Institute for Excellence in Higher Education, Bhopal, M.P.

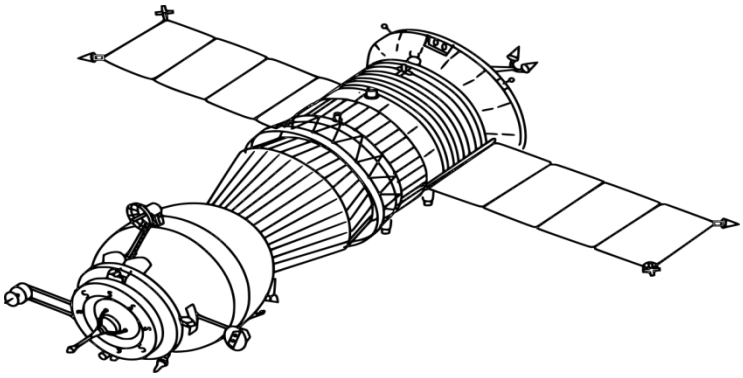
Department of Geography

Question Bank

Session 2023-24

Class - B.A./B.Sc. V sem

Paper - Remote Sensing GIS & GPS



Objectives

This meeting welcomes the elite members to propose questions for the **vocational course - Remote Sensing GIS and GPS** conducted for the students of fifth semester at the Department of Geography, IEHE, Bhopal.

This question bank is created with keeping following objective in view :

To assimilate all important questions that are relevant to the students of the third year studying **Remote Sensing GIS and GPS for their vocational course.**

- This question bank can be used for the student's preparation for an exam.
- The question bank provides a comprehensive knowledge of all types of painting covered in the syllabus.

Department of Geography

Question Bank

B.A./B.Sc. V sem

SEC - Remote Sensing GIS & GPS

Members

Sr. No.	Name & Designation	Signature
1.	Dr. Yogendra Kumar Lodd Academic Coordinator, Madhyanchal Professional University	
2.	Dr. Durgesh Kurmi Assistant Professor in Geography, IEHE, Bhopal	
3.	Mrs. Ankita Yadav Assistant Professor in Geography, IEHE, Bhopal	
4.	Mr. Shivraj Singh Fulltime Parmanent Faculty, IEHE, Bhopal	
5.	Mr. Arunendra Kumar Tripathi Fulltime Parmanent Faculty, IEHE, Bhopal	Arunendra
6.	Mrs. Gurleen Kaur Fulltime Parmanent Faculty, IEHE, Bhopal	Gurleen Kaur
7.	Dr. Milind Baudh Fulltime Parmanent Faculty, IEHE, Bhopal	

Dr. P. K. Agrawal
Patron & Director

Dr. Ruchira Chaudhary
Nodal Officer
Vocational cell, NEP

Dr. Durgesh Kurmi
HOD, Geography

Q.1 Which of the following is an example of passive remote sensing technology?

a) Radar
b) LiDAR
c) Infrared camera
d) Sonar

Answer: c)

Q.2 Which space agency operates the Landsat series of Earth-observing satellites?

a) NASA (National Aeronautics and Space Administration)
b) ESA (European Space Agency)
c) Roscosmos (Russian Federal Space Agency)
d) CNSA (China National Space Administration)

Answer: a)

Q.3 What is one of the primary applications of LiDAR technology in remote sensing?

a) Oceanography
b) Forest fire detection
c) 3D terrain mapping
d) Soil moisture analysis

Answer: c)

Q.4 Which portion of the electromagnetic spectrum is typically used in thermal infrared remote sensing?

a) Visible light
b) Ultraviolet
c) Near-infrared
d) Far-infrared

Answer: d)

Q.5 What type of platform is most suitable for collecting high-resolution imagery of a small, localized area for agricultural monitoring?

a) Geostationary satellite
b) Low Earth orbit satellite
c) Manned aircraft
d) Space shuttle

Answer: c)

Q.6 Which type of sensor is commonly used for capturing images with multiple narrow and contiguous spectral bands, allowing for detailed spectral analysis?

a) Hyperspectral sensor
b) Multispectral sensor
c) Radar sensor
d) Infrared sensor

Answer: a)

Q.7 Spatial resolution in remote sensing refers to:

a) The range of electromagnetic wavelengths captured by a sensor.
b) The ability of a sensor to detect faint signals.
c) The size of the smallest details that can be resolved in an image.
d) The time it takes for a satellite to complete one orbit around the Earth.

