

PART III

14 – GEO-INFORMATICS

(Answer ALL questions)

41. Chaining along a straight line, the leader of the party has 4 arrows in his hand while the follower has 6 arrows. Distance of the follower from the starting point is
- 4 Chains
 - 5 Chains
 - 6 Chains
 - 10 Chains
42. In a closed traverse ABC, the following readings were taken: If station A is free from local attraction, correct bearing of CB is
- | Line | Fore bearing | Back bearing |
|------|--------------|--------------|
| AB | 19° | 200° |
| BC | 100° | 277° |
| CA | 227° | 49° |
- 280°
 - 279°
 - 276°
 - 277°
43. The following readings were taken on a uniformly sloping ground 0.500m, 1.000m, 1.500m, 2.000m, 1.200m, 1.700m, 2.200m, 2.700m. The difference in elevation between the first and last station is
- 3.000m (fall)
 - 3.000m (rise)
 - 2.200m (fall)
 - 2.200m (rise)
44. The coordinate of A is 100m, 100m. The coordinate of B is 50m, 50m. The bearing of line AB is
- 45°
 - 135°
 - 225°
 - 315°
45. How much time is required by GPS satellites to make one complete revolution around the Earth?
- 12 hours (Standard Time)
 - 12 hours (Solar Mean Time)
 - 12 hours (Solar apparent Time)
 - 12 hours (Sidereal Time)
46. Two straight lines intersect at an angle of 120°. The radius of curve joining the straight lines is 500m. The length of long chord and mid ordinate in metres of the curve are
- 250, 33.493
 - 500, 66.987
 - 866.025, 250
 - 500, 250
47. The star's hour circle coincides with the observer meridian, the star said to be
- Culminate
 - Prime vertical crossing
 - Elongation
 - Nutation
48. The maximum spectral radiant exitance from earth features occurs at a wavelength of
- about 0.7 μm
 - about 1.7 μm
 - about 9.7 μm
 - about 19.7 μm
49. Plant reflectance in the range of 0.7 to 1.3 μm caused generally by the
- water content in the plant
 - cell structure of the plant
 - age of the plant
 - chlorophyll in the plant

50. The orbital period of geo-synchronous satellite is
- one sidereal day
 - one solar day
 - 28 sidereal days
 - 28 solar days
51. $(\text{Green reflectance} - \text{SWIR reflectance}) / (\text{Green reflectance} + \text{SWIR reflectance})$ is known as
- NDSI
 - NDVI
 - EVI
 - GARI
52. The constructive and destructive interference from the multiple scattering returns that occur within each resolution cell is called
- Surface roughness
 - Speckle
 - Volume scattering
 - Facet backscatter
53. The first experimental space borne SAR satellite is named as
- JERS-1
 - ERS-1
 - SEASAT-A
 - RADARSAT-1
54. NISAR can be expanded as
- NASA-ISRO Synthetic Aperture Radar
 - NASA-Indian Synthetic Aperture Radar
 - NASA Interferometric Synthetic Aperture Radar
 - NASA Indian Space Atmospheric Radar
55. End member in hyper spectral remote sensing is known as
- Pure Pixel
 - Mixed Pixel
 - Linear Pixel
 - Non linear pixel
56. Which of the following is not the hyperspectral sensor?
- Hyperion
 - HIRS
 - CHRIS
 - HYDICE
57. Which of the following equipments is used to determine the sensor position in aerial and satellite based LIDAR platforms?
- DIAL
 - LRA
 - IMU
 - Doppler LIDAR
58. The process of extracting information from the image is called as
- Image enhancement
 - Image restoration
 - Image Analysis
 - Image compression
59. When linearly enhancing an image to higher radiometry, the count of unique digital numbers of the image
- Increases
 - Decreases
 - Remain the same
 - Made to 1

60. Which of the following indices is generally used for yield forecast model?
- NDVI
 - SAVI
 - Soil brightness index
 - None of the above
61. Resampling is done to apply correction on a pixel with respect to its
- Value
 - Location
 - Both
 - None of the above
62. Fourier transform operates in which of the following domain?
- Chromaticity Plot
 - Band spectral scatter Plot
 - Frequency spectrum
 - None of the above
63. Mixel refers to
- Combination of two or many pixels
 - Combined value for the same pixel at different bands
 - Combined reflection values from different land cover features
 - Combined reflection atmospheric effect with land cover features
64. Wavelet transform decomposes image into _____ number of components
- 2
 - 1
 - 4
 - 3
65. Which is a colour attribute that describes a pure colour?
- Saturation
 - Hue
 - Brightness
 - Intensity
66. Which of the following is not univariate statistical parameter?
- mean
 - standard deviation
 - variance
 - correlation
67. The truth values of traditional set theory is _____ and that of fuzzy set is _____
- Either 0 or 1, between 0 & 1
 - Between 0 & 1, either 0 or 1
 - Between 0 & 1, between 0 & 1
 - Either 0 or 1, either 0 or 1
68. Aerial photographs were taken with a camera having a 210-mm-square format and a 305mm focal length of the field of view of camera is
- 103° 50'
 - 77° 53'
 - 51° 55'
 - 25° 58'
69. Metric cameras must have
- Low lens distortions
 - Fixed focal length
 - Adjustable focal length
 - Reseau mark
 - Fiducial mark
- 1, 2, 4 and 5
 - 1, 2 and 5
 - 1, 2 and 4
 - 1, 3, 4 and 5

