

1. The most ideal conditions for chemical weathering are found in:
A) Hot and dry regions B) Cold and dry regions
C) Hot and humid regions D) Cold and humid regions
2. Which among the following is not a greenhouse gas?
A) Carbon dioxide B) Methane
C) Nitrous Oxide D) Hydrogen
3. The belief that variations in human behavior around the world can be explained by differences in natural environment is known as:
A) Determinism B) Possibilism
C) Environmental determinism D) Darwinism
4. The process by which ice and snow are lost from glaciers is known as:
A) Ablation B) Abrasion
C) Accretion D) Aggradation
5. Which among the following factors determine the salinity of oceans?
 1. Evaporation of surface water
 2. Rivers bring huge amount of mineral salts dissolved in water
 3. Precipitation over oceans
 4. Rotation of the EarthA) 1 & 4 only B) 2 & 3 only C) 1, 2 & 3 only D) 1 only
6. The term 'Biodiversity Hotspot' was coined by:
A) Norman Myres B) H. Robinson
C) Michel Allaby D) Peter Calow
7. The Kharif crop season of India is between the months of:
A) October – November B) July – October
C) March – June D) February – May
8. Which among the following is not an urban development programme?
A) IADP B) AMRUT C) HRIDAY D) JNNURM
9. The latitudinal extent of Indira Point is:
A) $8^{\circ} 4' N$ B) $4^{\circ} 8' N$ C) $3^{\circ} 5' S$ D) $6^{\circ} 45' N$
10. Panchromatic aerial photograph is a:
A) False colour photograph B) True colour photograph
C) Infrared photograph D) Black and white photograph

11. Following table shows some of the well known geographers and their countries. Match them correctly

Geographer	Country
a. Carl Ritter	1. France
b. Vidal de la Blache	2. USA
c. Griffith Taylor	3. Germany
d. Ellen Churchill Semple	4. Australia

- A) a-3, b-1, c-4, d-2 B) a-2, b-3, c-4, d-1
 C) a-4, b-2, c-3, d-1 D) a-1, b-4, c-2, d-3
12. The view point that 'man is responsible for his own nature' is known as:
 A) Pragmatism B) Positivism
 C) Existentialism D) Idealism
13. The width of the area on the surface of the Earth which is imaged by a satellite sensor is known as:
 A) Nadir B) Zenith C) Swath D) Apogee
14. DBMS module in a GIS software helps in:
 A) Conversion of analogue data to digital data
 B) Analysis of point data
 C) Organization and retrieval of data
 D) Analysis of polygon data
15. The ocean current responsible for the parched climate of Kalahari and Namib Deserts is:
 A) Labrador Current B) Gulf Stream
 C) Benguela Current D) Canaries Current
16. Which among the following cities is popularly known as 'Cottonopolis of India'?
 A) Ahmadabad B) Coimbatore C) Surat D) Mumbai
17. The first Five Year Plan in India was between:
 A) 1947-1952 B) 1951-1956 C) 1952-1957 D) 1961-1966
18. Which among the following is not an example of 'Autotrophs'?
 A) Banyan tree B) Mango tree C) Green algae D) Sambar Deer
19. Intensive subsistence farming is practiced in
 A) Western USA & Canada B) Eastern Europe & Mexico
 C) South & South-East Asia D) Australia & Newzealand

Answer the questions 20-23 based on the directions given below:

Following questions consist of two statements, one labeled Assertion (A) and the other labeled Reason (R). Examine these two statements carefully and choose the correct explanation from the codes given

20. **Assertion (A)** : Kerala has high sex ratio
Reason (R) : In migration of female population is more in Kerala
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
21. **Assertion (A)** : Friedrich Ratzel in his book ‘Anthropogeography’ highlighted that history, culture and gamut of life are largely influenced by the physical environment
Reason (R) : Ratzel was a proponent of Determinism
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
22. **Assertion (A)** : Himalayan Rivers are examples of Consequent Drainage
Reason (R) : Himalayan Rivers flow through gorges that have been carved out by down cutting and side by side with uplift of Himalayas
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
23. **Assertion (A)** : Cirrostratus clouds generally produce halo
Reason (R) : Cirrostratus clouds have whitish veil of fibrous or smooth appearance and they often cover whole sky
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
24. A Rift Valley is found along:
 A) Divergent plate boundaries B) Convergent plate boundaries
 C) Transform plate boundaries D) Upper course of a river
25. The National Highway 66 connects:
 A) Kanyakumari and Bengaluru B) Panvel and Kanyakumari
 C) Kanyakumari and Chennai D) Mumbai and Pune
26. Which among the following years is referred to as a ‘Demographic Divide’ when the whole country recorded a negative growth rate during the previous decade
 A) 1931 B) 1961 C) 1911 D) 1921

