

12th Geography Lesson 6 Questions in English

6] Geoinformatics

1. Which among the following is the Global Navigation Satellite System of India?

- a) IRNSS
- b) GPS
- c) IPES
- d) QZSS

2. Which among the following is not the major component of Geoinformatics?

- a) Remote Sensing
- b) GIS
- c) GSS
- d) GNSS

3. Which is an integrated discipline encompassing some branches of arts, science and technology of collecting information about the terrestrial objects using camera and sensor system?

- a) Geography Information System
- b) Global Navigation Satellite System
- c) Remote Sensing
- d) Global Positioning System

4. Which among the following is not the Elements of Remote Sensing?

- a) Energy Source
- b) Interaction with Source
- c) Interpretation and Analysis
- d) Recording of energy by the sensor

5. Which among the following statement is correct?

- 1) The primary requirement for remote sensing is to have an energy service, which provides electromagnetic energy to the target of interest. The sun being a major source of energy, radiation and illumination having a sharp power allows capturing reflected light with conventional cameras and films.
- 2) The energy is required to reflect the target. This energy is in the form of radioactive energy. Radioactive energy is a dynamic form of energy

that propagates as wave motion at a velocity in space.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

6. Which among the following statement is correct?

1) The interaction of Electromagnetic radiation with the target is important to remote sensing for two main reasons. First, information carried by electromagnetic radiation reflected by the earth's surface is modified while traversing through the atmosphere.

2) Second, the interaction of electromagnetic radiation with the atmosphere can be used to obtain useful information about the atmosphere itself. The total energy is subjected to modification by the several physical processes, absorption, scattering and refraction.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

7. Which is the re-direction of electromagnetic radiation by particles suspended in the atmosphere or by large molecules of atmospheric gases?

- a) Absorption
- b) Scattering
- c) Transportation
- d) Refraction

8. Which was used to collect and record the electromagnetic radiation energy after scattered by or emitted from the target?

- a) Mirror
- b) Lens
- c) Sensor
- d) Emitter

9. On the basis of the source of electromagnetic energy, the sensor can be classified into how many ways?

- a) Two
- b) Three
- c) Six
- d) Seven

10. The Image processing methods in the processing station may be grouped into how many functional categories?

- a) Two
- b) Three
- c) Four
- d) Six

11. Which among the following statement is correct?

1) Restoration processes are designed to recognize and compensate for errors, noise and geometric distortion introduced into the data during the scanning transmission and recording processes. The objective is to make the image resemble the original scene. Image restoration is relatively simple because the pixels from each band are processed separately.

2) Enhancement is the modification of an image, to alter its impact on viewer. General enhancement distorts the original digital values; therefore, enhancement is not done until the restoration processes are completed.

3) Image restoration and enhancement process utilize computers to provide corrected and improved images for study by human interpreters. The computer makes no decision in these procedures. The human operator must instruct the computer and must evaluate the significance of the extracted information.

- a) Both 1 and 2
- b) Both 1 and 3
- c) Both 2 and 3
- d) All 1, 2 and 3

12. Which is defined as the act of examining images to identify objects and judge their significance?

- a) Image Personification

b) Inage Interpretation

c) Image Contribution

d) Image Consumption

13. Which among the following statement is correct?

1) On the basis of the sources of electromagnetic energy, the remote sensing can be classified as passive and active remote sensing. In a simple way, we can understand that the passive remote sensing is similar to taking a picture with an ordinary camera where as active remote sensing is analogous to taking picture with camera having built-in flash.

2) On the basis of the energy source, the passive remote sensing generates and uses its own energy to illuminate the target and records the reflected energy whereas the active remote sensing depends on solar radiation to illuminate the target.

3) On the basis of region of spectrum in which they operate, the active remote sensing operates in the microwave region of the electromagnetic spectrum whereas the passive remote sensing operates in the visible and infrared region of the electromagnetic spectrum.

