

GEOSPATIAL TECHNOLOGY (740)

Sample Question Paper

Class XII - 2018-19

Time: 3 Hours

Max. Marks: 60

General Instructions:

1. Question paper is divided into two sections: Section-A and Section- B.
2. **Section–A:**
 - i. Multiple choice question/Fill in the blanks/Direct Questions of 1 mark each. Answer any 10 questions out of the given 12 questions.
 - ii. Very Short Answer of 2 marks each. Answer any 5 questions from the given 7 questions.
 - iii. Short Answer of 3 marks each. Answer any 5 questions from the given 7 questions.
3. **Section–B:** Long/Essay type questions of 5 marks each. Answer any 5 questions from the given 7 questions.
4. All questions of a particular section must be attempted in the correct order.
5. Please check that this question paper contains 33 questions out of which 25 questions are to be attempted.
6. The maximum time allowed is 3 hrs.

SECTION –A

Answer any 10 questions out of the given 12 questions:

1. Which resolution refers to sensing and recording power of the sensor in different bands of EMR? (1)
 - A. Spatial
 - B. Spectral
 - C. Radiometric
 - D. Temporal
2. Which is not a spatial analysis tool? (1)
 - A. TIN
 - B. Buffer
 - C. Merge
 - D. Resolution
3. What is the accuracy of real time kinetic fixed GPS? (1)
 - A. 15m-100m
 - B. 0.5m-5m
 - C. 20cm-1m
 - D. 1cm-5cm
4. Which sensor provide high resolution Pan images? (1)
 - A. Cartosat 2
 - B. LISS- III
 - C. Hyperion
 - D. TIROS

5. Where is Doddahalla watershed located? (1)
 - A. Delhi
 - B. Karnataka
 - C. Bihar
 - D. Maharashtra
6. A person who prepare maps is known as _____. (1)
7. _____ is the first step of supervised classification? (1)
8. _____ global navigation satellite system is developed by European space agency? (1)
9. The first GPS satellite was launched in the year of _____. (1)
10. _____ mapping program was developed by the Harvard School of Design? (1)
11. What is **SiRF**? (1)
12. How many minimum number of satellites are required to calculate 3D positions? (1)

Very Short Questions: (2 marks each).

Answer any 5 questions out of the given 7 questions:

13. What is spatial filtering? (2)
14. Name the two categories of vector data structure? (2)
15. What are the benefits of using GPS technology in surveying? (2)
16. Mention any two advantages of Web GIS. (2)
17. Explain the basic principle of remote sensing (2)
18. What is Digitization? Mention its two methods (2)
19. What is 3D visualization? (2)

Short Questions: (3 marks each).

Answer any 5 questions out of the given 7 questions:

20. What is Lidar ? Explain its types based on physical process. (3)
21. What is supervised image classification? Mention the basic steps of this classification. (3)
22. What is a geographic coordinate system? How is it different from projected coordinate system? (3)
23. What is Topology? Explain the process of building and editing topology (3)
24. How GIS has helped in the flood hazard mapping of Kosi river basin? (3)
25. What is stereo photography? Explain. (3)
26. To know the extent of area affected by a cyclone, which spatial analysis tool will be used? Explain with diagram (3)

SECTION –B

Long/Essay type questions (5 marks each).

Answer any 5 questions out of the given 7 questions:

- 27 What is image classification? Differentiate between the two methods of image classification (5)
- 28 What is a histogram? How histogram stretching and equalization enhances the quality of an image? (5)
- 29 Raster data structure is more suitable for analytical operations. Explain with its advantages and disadvantages (5)
- 30 Use of GIS leads to better decision making in government. Elaborate the statement (5)
- 31 Internal and external security threats are very common for a country in today's world. How can geomatics help in resolving these problems? (5)
- 32 Explain the benefits and applications of satellite images and aerial photographs (5)
- 33 What are map projections? Explain in detail diverse types of projections. (5)