27. The following table shows some of the remote sensing satellites and sensors used in them. Match them correctly.

SATELLITES	SENSORS
a) LANDSAT -7	1. AWiFS
b) SPOT- 3	2. ETM+
c) RESOURCESAT -2	3. Geotone 1
d) Resurs DK-1	4. HRVIR

- A) a-4, b-3, c-2, d-1 B) a-3, b-1, c-4, d-2
 C) a-2, b-4, c-1, d-3 D) a-1, b-4, c-3, d-2
28. The type of analysis used in GIS to identify the area of interest around an entity or set of entities is known as
 A) Buffering B) Overlay C) Networking D) Querying
29. Which among the following statements are true with regard to trellis pattern of drainage?
 1. Main stream is like the trunk of a tree and tributaries are like branches
 2. Ridges are arranged around the margins of domes and the drainage become curved
 3. Streams flow on all sides like spokes of a wheel
 4. Consequent, subsequent and obsequent streams take up a rectangular pattern
 A) Only 4 is true B) 2 & 3 are true C) 1 & 2 are true D) 1 & 3 are true
30. Oozes are examples of:
 A) Terrigenous deposits B) Pelagic deposits
 C) Fluvial deposits D) Glacial deposits
31. A map shows the distribution of rice growing areas of India. To which of the following approaches that this can be attributed to?
 A) Systematic Approach B) Behavioral Approach
 C) Environmental Approach D) Political Economy Approach
32. Which among the following is not a component of Green Revolution?
 A) Intensive Agricultural Development Programme
 B) High Yielding Varieties Programme
 C) Command Area Development Programme
 D) Organic Fertilizer Programme
33. Wavelength of near infrared spectrum of electromagnetic radiation is:
 A) 0.7-1.3 μm B) 0.4-0.7 μm C) 0.001-0.4 μm D) 1-10 mm
34. Four most populous countries in the world after China and India, are given below. Arrange them in descending order
 1. Pakistan 2. USA 3. Indonesia 4. Brazil
 A) 1,3,4,2 B) 2,3,4,1 C) 4,2,1,3 D) 3,2,1,4

35. Which among the following statements is not true with regard to Green Revolution in India?
- A) Resulted in increase in food grain production
 B) Resulted in large scale farm mechanization
 C) Brought about basic change in the attitude of farmers towards farming
 D) Its impact could be seen throughout the country
36. Among the countries given below, which one has an expansive population pyramid?
- A) USA B) Britain C) India D) Germany
37. The concept of Growth Pole was put forwarded by:
- A) Griffith Taylor B) Peter Haggett
 C) M.Chisholm D) Francois Perroux
38. Which among the following statements are true with regard to Rourkela Steel Plant of Hindustan Steel Ltd?
1. Established with help of then West Germany
 2. Hydroelectricity is obtained from Damodar Valley Project
 3. Utilizes Chennai Port for import and export
 4. Sundargarh and Keonjhar supplies iron ore to this plant
- A) 1 & 2 are true B) 2 & 3 are true C) 2 & 4 are true D) 1 & 4 are true
39. Most densely populated district in Kerala as per 2011 Census is:
- A) Malappuram B) Kozhikode
 C) Ernakulam D) Thiruvananthapuram
40. A map projection which maintains the same scale in both directions along the parallels and meridians when they intersect at right angles is called:
- A) Homolographic Projection B) Orthomorphic Projection
 C) Ortho Projection D) Stereoscopic Projection
41. The system of aerial photography which is an assembly of one vertical and two oblique left and right photographs taken simultaneously is known as
- A) Multi lens photography B) Trimetrogon Photography
 C) Convergent Photography D) Strip Photography

Answer the questions 42- 44 based on the directions given below:

Following questions consist of two statements, one labeled Assertion (A) and the other labeled Reason (R). Examine these two statements carefully and choose the correct explanation from the codes given

42. **Assertion (A)** : Water appears as dark colour in a FCC
Reason (R) : Water absorbs most of the energy except in the blue-green portion of the visible Spectrum
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true