Answer: c)

Q.8 Which of the following is NOT a common application of remote sensing technology?

a) Weather forecasting
b) Disaster management
c) Archaeological site discovery
d) Stock market analysis

Answer: d)

Q.9 Which type of satellite orbit allows for continuous coverage of a specific region on the Earth's surface?

a) Polar orbit
b) Geostationary orbit
c) Sun-synchronous orbit
d) Heliocentric orbit

Answer: b)

Q.10 In remote sensing, what term refers to the process of assigning colors to different bands of data to create a visually meaningful image?

a) Radiometric correction
b) Spectral signature
c) False-color composite
d) Calibration

Answer: c)

Q.11 Which remote sensing platform provides the most detailed spatial resolution due to its proximity to Earth's surface?

a) Geostationary satellite
b) Low Earth orbit satellite
c) High-altitude drone
d) Manned aircraft

Answer: d)

Q. 12 What is the standard file format commonly used for storing and sharing remote sensing imagery and data?

a) JPEG
b) PNG
c) TIFF
d) GIF

Answer: c)

Q.13 In multispectral remote sensing, which spectral band is often used to distinguish healthy vegetation from other land cover types?

a) Red
b) Green
c) Blue
d) Infrared

Answer: d)

Q.14 Remote sensing is valuable in agriculture for:

a) Monitoring stock market trends.
b) Detecting underground water reserves.
c) Assessing crop health and yield.
d) Analyzing atmospheric pollution.

Answer: c)

Q.15 What is the term for the process of removing distortions caused by the Earth's atmosphere from remote sensing data?

a) Radiometric calibration
b) Atmospheric correction
c) Geometric transformation
d) Spectral enhancement

Answer: b)

Q. 16 Which type of remote sensing sensor is commonly used for capturing elevation data and creating digital elevation models (DEMs)?

a) Hyperspectral sensor
b) Radar sensor
c) LiDAR sensor
d) Multispectral sensor

Answer: c)

Q. 17 Temporal resolution in remote sensing refers to:

a) The size of the smallest details that can be resolved in an image.
b) The ability of a sensor to detect faint signals.
c) How often a sensor revisits the same area on the Earth's surface.
d) The range of electromagnetic wavelengths captured by a sensor.

Answer: c)

18. Which remote sensing application involves the use of satellite data to monitor and predict weather patterns?

a) Agriculture
b) Archaeology
c) Meteorology
d) Urban planning

Answer: c)

19. In which type of satellite orbit does a satellite pass over different parts of the Earth's surface on each orbit?

a) Polar orbit
b) Geostationary orbit
c) Sun-synchronous orbit
d) Heliocentric orbit

Answer: a)

20. When creating a false-color composite image in remote sensing, which color is typically assigned to healthy vegetation?

a) Red
b) Green
c) Blue
d) Infrared

Answer: d)

21. Which remote sensing platform provides the ability to capture images from a consistent viewpoint over time and is often used for monitoring weather and climate?

a) Geostationary satellite
b) Low Earth orbit satellite
c) High-altitude balloon
d) Autonomous underwater vehicle (AUV)

Answer: a)

22. What is the primary advantage of using the GeoTIFF format for storing remote sensing data?

a) Lossless compression
b) Lossy compression
c) Ability to store 3D data
d) Compatibility with audio files

Answer: a)

23. In remote sensing, which spectral band is often used to detect water bodies due to their unique absorption properties?

a) Red
b) Blue
c) Green
d) Near-infrared

Answer: d)