- a) Both 1 and 2
- b) Both 1 and 3
- c) Both 2 and 3
- d) All 1, 2 and 3

14. The wave lengths of the active remote sensing are longer than what?

- a) 1 mm
- b) 2 mm
- c) 4 mm
- d) 3 mm

15. A laser-beam remote sensing system comes under which sensor?

- a) Active sensor
- b) Passive sensor
- c) Both Active and Passive sensor
- d) None

16. Based on the altitude above the earth surface, the Remote sensing platform can be classified into how many types?

- a) Two
- b) Three
- c) Four
- d) Five

17. Which among the following is not the Ground borne platform?

- a) Cranes
- b) Tripods
- c) Towers
- d) Drones

18. Which among the following is use of permanent ground platform?

- a) Monitoring Terrorist activity
- b) Monitoring Atmospheric Phenomenon
- c) Monitoring Neutron Phenomenon
- d) Monitoring radioactive phenomenon

19. Which among the following is not the Air borne platform?

- a) Balloon
- b) Aircraft
- c) Satellite
- d) Drone

20. In which year the first aerial images were acquired with a camera carried aloft by a balloon?

- a) 1859
- b) 1884
- c) 1906
- d) 1912

21. Which among the following statement is correct regarding Drone?

1) Drone is a miniature remotely piloted aircraft. It is designed to fulfil requirements for a low-cost platform, with long endurance, moderate payload capacity and capability to operate without a runway or small runway. Drone includes equipment of photography, infrared detection, radar observation and TV surveillance.

2) It is the only air borne platform that does not use satellite communication link. An onboard computer controls the payload and stores data from different sensors and instruments. The unique disadvantage is that it could not accurately located above the area for which data was required and capable to provide both night and day data.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

22. The first known aerial photograph was taken in 1858 by which photographer?

- a) German photographer
- b) American photographer
- c) French photographer
- d) British photographer

23. In which year the Special aircraft with cameras and sensors on vibration less platforms are traditionally used to acquire aerial photographs and images of land surface features?

- a) 1828
- b) 1855
- c) 1862
- d) 1884

24. Which among the following move in their orbit?

- a) Balloon
- b) Aircraft
- c) Satellite
- d) Drone

25. Which among the following is not the classification of Satellite based on their altitude, orientation and rotation relative to the earth?

- a) Navigation radar satellite
- b) Geostationary satellite
- c) Sun-Synchronous satellite
- d) Spy satellite

26. Geostationary Satellite is an equatorial west to east satellite orbiting the earth at an altitude

of 35000 km, the altitude at which it makes one revolution in how many hours?

- a) 12 hours
- b) 24 hours
- c) 36 hours
- d) 48 hours

27. Geostationary Satellites orbiting in which direction?

- a) West to East
- b) East to West
- c) North to South
- d) South to North

28. Which among the following was the first indigenous, experimental communication satellite?

- a) PRATHAM
- b) APPLE
- c) SARAL
- d) EMISAT

29. When India launches its first geostationary satellite called APPLE?

- a) 1972
- b) 1979
- c) 1984
- d) 1981

30. Which among the following is the only country reached to Mars in its first attempt?

- a) USA
- b) China
- c) Soviet Union
- d) India

31. As seen from earth, polar orbiting satellite is shifting in which direction because the Earth is rotating beneath it?

- a) Eastward
- b) Westward
- c) Northward
- d) Southward

32. Which among the following are not the Polar Orbiting or Sun-Synchronous satellites?

- a) TIROS
- b) HCMM

- c) MIDAS
- d) SKYLAB

33. Which are observational platforms that orbit the Earth in order to image its surface and to record radio signals for military and political purposes?

- a) Intel satellite
- b) Spy satellite
- c) Macro satellite
- d) UFO

34. Which among the following is not the basic type of spy satellite?

- a) The photo reconnaissance systems that take pictures in visible and infrared light
- b) The infrared telescopes designed to detect missile launches
- c) The radars that image nearest planet and moon that cover longer distance
- d) Signals intelligence (SIGINT) satellites (also termed "ferrets"), which are optimised either for characterising ground-based radar systems or for eavesdropping on communications.

35. In which among the following satellite photo reconnaissance and SIGINT functions are combined in single, massive platforms?