43. **Assertion (A)** : Soil appears in yellow tone in a FCC
Reason (R) : Some of the factors affecting the soil reflectance are moisture content, soil texture, presence of iron oxide and organic matter
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
44. **Assertion (A)** : Vegetation appears as green in FCC
Reason (R) : Vegetation reflects 40-50 % of infrared energy
- A) A & R are true and R is the correct explanation of A
 B) A & R are true and R is not the correct explanation of A
 C) A is true but R is false
 D) A is false but R is true
45. Which among the following is a warm current?
 A) Labrador Current B) Benguela Current
 C) Canary Current D) Gulf Stream
46. Which of the following landforms do the Guyots belong to?
 A) Fluvial landform B) Submarine landform
 C) Aeolian land form D) Karst landform
47. Lines joining places having equal transportation costs are called
 A) Isohaline B) Isotims C) Isodopanes D) Isohytes
48. The term 'Crude' in Crude Birth Rate and Crude Death Rate refers to:
 A) Birth rate and Death rate cannot be calculated correctly
 B) They are calculated without regard to male female composition of the Population
 C) Infant mortality is calculated separately from the total death rate
 D) Fertility rate is calculated separately from the whole birth rate
49. The theory that 'Human population grows geometrically while the food supply grows arithmetically' is put forwarded by
 A) Karl Marx B) David Ricardo
 C) Thomas Malthus D) C.P. Lo
50. The concept of Distance Decay is associated with
 A) Concentric Ring Model B) Central Place Model
 C) Multiple Nuclei Model D) Gravity Model
51. Sector Theory of urban morphology was proposed by:
 A) H. Hoyt & M. R. Davis B) E. L. Ullaman & C. D. Harris
 C) E. W. Burgess D) W. J. Reilly

69. Following are some of the characteristics of Advection Fog. Identify the correct ones.
1. It is formed when relatively warm air mass moves into a region which is comparatively colder
 2. Generally common on sea coasts where there are no strong winds
 3. Commonly found along the Grand Banks of Canada and Newfoundland
 4. It may also occur over land when warm air blows over frozen or snow-covered ground.

- A) 1 & 2 are correct B) 2 & 4 are correct
 C) Only 3 is correct D) 1, 2, 3 & 4 are correct

70. Manas National Park is located in:
 A) Manipur B) Tripura C) Assam D) Karnataka

71. Following table shows major industrial regions of the world and major urban centers in them. Correctly match them:

Industrial Region	Urban Center
a. New England Region	1. Manchester
b. Prairies Region	2. Massachusetts
c. Lancashire Region	3. Dusseldorf
d. Rhine Region	4. Alberta

- A) a-4, b-1, c-3, d-2 B) a-2, b-4, c-1, d-3
 C) a-3, b-2, c-4, d-1 D) a-1, b-3, c-2, d-4

72. As per the Nine Fold Land use classification followed in India the land use class 'Current Fallow' indicates
- A) All lands available for cultivation whether or not taken up for cultivation or taken up for once but not cultivated currently
 - B) All lands which are taken up for cultivation but temporarily out of cultivation for a period of less than a year but not more than 5 years
 - C) Comprises cropped area which are kept fallow during the current year
 - D) Land which cannot be brought under cultivation

73. Major peaks of Himalayas are listed below. Arrange them in west-east sequence
 1. Mt. Everest 2. Mt. Namcha Barwa 3. Mt. Nanga Parbat 4. Mt. Kanchenjunga

- A) 2, 4, 3, 1 B) 3, 1, 4, 2 C) 1, 3, 2, 4 D) 4, 2, 1, 3

74. What percentage of overlap of adjacent photographs is required to get a Stereo Vision?
 A) 60% B) 10% C) 25% D) 45%

75. The orbital altitude of geostationary satellites would be around:
 A) 36,000 km B) 3600 km C) 360 km D) 10,000 km

76. Which among the following is not a spatial entity?
 A) Boundary of a forest area
 B) A road passing through the forest area
 C) Description about the forest area
 D) Location of an office building in the forest area
77. Reasons for the predominance of tank irrigation in Peninsular India is given below. Choose the correct ones.
 1. Construction of canals and digging of wells is difficult because of undulating relief and hard rocks.
 2. Most of the rivers are seasonal and hence cannot supply water throughout the year.
 3. Lack of political will and red tapeism
 4. Most of the tanks are natural and hence do not involve heavy costs for the construction
 A) 1 & 2 are correct B) 2, 3 & 4 are correct
 C) 1 & 4 are correct D) 1, 2 & 4 are correct
78. Which among the following is not an open source GIS software?
 A) QGIS B) GRASS
 C) gvSIG D) AutoCAD MAP
79. Following table shows some authors and their books. Match them correctly