24. Remote sensing technology is crucial for monitoring the health of coral reefs primarily through the use of which sensor?

a) Radar
b) Hyperspectral
c) Sonar
d) Thermal infrared

Answer: b)

25. What does "NDVI" stand for in remote sensing, a commonly used vegetation index?

a) Normalized Difference Vegetation Index
b) National Data Visualization Interface
c) New Digital Video Integration
d) Neutral Density Value Indicator

Answer: a)

26. Which type of remote sensing sensor is best suited for studying the Earth's surface and atmosphere during nighttime or cloudy conditions?

a) Radar sensor
b) Passive microwave sensor
c) Infrared sensor
d) Hyperspectral sensor

Answer: c)

27. What does "spatial resolution" refer to in remote sensing?

a) The time interval between data acquisitions.
b) The level of detail in the imagery and its ability to distinguish between objects.
c) The range of electromagnetic wavelengths captured by a sensor.
d) The ability of a sensor to detect subtle changes in temperature.

Answer: b)

28. Remote sensing is widely used for monitoring land cover changes. What type of remote sensing data is particularly useful for this purpose?

a) Radar data
b) Hyperspectral data
c) Multispectral data
d) Gravitational data

Answer: c)

29. Which type of satellite orbit allows a satellite to pass over different parts of the Earth's surface at different times of day?

a) Geostationary orbit
b) Polar orbit
c) Sun-synchronous orbit
d) Molniya orbit

Answer: c)

30. In a remotely sensed image, what does the term "false color" typically mean?

a) Colors that do not exist in the real world.
b) Colors that are intentionally manipulated to deceive viewers.

c) Colors that represent different bands of the electromagnetic spectrum.
d) Colors that accurately represent the true colors of the scene.

Answer: c)

31. Which remote sensing platform provides the highest spatial resolution for detailed imaging of small areas but has limited coverage due to its flight path?

a) Geostationary satellite
b) Low Earth orbit satellite
c) Manned aircraft
d) High-altitude balloon

Answer: c)

32. What format is commonly used to store and transmit remote sensing data as a collection of elevation points, often used for terrain modeling?

a) JPEG
b) CSV (Comma-Separated Values)
c) DEM (Digital Elevation Model)
d) AVI (Audio Video Interleave)

Answer: c)

33. In remote sensing, which spectral band is typically used to distinguish between soil and vegetation due to their different reflectance properties?

a) Red
b) Green
c) Blue
d) Near-infrared

Answer: d)

34. What remote sensing technique is particularly useful for assessing the height and structure of forest canopies?

a) Multispectral imaging
b) Thermal imaging
c) Radar remote sensing
d) LiDAR (Light Detection and Ranging)

Answer: d)

35. What is the process of geometrically correcting remote sensing data to remove distortions caused by terrain variations and sensor position?

a) Radiometric correction
b) Atmospheric correction
c) Geometric correction
d) Spectral enhancement

Answer: c)

36. Which type of remote sensing sensor is often used for monitoring ocean currents, sea surface temperature, and marine life distribution?

a) LiDAR sensor
b) Radar sensor
c) Hyperspectral sensor
d) SONAR sensor

Answer: b)

37. What does "temporal resolution" refer to in remote sensing?

a) The level of detail in the imagery.
b) The ability of a sensor to detect faint signals.
c) The time interval between data acquisitions.
d) The range of electromagnetic wavelengths captured by a sensor.

Answer: c)

38. In urban planning, remote sensing can be used for:

a) Monitoring agricultural crops.
b) Tracking wildlife migrations.
c) Assessing land use and land cover changes.
d) Measuring ocean salinity.

Answer: c)

39. Which type of satellite orbit allows for continuous monitoring of a specific region on the Earth's surface, such as tracking severe weather events?

a) Polar orbit
b) Geostationary orbit
c) Sun-synchronous orbit
d) Molniya orbit

Answer: b)

40. In remote sensing, what does a "true-color" image typically represent?

a) Actual colors as seen by the human eye.
b) Colors assigned to different spectral bands.
c) Colors that enhance the visibility of features.
d) Colors used to deceive viewers for artistic purposes.

