   b. Radial Level Encoding
   c. Run Length Encoding
   d. Root Level Encoding.

6. In order to establish linkage between spatial and non – spatial data, the important requirement is to provide
   a. Universal Index
   b. Unique identifier
   c. Union identity
   d. Uniform index

7. Long and linear error polygons derived out of either digitizing the same feature multiple times or while integration or layers having boundaries of same area from multiple source in GIS are known as
   a. Silver polygons
   b. Slender polygons
   c. Slivers
   d. Single polygons

8. The types of errors in spatial data that can be located and displayed by applying topological rules in GIS software are:
   a. Overshoot and undershoot errors
   b. Missing labels
   c. Errors derived out of multiple digitization of the same features
   d. All of the above

9. Full form of the acronym CCD is
   a. Cyclically Coupled Device
   b. Constantly Comparable Device
   c. Centrally Charged Device
   d. Charge coupled Device

10. A set of two continuous aerial photograph, having 60% overlap area is known as
    a. Aerial photo sets
    b. Stereo pair
    c. Stereo triplet
    d. Aerial photographs

Part – B 5 x 6 = 30

Answer the following

Answer should not exceed 400 words or two pages

11.a. Write a short note on advantages of GIS over the conventional map making methods.

(Or)

11.b. Discuss in brief on the types of data that can be handled in GIS.

12.a. Brief on the Hierarchical files and discuss the advantages and disadvantages.

(Or)

12.b. Give a short note on the logical database modeling.

13.a. Write a short note on the conversion of spatial data in GIS.

(Or)

13.b. Discuss shortly about the method of entering non – spatial data in GIS.

14.a. Brief about the methods of correcting errors in GIS.

(Or)

14.b. Discuss shortly on the methods of data quality assurance and validation.

15.a.Describe shortly on components of aerial cameras.

(Or)

15.b. Write about the working principle and data collection methods of CCD Camera.

Part – C 5 x 12 = 60

Answer the following

Answer should not exceed 800 words or four pages

16.a. Write an essay on the various applications of GIS.

(Or)

16.b. Explain in detail about the various elements of GIS.

17.a. Compare the Raster and Vector GIS systems based on their advantages and disadvantages.

(Or)

17.b. Write an essay on Map projection and their advantages.

18.a. Discuss the types of linkages that could be established with spatial and non – spatial data in GIS with suitable examples.

(Or)

18.b. Give a detailed note on the methods of spatial data entry in GIS.

19.a. Discuss about the various sources of errors in GIS database.

(Or)

19.b. Write an essay on the methods of handling errors in GIS.

20.a. Explain the components of Aerial camera with a simple diagram.

(Or)

20.b. Write an essay on the different classifications of aerial photographs.

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