- a) U.S. Penthouse series satellites
- b) U.S. Primitive series satellites
- c) U.S. Cognitive series satellites
- d) U.S. keyhole series satellites

36. Which among the following nation is responsible for the greater number of launching spy satellite along with U.S.A?

- a) China
- b) India
- c) Soviet Union
- d) U.K

37. Which among the following is not the U.S. Spy satellite?

- a) Corona
- b) KOSMOS
- c) MIDAS
- d) SAMOS

38. Which among the following is the world's most powerful GEO spy satellite launched in 2015?

- a) Kobalt-M
- b) JPSS-2
- c) RISAT-2
- d) Gaofen-4

39. Which among the following country satellite was Gaofen-4?

- a) India
- b) China
- c) U.S.A
- d) U.K

40. Which among the following is not the application of Remote Sensing?

- a) Agriculture
- b) Forest Management
- c) Transportation
- d) Geology

41. Which among the following statement is correct regarding application of remote sensing?

1) The satellites have ability to image individual fields, regions and countries on a frequent revisit cycle. Customers can receive field-based information including crop identification, crop area determination and crop condition monitoring (health and viability). Satellite data are employed in precision agriculture to manage and monitor farming practices at different levels.

2) The forest - fire, sudden deforestation, encroachment of forest- land are recent challenges to the ecologist. It can be easily identified and curbed with the help of remote sensing satellite pictures.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

42. In which among the following field remote sensing techniques are not used in geology?

- a) Lithology mapping
- b) Inner core exploration
- c) Mineral exploration

d) Structural mapping

43. The measurement of the depth of water in water bodies is known as _____

- a) Bathymetry
- b) Chronometry
- c) Radiometry
- d) Oximetry

44. Which among the following statement is correct?

1) Remote sensing aids in extensive surveys that are made from high altitudes to show the urban development, rural development, mountain areas, deserts, etc which help the Cosmographer. High-resolution satellite cameras located at altitudes of about hundred kilometres can record details as small as a few metres on the surface of the Earth.

2) The radar system is basically used to collect the weather data. It collects meteorological data from unmanned land/ ocean-based Data collection platforms and serves as a communication satellite for rapid exchange of meteorological data among centres and for rapid dissemination of weather forecasts warnings etc, to user agencies

3) Remote sensing information systems also offer interpretation of physical (spatial) data with other socio-economic data, and thereby providing an important linkage in the total planning process and making it more effective and meaningful. Digitization of planning base maps has facilitated updating of base maps wherever changes have taken place in terms of land development etc.

- a) Both 1 and 2
- b) Both 1 and 3
- c) Both 2 and 3
- d) All 1, 2 and 3

45. Which among the following specifically involves the recording of relief or terrain, the three-dimensional quality of the surface, and the identification of specific landforms?

- a) Seismography
- b) Lithography

c) Topography

d) Stylography

46. Which among the following statement is correct?

1) The Geographic information systems have emerged in the past two decades as an essential tool for urban and resource planning and management. It includes the functions of data entry, data display, data management, information retrieval and analysis.

2) While GIS deals with entire geography of the earth including land, ocean and atmosphere, the art, science and technology dealing with the acquisition, storage, processing, production, presentation and dissemination of the earth's information is called the Geostrategies.

3) It is the popular means of studies in recent decades which cater the real and useful information to the field of Geography, Environmental Studies, Town planning, Rural development studies, and Defence and Agricultural promotion.

a) Both 1 and 2

b) Both 1 and 3

c) Both 2 and 3

d) All 1, 2 and 3

47. Match the following generations of with computers correctly

i. First generation – 1. Integrated Circuits

ii. Second generation – 2. Vacuum Tubes

iii. Third generation – 3. Microprocessors

iv. Fourth generation – 4. Transistors

v. Fifth generation – 5. Artificial Intelligence

a) 2 – 4 – 1 – 3 – 5

b) 2 – 3 – 1 – 5 – 4

c) 1 – 4 – 2 – 3 – 5

d) 1 – 3 – 5 – 2 – 4

48. The components of GIS can be broadly classified into how many types?

a) Two

b) Three

c) Five

d) Six

49. Which among the following statement is incorrect?

1) Hardware is Computer on which GIS software runs. Nowadays there are a different range of computer, it might be Desktop or server based. ArcGIS Server is server-based computer where GIS software runs on network computer or cloud based.