AUTHORS	BOOKS
a. Von Thunen	1. Perspectives On The Nature of Geography
b. L. D. Stamp	2. Innovation Diffusion As A Spatial Process
c. Hartshone	3. Isolated State
d. Hagerstrand	4. The Land of Britain: Its Use And Misuse

- A) a-4, b-1, c-3, d-2 B) a-3, b-4, c-1, d-2
 C) a-2, b-3, c-1, d-4 D) a-1, b-3, c-4, d-2
80. Shevroy Hills are located in:
 A) Karnataka B) Tamil Nadu
 C) Madhya Pradesh D) Orissa
81. As per Thornthwait's Climatic Classification, majority of India belong to which type of climate:
 A) Humid B) Per-Humid C) Sub-Humid D) Semi-Arid
82. Most useful form of representation of scale on a map is:
 A) RF B) Statement Scale
 C) Graphical Scale D) No scale

83. How many satellites are there in a constellation of GPS Satellites?
 A) 24 B) 16 C) 20 D) 5
84. Name of the Indian navigation satellite system is:
 A) IRS-1D B) GLONASS C) GALILEO D) IRNSS
85. Given below are the characteristics of 'eye' of a cyclone. Identify the correct ones.
 1. Wind speed often reaches 200-300 kms
 2. Calm area with light winds with clear or partly cloudy skies
 3. Area of lowest pressure within the system
 4. Warmer than surrounding areas
 A) 1 & 3 only are correct B) 2 & 4 only are correct
 C) 2, 3 & 4 only are correct D) Only 1 is correct
86. Plutonic rocks are:
 A) Intrusive igneous rocks B) Extrusive igneous rocks
 C) Sedimentary rocks D) Metamorphic rocks
87. The warm dry wind that blows on the eastern slopes of Rockies and often result in sudden and drastic rise in temperature is
 A) Bora B) Fohn C) Harmattan D) Chinook
88. The term 'Human Ecology' was coined by:
 A) R. E. Dickinson B) Lucier Febvre
 C) Harlan Barrows D) E. Huntington
89. The range electromagnetic radiation spectrum that a remote sensing sensor capable of recording is known as:
 A) Spatial Resolution B) Spectral Resolution
 C) Radiometric Resolution D) Satellite Resolution
90. Boreal Biomes are found in:
 A) Canada B) Tropical Africa
 C) Antarctica D) South America
91. At what time of the day is the intensity of insolation maximum?
 A) At noon B) One hour after noon
 C) One hour after sun rise D) One hour before noon
92. Polar fronts usually occur around:
 A) 60° N & S of the equator B) $77\frac{1}{2}^{\circ}$ N & S of the equator
 C) At the Poles D) 45° N & S of the equator
93. Most widely spread forest type in India is:
 A) Tropical Wet Evergreen B) Tropical Moist Deciduous
 C) Tropical dry Deciduous D) Tropical Semi-Evergreen
94. Which type of soil is popularly known as 'regur'?
 A) Laterite soil B) Red soil C) Black soil D) Alluvial soil

95. The largest producer of rice in India is:
 A) Andhra Pradesh B) Orissa
 C) West Bengal D) Tamil Nadu
96. Following are some statements regarding supervised image classification of digital satellite images. Identify the wrong statements
1. The image processing software examines the data and breaks it into most prevalent classes
 2. Software delineates specific classes based on statistical characteristics drawn from examples in the image
 3. May involve developing characteristics as simple as mean or range of reflection on individual band or detailed analysis of the mean, variance and co-variance of all bands
 4. Require no advance information about the classes of interest.
- A) 1 & 4 are wrong B) 2 & 4 are wrong
 C) 1, 3 & 4 are wrong D) 1 & 3 are wrong
97. The term used in GIS to describe the geometric characters of objects which do not change under transformation and are independent of any co-ordinate systems and scale, is:
 A) Adjacency B) Containment C) Connectivity D) Topology
98. Which among the following is an example of landform of Second Order?
 A) V-Shaped Valley B) Cirque
 C) Continent D) Mountain
99. The term 'orogenesis' refers to:
 A) Sea-floor spreading B) Mountain building movements
 C) Diastrophic movements D) Continent building movements
100. The epicenter of an earthquake is:
 A) Place where maximum destruction happens
 B) Place within the surface of the earth where the disturbance started
 C) Place immediately above the focus on the surface of the earth
 D) Place where S waves cannot reach
101. The largest number of population that an environment can support is known as:
 A) Climax B) Trophic Level
 C) Optimum Population D) Carrying Capacity
102. Name the plain which is formed when a river reaches its base level:
 A) Pediplain B) Peneplain
 C) Cuestiform Plain D) Alluvial Plain
103. Which among the following is an active remote sensor?
 A) LISS IV B) MSS+ C) PAN D) LiDAR
104. 'Run length encoding' is a:
 A) Vector data compaction method
 B) Attribute data compaction method