Answer: a)

41) GIS uses the information from which of the following sources?

a) Non- spatial information system
b) Spatial information system
c) Global information system
d) Position information system

Answer: b)

42) Which of the following formats can be used for GIS output?

a) DXF b) PDF c) GIF d) HTML

Answer: c)

43) In the process of GIS, digitalization is done for better output.

a) True

b) False

Answer: a)

44) Which among the following is not related to GIS software's?

a) CAD
b) Arc GIS
c) Arc View
d) STAAD Pro

Answer: d)

45) Among the following, which do not come under the components of GIS?

a) Hardware
b) Software
c) Compiler
d) Data

Answer: c)

46) Data can be shared in the process of GIS.

a) True
b) False

Answer: b)

47) Which of the following doesn't determine the capability of GIS?

a) Defining a map
b) Representing cartographic feature
c) Retrieving data
d) Transferring data

Answer: d)

48) Which among the following is a server based hardware platform of GIS?

a) QGIS
b) IRDS
c) Arc GIS
d) Google-maps

Answer: d)

49) GIS stands for _____.

a) Geographic Information System
b) Geographic Internal System
c) Global Information System
d) None of the Above

Answer: a)

50) GIS captures and analyses _____ data.

a) Spatial
b) Geographic
c) Both a & b
d) None of the above

Answer: c)

51) GIS applications are _____ tools.

a) Mobile

b) Computer
c) Machinery
d) None of the above

Answer: b)

52) Which of the following parameters using GIS are correlated to represent an earth's physical location?

a) Location
b) Spatial-temporal
c) Extent references
d) All the above

Answer: d)

53) GIS word was coined by_____.

a) Roger Tomlinson
b) Roger James
c) Richard
d) None of the above

Answer: a)

54) Which of the following is a GIS operation?

a) Geodata
b) Geoprocessing
c) Global processing
d) None of the above

Answer: b)

55) Topographic map is also called…

a) Topographic sheet
b) Topographic module
c) Topographic paper
d) None of the above

Answer: a)

56) A computer system for capturing, storing, querying, analyzing, and displaying geographically referenced data.

a) GPS
b) MIS
c) GIS
d) DSS

Answer: c)

57) Remote sensing techniques make use of the properties of _____ emitted, reflected or diffracted by the sensed object.

a) Sound waves
b) Electromagnetic waves
c) Electric waves
d) Wind waves

Answer: b)

58. What is Bhuvan, an initiative by ISRO?

a) A weather forecasting system
b) A satellite launch program
c) A web-based geospatial platform
d) A national highway network

Answer: c)

59. What types of services does Bhuvan provide to its users?

a) Social networking services
b) E-commerce services
c) GIS-enabled services
d) Healthcare services

Answer: c)

60. Which organization is responsible for the development of Bhuvan?

a) NASA (National Aeronautics and Space Administration)

b) ESA (European Space Agency)

c) ISRO (Indian Space Research Organisation)

d) UNICEF (United Nations International Children's Emergency Fund)

Answer: c)

61. What does ISRO stand for?

a) International Satellite Research Organization

b) Indian Space Research Organization

c) International Space Research Organization

d) Indian Satellite Research Organization

Answer: b)

62. What is the primary purpose of ISRO's Earth observation satellites?

a) Studying distant galaxies

b) Monitoring Earth's weather

c) Capturing high-resolution imagery of Earth's surface

d) Communicating with astronauts in space

Answer: c)

63. What does "IRS" stand for in the context of ISRO's satellites?

a) International Remote Sensing
b) Indian Remote Sensing
c) Infrared Radiation Satellite
d) International Radiographic System

Answer: b)

64. Which of the following is NOT an application of ISRO's Earth observation satellites?

a) Agriculture
b) Forestry
c) Urban planning
d) Mars exploratio

Answer: d)