70. A camera equipped with a focal length of 150mm is used to take a vertical photograph from a flying height of 2750m above mean sea level. If the terrain is flat and located at an elevation of 500m above mean sea level. The scale of the photograph will be
- 1: 1500
 - 1: 1833
 - 1: 15000
 - 1: 18330
71. Minimal number of ground control points are required for
- Analogue aerotriangulation
 - Analytical aerotriangulation
 - Automated aerotriangulation
 - GPS aerotriangulation
72. The operator measures the y-parallaxes at six or more points and the ———— relative orientation parameters are computed by least squares adjustment.
- Four
 - Five
 - Six
 - Eight
73. ATM is to be carried out for a strip of 20 aerial photographs with an end lap of 81%. How many number of photographs will have a ground control point that exists in extreme lower right corner of the third photograph?
- 4
 - 5
 - 8
 - 10
74. A square area flat on the surface of the earth with a side of 100 m appears as 100 mm² on a vertical aerial photograph. The topographic map shows that a contour of 750 m passes through the area. If focal length of the camera is 250 mm, the height from which the aerial photograph was taken, is
- 3250m
 - 2500m
 - 1750m
 - 1000m
75. If the height of features like buildings and trees are subtracted from the digital surface model, then the result is known as
- Digital Exterior Model
 - Digital Interior Model
 - Digital Height Model
 - Digital Elevation Model
76. Which of the following statements are relevant to Digital photogrammetry workstation?
- The ability to store, manage, and manipulate very large image files
 - The ability to perform computationally demanding image processing tasks
 - To provide smooth roaming across entire image files and supporting zooming at various resolutions
 - Scanning facility
- i and ii
 - i and iv
 - i, ii and iii
 - i, ii and iv
77. What is the travel time for laser pulse to reach an object with an elevation of 210m, when the flying height is 510m?
- 2000 second
 - 2000 millisecond
 - 2000 microsecond
 - 2000 nanosecond

78. An imaginary line drawn on a map joining places with the same rainfall is called
- Isohyet
 - Isotherm
 - Isobars
 - Isopleth
79. Universal Transverse Mercator projection is
- Conical projection
 - Cylindrical projection
 - Zenithal projection
 - Planner projection
80. What will be the ground distance, if map distance on 1 : 50,000 Scale map is measured as 5cm?
- 0.5 km
 - 2.5 km
 - 50 m
 - 25 m
81. Projection most commonly used for mapping polar regions is
- Azimuthal
 - Conic
 - Oblique
 - Cylindrical
82. Which of the following model is users Perception of Real World?
- Logical model
 - Conceptual model
 - Physical model
 - Network model
83. A global mean sea level model used as reference surface for elevation is known as
- Datum
 - Ellipsoid
 - Geoid
 - Sphere
84. Which one of the following is not a primary color in color wheel?
- Red
 - Green
 - Yellow
 - Blue
85. What is meta data?
- Data about data
 - Meteorology data
 - Contour data
 - Metamorphic data
86. Local operations can be applied on
- Single raster only
 - Multiple raster only
 - Single and multiple raster
 - Vector
87. In OGC standards, OGC means
- Other Geoapatial consortium
 - Open GIS Committee
 - Open Geological Committee
 - Open Geospatial Consortium
88. The third dimension used in GIS represents
- Latitude
 - Altitude
 - Magnitude
 - Longitude
89. Which kind of data is mostly used in GIS?
- Numerical data
 - Binary data
 - Spatial data
 - Boolean data

90. The abbreviation of TIN is
- Triangulated Irregular Network
 - Temporal Information Network
 - Traffic Internet Network
 - Temperature Irregular Node
91. Which of the following is not a topological error?
- A gap between polygons
 - Overlapped polygon
 - Unclosed polygon
 - Sliver polygon
92. Which of the following scale has absolute zero?
- Nominal Scale
 - Ratio scale
 - Interval scale
 - Ordinal scale
93. Land cover in remote sensing corresponds to
- physical condition of ground surface
 - physical condition of vegetation
 - topography of the ground surface
 - soil cover on land
94. SAR data is suitable for assessing the
- health of crop
 - crop type
 - phenology of crop
 - moisture content of the crop
95. Barren rock will have NDVI of
- 0.1 or less
 - 0.4 or less
 - 0.1 or more
 - 0.4 or more
96. Which of the following imagery can facilitate delineation and identification of local reliefs?
- Ortho imagery
 - Stereo imagery
 - PAN imagery
 - Geocoded imagery
97. Identification and geo-location of anthropogenic features in x-y plane is called as
- Anthrometry
 - Geo-anthrometry
 - Planimetry
 - Geo-planimetry
98. The spatial resolution of imagery recommended for assessing the damages of cultural features due to flood disaster is
- 20 m
 - 30 m
 - 60 m
 - 90 m
99. Which of the following satellite data is useful for ocean monitoring?
- Sentinel – 1A
 - Sentinel – 2B
 - Sentinel – 3
 - Sentinel – 5R
100. Satellite remote sensor captures the sea surface temperature upto a depth of
- 10 micron
 - 50 micron
 - 100 micron
 - 150 micron