

B.Sc. Semester III (Programme) Examination, 2018-19

ENVIRONMENTAL SCIENCE

Course ID : 31810

Course Code : SPENV/304/SEC-1(T)

Time: 1 Hour

Full Marks: 40

The figures in the margin indicate full marks.

All questions are of equal value.

Instructions to the Examinee

1. The Question-Booklet comprised 40 questions and each question bears 1 (One) mark.
2. Each Question possesses 4 (Four) answer options, examinee must put (•) to mark correct answer in the appropriate box on OMR Sheet.
3. Each correct answer will be credited with 1 (One) mark.
4. No mark will be deducted for incorrect attempts.
5. If an examinee attempts more than 1 (One) option for a question, the attempt will be considered as wrong answer.
6. Only **Blue/Black** ink is to be used for answering questions.

Answer the following questions.

1×40=40

1. Which of the following activities is not remote sensing?
(a) Reading a book (b) Taking a selfie
(c) Writing a paragraph (d) Watching a bird
2. Which of the following satellite is used for remote sensing?
(a) INSAT (b) LANDSAT
(c) IRNSS (d) GPS
3. Remote sensing satellites are primarily
(a) Geosynchronous (b) Equatorial
(c) Sun synchronous (d) Equinoctial
4. Which of the following remote sensing method is a type of active remote sensing?
(a) Radio-wave Sensing (b) Infrared Sensing
(c) Visible Sensing (d) Microwave Sensing
5. Which of the following electromagnetic spectra represents visible band?
(a) 0.4 – 0.7 μm (b) 0.7 μm – 1 mm
(c) 1.3 – 3.0 mm (d) 0.04 – 0.07 μm

6. The principal point in an aerial photograph is
 - (a) the point where the image scale is distorted.
 - (b) the point where the image scale is truly maintained.
 - (c) the point of zero distortion.
 - (d) None of the above
7. How many primary colours are used for FCC preparation?
 - (a) Two
 - (b) Three
 - (c) Four
 - (d) Seven
8. What does NDVI stands for?
 - (a) Normal Development Value Index
 - (b) Normal Difference Value Intensity
 - (c) Normalized Difference Vegetation Index
 - (d) None of these
9. What does LISS stand for?
 - (a) Linear Image of Satellite Sensor
 - (b) Linear Imaging Self Scanning
 - (c) Land Information Satellite Series
 - (d) None of these
10. What is the spatial resolution of IRS-1A Satellite?
 - (a) 62.5 metres
 - (b) 72.5 metres
 - (c) 82.5 metres
 - (d) 92.5 metres
11. GIS data is the correct combination of which of the followings:
 - (a) Point, Line, Polygon
 - (b) Point, Rectangle, Circle
 - (c) Circle, Square, Rectangle
 - (d) None of these
12. Size of the pixel is determined by
 - (a) Spatial resolution
 - (b) Spectral resolution
 - (c) Radiometric resolution
 - (d) Temporal resolution
13. Which of the following is not a GIS software?
 - (a) ARCINFO
 - (b) PHOTOSHOP
 - (c) QGIS
 - (d) ILWIS
14. Which of the following remote sensing technologies use sound?
 - (a) RADAR
 - (b) SONAR
 - (c) LORAN
 - (d) LIDAR
15. Identify the correct sequence of electromagnetic radiation with increasing wavelength:
 - (a) X-ray; Green; Blue; Red
 - (b) Red; Blue; Green; X-ray
 - (c) Blue; Green; Red; X-ray
 - (d) None of these
16. GSLV stands for
 - (a) Geostationary Satellite Launch Vehicle
 - (b) Geographical Satellite Launch Vehicle
 - (c) Geospatial Satellite Launch Vehicle
 - (d) Global Satellite Launch Vehicle
17. National Remote Sensing Centre (NRSC) is situated at
 - (a) Kolkata
 - (b) Mumbai
 - (c) Dehradun
 - (d) Hyderabad

18. The altitude of sun-synchronous satellite is about
(a) 900 km (b) 2000 km
(c) 36000 km (d) 44000 km
19. An active sensor uses
(a) Sun as the source of energy (b) Flash light as the source of energy
(c) Both (a) and (b) above (d) None of these
20. Appearance of sky is blue because of
(a) Mie Scattering (b) Non-selective Scattering
(c) Douglas Scattering (d) Rayleigh Scattering
21. Which of the following organisations of India looks after India's space programmes?
(a) DRDO (b) ISRO
(c) NRSC (d) IIRS
22. The process of registering scanned maps with coordinates in GIS is called
(a) Gereferecing (b) Digitization
(c) Map Composition (d) Map Classification
23. Which satellite was not placed in orbit by the polar satellite launch vehicle?
(a) CARTOSAT (b) IRS-IC
(c) Resourcesat (d) INSAT-IB
24. Which of the following data structures can be applied to prepare Land use Land Cover maps?
(a) Raster (b) Vector
(c) Combination of the two (d) None of these
25. The natural vegetation in an FCC is represented by which of the following colours?
(a) Green (b) Red
(c) Blue (d) Violet
26. The FCC stands for
(a) Favourite Colour Combinations (b) False Code of Colours
(c) False Colour Composites (d) None of these
27. The superimposition of different map layers in GIS is known as
(a) Overlay (b) Band Combination
(c) Band Extraction (d) None of these
28. What does GNSS stand for?
(a) GPS Navigation Satellite System (b) GLONASS Navigation Satellite System
(c) GLOBAL Navigation Satellite System (d) None of these
29. The Indian counterpart of American GPS is
(a) QZSS (b) NAVIC
(c) Beidou (d) Galileo

30. The mean of a distribution is 14 and standard deviation is 5. What is the value of coefficient of variation?
- (a) 60.4 (b) 48.3
(c) 35.7 (d) 27.8
31. Find out the mode from the following list of values:
3, 7, 5, 13, 20, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29
- (a) 39 (b) 23
(c) 12 (d) 20
32. If the first class in a frequency distribution is open ended. Which of the following method is used to calculate the coefficient of skewness?
- (a) Pearson's Mode Measure (b) Pearson's Mean Measure
(c) Bowley's Measure (d) None of these
33. In the regression equation, what does 'b' represent?
- (a) Intercept at y-axis (b) Slope of the line
(c) Curvature of the line (d) None of these
34. Which of the following sampling method is most fundamental?
- (a) Random sampling (b) Systematic sampling
(c) Stratified sampling (d) Cluster sampling
35. The variation of sample mean from one sample to another in same population is known as
- (a) Sampling error (b) Sampling fluctuation
(c) Sampling bias (d) None of these
36. Which of the following is a famous company of GPS receiver?
- (a) Garmin (b) NRSC
(c) DRDO (d) Rolta
37. In a distribution mean and mode are 5 and 8 respectively, what will be the value of median?
- (a) 7 (b) 8
(c) 9 (d) 10
38. What will be the skewness if mean, median and mode are same in a distribution?
- (a) Positive (b) Negative
(c) Zero (d) None of these
39. What percentage of observations would lie within the Mean \pm SD range?
- (a) 57.45% (b) 67.45%
(c) 95.0% (d) 99.0%
40. How many satellites are required to fix a 3D position in GPS?
- (a) 2 (b) 3
(c) 4 (d) 5
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