65. What type of imagery do ISRO's Earth observation satellites primarily provide?

a) Low-resolution imagery
b) High-resolution imagery
c) Audio data
d) Infrared imagery

Answer: b)

66. Which ISRO satellite series is specifically designed for cartography and Earth observation?

a) Aryabhata series
b) Chandrayaan series
c) Cartosat series
d) Mars Orbiter Mission series

Answer: c)

67. What are some of the applications of Cartosat series satellites mentioned in the description?

a) Urban planning and disaster management
b) Studying ocean currents and marine life
c) Monitoring space weather
d) Tracking asteroid movements

Answer: a)

68. How do ISRO's Earth observation satellites contribute to agriculture?

a) They provide daily weather forecasts.

b) They help in identifying crop diseases.

c) They monitor soil erosion.

d) They provide high-resolution imagery for crop monitoring.

Answer: d)

69. In which area do ISRO's Earth observation satellites play a vital role during natural disasters?

a) Providing medical assistance

b) Monitoring wildlife migrations

c) Damage assessment and disaster management

d) Space exploration

Answer: c)

70. Which organization is responsible for the development and launch of ISRO's Earth observation satellites?

a) United Nations (UN)
b) Indian Ministry of Agriculture
c) Indian Space Research Organization (ISRO)
d) National Aeronautics and Space Administration (NASA)

Answer: c)

71. What does NRSC stand for?

a) National Research and Space Center
b) National Remote Sensing Center
c) National Resource and Sensing Council
d) National Radar and Space Commission

Answer: b)

72. Which organization is NRSC a part of?

a) United Nations
b) Indian Ministry of Agriculture
c) Indian Space Research Organisation (ISRO)
d) National Aeronautics and Space Administration (NASA)

Answer: c)

73. What is one of the primary responsibilities of NRSC?

a) Studying distant galaxies
b) Monitoring urban traffic
c) Acquisition and processing of remote sensing data
d) Manufacturing satellite launch vehicles

Answer: c)

74. In which sectors has NRSC been actively involved in developing applications and services?

a) Healthcare and entertainment
b) Agriculture, forestry, and urban planning
c) Aviation and sports
d) Oil and gas exploration

Answer: b)

75. How does NRSC contribute to agriculture?

a) By providing cooking recipes
b) By monitoring space weather
c) By offering agricultural insurance policies
d) By providing remote sensing data for crop monitoring and yield estimation

Answer: d)

76. What role does NRSC play in forestry management?

a) It manufactures wood products.
b) It conducts wildlife surveys.
c) It assists in forest conservation and monitoring.
d) It develops smartphone apps for hikers.

Answer: c)

77. In which area does NRSC actively contribute to urban planning?

a) Space exploration
b) Traffic management and disaster recovery
c) Land use and infrastructure development
d) Arts and culture

Answer: c)

78. Which organization oversees the development and launch of India's remote sensing satellites, in collaboration with NRSC?

a) United Nations

b) Indian Ministry of Agriculture

c) Indian Space Research Organisation (ISRO)

d) National Aeronautics and Space Administration (NASA)

Answer: c)

79. What kind of data is processed by NRSC to support its various applications and services?

a) Audio recordings
b) Satellite television signals
c) Remote sensing data, including satellite imagery
d) Medical records

Answer: c)

80. Which of the following is NOT a role of NRSC?

a) Disaster management and response
b) Geological surveying
c) Weather forecasting
d) Land cover classification

Answer: c)

81. What does GIS stand for in the context of governance in India?

a) Geographic Information Sharing
b) Governmental Information System
c) Geographic Information System
d) Governance Integration Service

Answer: c)

82. In which areas has GIS been integrated into governance processes in India?

a) Healthcare and tourism
b) Land records management, property tax collection, urban planning, and project monitoring
c) Space exploration and astronomy
d) Agricultural research and development

Answer: b)