- C) Raster data compaction method
- D) Population data compaction method

105. Which among the following statements are true with regard to Von Thunen's agricultural model?
1. Setting of the city in broad featureless plain that was equal everywhere in fertility and in which the ease of movement was the same everywhere so that production and transport costs were same everywhere.
 2. There are number of small cities that serve as market centers
 3. The transport of farm produce by the farmer himself who travelled to the central market along a close dense trail of converging roads of equal quality at cost directly proportional to the distance travelled
 4. There existed an isolated state cutoff from the rest of the world
- A) 1, 2 & 4 are true
 - B) 1, 3 & 4 are true
 - C) 2 & 3 are true
 - D) Only 2 is true

106. The soil which is rich in organic matter is:
- A) Peaty soil
 - B) Black soil
 - C) Laterite soil
 - D) Saline soil

107. Following table shows some of the dams of India and the rivers across which they are built. Match them correctly

DAMS	RIVERS
a. Maithon Dam	1. Sutlej
b. Nangal Dam	2. Chambal
c. Hirakud Dam	3. Barakar
d. Gandhisagar Dam	4. Mahanadi

- A) a-3, b-1, c-4, d-2
 - B) a-2, b-3, c-4, d-1
 - C) a-4, b-2, c-3, d-1
 - D) a-1, b-4, c-2, d-3
108. Which among the following crops is not millet?
- A) Bajra
 - B) Jowar
 - C) Kutki
 - D) Wheat
109. Sugarcane is not a major crop in:
- A) Chhattisgarh
 - B) Uttaranchal
 - C) Karnataka
 - D) Tamil Nadu
110. Keonjhar iron ore deposits are located in:
- A) Madhya Pradesh
 - B) Chhattisgarh
 - C) Goa
 - D) Orissa
111. Which among the following are data sources for Digital Terrain Models?
1. Toposheets
 2. Aerial photographs
 3. Census Tables
 4. Satellite images
- A) 1 only
 - B) 1 & 2 only
 - C) 3 only
 - D) 1, 2 & 4 only
112. Monadnocks are:
- A) Fold mountains
 - B) Relict mountains
 - C) Block mountains
 - D) Dome mountains

113. Following table shows mean monthly temperature and monthly total rainfall of station. Identify the climatic type of the station

	J	F	M	A	M	J	J	A	S	O	N	D
Temp in ⁰ C	25.9	26.8	27.9	28.3	28.2	26.4	26.0	26.0	26.4	26.5	26	25.7
Rainfall in mm	24	25	41	119	197	319	215	150	169	259	194	32

- A) Monsoon Climate B) Mediterranean Climate
 C) Tropical Savannah Climate D) Marine West Coast Climate
114. Outwash plain is a:
 A) Fluvial landform B) Aeolian landform
 C) Coastal landform D) Glacial landform
115. The earth reaches its aphelion in the month of:
 A) January B) October C) July D) December
116. The grasslands of South America are known as:
 A) Prairies B) Steppes C) Velds D) Pampas
117. Which among the following towns is an example of ancient town?
 A) Delhi B) Chennai C) Varanasi D) Lucknow
118. Queries to a GIS about the attribute features an entity represented in it is termed as:
 A) Spatial Query B) Specific Query
 C) Aspatial Query D) General Query
119. Which among the following is not a vector file format?
 A) .tiff B) .shp C) .osm D) .dng
120. Expansion of the word RDBMS is:
 A) Rational Data Base Management System
 B) Rural Data Base Management System
 C) Regular Data Base Management System
 D) Relational Data Base Management System