2) For computer to perform well all hardware components must have high capacity. Some of the hardware components are: Motherboard, Hard drive, processor, graphics card, printer and so on. These all component function together to run GIS software smoothly

a) Only 1

b) Only 2

c) Both 1 and 2

d) None

50. Which among the following is not the Geographic Information System (GIS) software?

a) Arc Gis

b) Arc View

c) SAGA GIS

d) QGCS

51. Which among the following is not the classification of Data in Geographic Information System (GIS)?

a) Attribute data

b) Portal data

c) Remote sensing data

d) Global data base

52. Which among the following statement is correct?

1) Methods here refer to well-defined, consistent procedures that are required to produce accurate, reproducible result. A neatly conceived implementation plan and business rules are the models and operating practices are unique to each organization.

2) There is no need to integrate the sophisticated tool through bringing out well-defined procedures in well documented form into the entire business strategy and operation to make the technology effective. Meta data i.e.,

(data about the data) is the key for documenting these processes.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

53. Which among the following is not the function of GIS?

- a) Data Capture
- b) Data Storage
- c) Port Automation
- d) Query and Analysis

54. Which among the following simplifies map data into sets of points, lines or cells that can be stored in the GIS computer?

- a) Manipulation
- b) Digitalization
- c) Query
- d) Analysis

55. Which among the following statement is incorrect?

1) Some data is stored such as a map in a drawer, while others, such as digital data, can be as a hardcopy, stored on CD or on your hard drive. Once the data have been digitally compiled, digital map files in the GIS are stored on magnetic or other digital media.

2) Data storage is based on a Generic Data Model that is used to convert digital form into a map data. The two most common types of data models are Raster, Roller and Vector. All three types are used to simplify the data shown on a map into a more basic form that can be easily and efficiently stored in the computer.

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

56. Which among the following statement is correct?

1) The digital geographical data can be edited, this allows for many attributes to be added, edited, or deleted to the specification of the

project. Once data are stored in a GIS, many manipulation options are available to users. These functions are often available in the form of "Toolkits." A toolkit is a set of generic functions that a GIS user can employ to manipulate and analyse geographical data.

2) Toolkits provide processing functions such as data retrieval measuring area and perimeter, overlaying maps, performing map algebra, and reclassifying map data. Data manipulation tools include coordinate change, projections, and edge matching, which allow a GIS to reconcile irregularities between map layers or adjacent map sheets called Tiles.

3) GIS was used widely in decision making process for the new commission districts. We use population data to help establish an equal representation of population to area for each district. The heart of GIS is the analytical capabilities of the system.

- a) Only 2
- b) Both 1 and 2
- c) Both 2 and 3
- d) All 1, 2 and 3

57. Match the following Global Navigation Satellite System with its country

- i. GPS – 1. China
- ii. GLONASS – 2. European Union
- iii. GALILEO – 3. United States
- iv. BEODOU – 4. Japan
- v. QZSS – 5. Russia

- a) 2 – 5 – 3 – 4 – 1
- b) 3 – 2 – 4 – 1 – 5
- c) 2 – 1 – 3 – 4 – 5
- d) 3 – 5 – 2 – 1 – 4

58. Which is the integration of remote sensing, Global Navigation Satellite System and Geographic Information System dealing with spatial information?

- a) Satoinformatics
- b) Geoinformatics
- c) Radioinformatics
- d) System Informatics