83. What is one of the primary uses of GIS in land records management?

a) Tracking the migration of wildlife
b) Monitoring air pollution levels
c) Recording property boundaries and ownership details
d) Managing the national railway network

Answer: c)

84. How does GIS contribute to property tax collection in Indian governance?

a) By providing discounts on property tax payments
b) By automating the tax collection process and identifying tax defaulters
c) By publishing property tax rates in local newspapers
d) By conducting property tax awareness campaigns

Answer: b)

85. In urban planning, what does GIS help in visualizing and analyzing?

a) Space weather patterns
b) Historical landmarks
c) Population density, infrastructure, and land use
d) Art and culture festivals

Answer: c)

86. What is the significance of using GIS for monitoring government projects?

a) It allows for real-time monitoring of space missions.
b) It enables better tracking of project progress, expenses, and timelines.
c) It assists in organizing art exhibitions.
d) It promotes tourism.

Answer: b)

87. Which government agency is responsible for the implementation of GIS in governance processes at the national level in India?

a) Ministry of Culture

b) Ministry of Finance
c) Ministry of Electronics and Information Technology
d) Ministry of Agriculture

Answer: c)

88. How does GIS technology support better decision-making in governance?

a) By predicting lottery numbers
b) By analyzing historical novels
c) By providing spatial data and analysis tools for informed policy decisions
d) By offering discounts on government services

Answer: c)

89. What aspect of governance is NOT mentioned in the description as an application of GIS?

a) Land records management
b) Space exploration
c) Property tax collection
d) Urban planning

Answer: b)

90. What is the primary purpose of using GIS in governance processes?

a) To create artistic masterpieces
b) To entertain citizens with movies and music
c) To enhance the efficiency and transparency of government operations
d) To provide discounts on consumer products

Answer: c)

91. What does NGIS stand for in the context of India's geospatial initiatives?

a) National Green Initiative System
b) National Geographic Information System
c) National Government Information System
d) National Geospatial Integration System

Answer: b)

92. What is the primary goal of the National GIS (NGIS) project in India?

a) To create a network of wildlife sanctuaries
b) To develop advanced weather forecasting models
c) To establish a comprehensive geospatial database for the entire country
d) To promote traditional Indian art forms

Answer: c)

93. How does NGIS contribute to better decision-making in government departments?

a) By organizing cultural festivals
b) By automating public transportation systems
c) By providing spatial data and analysis tools for informed policy decisions
d) By producing television shows and movies

Answer: c)

94. What kind of data is primarily included in the NGIS database?

a) Recipes for traditional Indian dishes
b) Geospatial data, including maps, satellite imagery, and spatial information
c) Historic art and artifact collections
d) Bollywood movie scripts

Answer: b)

95. In which sectors or government departments is the use of NGIS expected to be beneficial?

a) Space exploration and astronomy
b) Agriculture and healthcare

c) Fashion and entertainment
d) Urban planning and disaster management

Answer: d)

96. What is one of the key advantages of having a comprehensive geospatial database like NGIS?

a) It promotes traditional Indian music.
b) It encourages wildlife photography.
c) It supports integrated and informed decision-making.
d) It improves cricket stadium infrastructure.

Answer: c)

97. Which entity oversees the implementation and management of the NGIS project in India?

a) Ministry of Culture
b) Ministry of Finance
c) Ministry of Electronics and Information Technology
d) Ministry of Food Processing Industries

Answer: c)

98. How does NGIS enhance the efficiency of government operations?

a) By organizing art exhibitions
b) By digitizing and centralizing geospatial data
c) By providing discounts on government services
d) By developing smartphone apps for citizens

Answer: b)

99. What kind of information is NOT included in the NGIS database?

a) Geospatial data
b) Satellite imagery
c) Bollywood movie ratings
d) Spatial information

Answer: c)

100. What is the primary purpose of NGIS, as mentioned in the description?

a) To create wildlife sanctuaries
b) To develop advanced transportation systems
c) To establish a comprehensive geospatial database for better decision-making
d) To promote traditional Indian dance forms

Answer: c)