59. Which among the following was the first satellite navigation system deployed by the US military in 1960's?
- EMISAT
 - Microsat
 - Astrosat
 - Transit
60. Transit's operations were based on which Effect?
- Blazhko effect
 - Doppler effect
 - Faraday effect
 - Keystone effect
61. Which among the following was the first GNSS system?
- GLONASS
 - GALILEO
 - GPS
 - QZSS
62. GPS uses a constellation of how many satellites?
- 12
 - 24
 - 36
 - 42
63. Which among the following statement is incorrect?
- The premier Soviet military navigation network was to be comprised of Uragan satellites. At the end of the Cold War, the constellation was unclassified under the name GLONASS -- a Russian abbreviation of Global Navigation Satellite System. Global Navigation Satellite System by Russian Aerospace Defence Forces is a space-based satellite navigation system.
 - The life style of GNSS satellites 15-20 years and new satellites are to be launched after a specific time interval in order to fill the gap due to ageing satellites. GLONASS proves very beneficial for Russian territory by 2010. In 2015, restoration of system is improved to enable full global coverage.
- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None
64. Currently providing Initial Services, Galileo is interoperable with which two countries global satellite navigation systems?
- US and Russia
 - US and India
 - US and China
 - China and Japan
65. The Galileo constellation in space will comprise of how many satellites in total?
- 20
 - 30
 - 35
 - 40
66. BeiDou Navigation Satellite System consists of how many separate satellite constellations?
- Two
 - Three
 - Five
 - Six
67. Which year Beidou-3 officially began to provide global services?
- 2012
 - 2014
 - 2016
 - 2018
68. Which among the following statement is correct regarding Japan Aerospace Exploration Agency?
- QZSS is a regional navigation satellite system that provides service to Japan and Oceanic region. QZSS (nickname of Michibiki - meaning to 'path' or 'show the way') QZSS is a Japanese satellite positioning system composed mainly of satellites in Lunar orbits.
 - However, the term "Quasi-Zenith Satellite (QZS)" can refer to both satellites in QZO and geostationary orbits (GEO). For that Reason, the name "QZO satellite" is used when it is necessary to specifically refer to satellites in

QZO. Satellite positioning systems use satellite signals to calculate position information. The QZSS is sometimes called the "Japanese GPS."

- a) Only 1
- b) Only 2
- c) Both 1 and 2
- d) None

69. Which among the following statement is correct regarding Indian Regional Navigational Satellite System?

1) IRNSS is an autonomous regional satellite navigation system being developed by ISRO (Indian Space Research Organization). It is designed to provide geospatial positioning information within the Indian subcontinent.

2) It enables users to map out their location (altitude, longitude and latitude). The objective of developing IRNSS was to cut down India's dependency on foreign navigation satellite systems.

3) It provides location information service to users in India and the region extending for up to 7,500 km from the Indian boundary. This is the primary service area of IRNSS information service to users in India and the region extending up to 7,500 km from Indian boundary.

- a) Both 1 and 2
- b) Both 1 and 3
- c) Both 2 and 3
- d) All 1, 2 and 3

70. Which among the following purpose IRNSS is used for?

- a) Marine navigation
- b) Disaster management
- c) Mobile phone integration
- d) All the above

71. The world's lightest satellite weighing a mere 64 grams, called as _____

- a) Indisat
- b) Srisat
- c) Kalamsat
- d) Bharatsat

72. The tiny Kalamsat was flown by whom on 22 June 2017?

- a) ISRO
- b) NASA
- c) JAXA
- d) SpaceX

73. What was name of the student who designed Kalamsat?

- a) Rifath Sharook
- b) Abdul Hammed
- c) Krishna Kumar
- d) Arun Prasath

74. According to whom Summit is able to achieve 200 peta flops of performance, or 200 quadrillion calculations per second?

- a) Microsoft
- b) SpaceX
- c) IBM
- d) Apple

75. Which among the following are not the applications of GNSS?

- a) Transportation
- b) Machine control
- c) Precious Agriculture
- d) Weather Forecast

76. Which among the following statement is correct regarding GNSS?

1) GNSS technology has been adopted by the consumer market, in an ever-increasing range of products. GNSS receivers are now routinely integrated into smart phones, to support applications that display maps showing the location of and best route to stores and restaurants.

2) In rail transportation, GNSS is used to track the location of locomotives and rail cars, maintenance vehicles and wayside equipment, for display at central monitoring consoles. Knowing the precise location of rail equipment reduces accidents, delays, and operating costs, enhancing safety, track capacity, and customer service.

3) Using GNSS, shipping hubs can improve their operating efficiency by tracking the movement and placement of containers about their yards. Many cranes are equipped with GNSS based steering devices that determine the crane's position and keep it travelling in the desired path, improving accuracy and productivity as well as the safety of operators and workers on the ground.

- a) Both 1 and 2
- b) Both 1 and 3
- c) Both 2 and 3
- d) All 1, 2 and 3