

Module-5

Latest Developments in Environmental Pollution Mitigation Tools

1. Remote sensing uses which of the following waves in its procedure?
 - a) Electric field
 - b) Sonar waves
 - c) Gamma- rays
 - d) **Electro-magnetic waves**
2. The relation between velocity, wavelength and frequency can be given as _____
 - a. $\lambda = c / r$
 - b. **$\lambda = c / f$**
 - c. $\lambda = c / h$
 - d. $\lambda = h * c / f$
3. Which of the following is not a principle of remote sensing?
 - a) **Interaction of energy with satellite**
 - b) Electromagnetic energy
 - c) Electro-magnetic spectrum
 - d) Interaction of energy with atmosphere
4. Which among the following waves is having less wavelength range?
 - a) 0.03mm
 - b) **0.03nm**
 - c) 0.03m
 - d) 0.03km
5. In visible region, the blue light is having a wave length range of _____
 - a) **0.42-0.52 micrometer**
 - b) 0.24-0.52 micrometer
 - c) 0.42-0.92 micrometer
 - d) 0.22-0.32 micrometer
6. Which of the following is not a classification of scattering principle?
 - a) **Faraday scattering**
 - b) Rayleigh scattering
 - c) Mie scattering
 - d) Non-selective scattering
7. Polar orbiting satellites are generally placed at an altitude range of _____
 - a) 7-15km
 - b) 7000-15000km
 - c) **700-1500km**
 - d) 70-150km
8. Which of the following field is used by the EM waves?

- a) Solar field
 - b) Polarized field
 - c) Electric field**
 - d) Micro field
9. Which one of the following statement is incorrect regarding the electromagnetic radiation?
- a) These are produced by the motion of electric charge
 - b) The oscillation of charged particles sets up changing electric fields
 - c) The changing electric fields induce the changing magnetic fields in the surrounding medium
 - d) None of these**
10. The changes in the reflectivity/emissivity with time, is called:
- a) Spectral variation
 - b) Spatial variation
 - c) Temporal variation**
 - d) None of these
11. For interpolation of satellite data used for monitoring dynamic changes that occurs on the earth surface, the most suitable orbit for the satellite is:
- a) Circular orbit
 - b) Sun-synchronous orbit**
 - c) Near polar orbit
 - d) None of these
12. The altitudinal distance of a geostationary satellite from the earth is about
- a) 26,000 km
 - b) 30,000 km
 - c) 36,000 km**
 - d) 44,000 km
13. Remote sensing includes gathering of
- a. Images**
 - b. Changes
 - c. Movements
 - d. Sounds
14. GIS stands for
- a. Geographic Information System**
 - b. Generic Information System
 - c. Geological Information System
 - d. Geographic Information Sharing
- 15. GIS deals with which kind of data**
- a) Numeric data
 - b) Binary data
 - c) Spatial data**

d) Complex data

16. Which of the following statements is true about the capabilities of GIS

- a) Data capture and preparation
- b) Data management, including storage and maintenance
- c) Data manipulation and analysis
- d) Data presentation
- e) **All of the above**

17. By 'spatial data' we mean data that has

- a) Complex values
- b) **Positional values**
- c) Graphic values
- d) Decimal values

18. 'Spatial databases' are also known as

- a) **Geodatabases**
- b) Monodatabases
- c) Concurrent databases
- d) None of the above

19. Successful spatial analysis needs

- a) Appropriate software
- b) Appropriate hardware
- c) Competent user
- d) **All of the above**

20. Electromagnetic radiation
- a) produces a time varying magnetic field and vice versa
 - b) once generated, remains self-propagating
 - c) is capable to travel across space
 - d) consists of magnetic and electric fields
 - e) **All of these**
21. Electromagnetic spectrum contains
- a) Gamma rays (wave length $< 10^{-10}$ m)
 - b) Ultraviolet rays (wave length $< 10^{-6}$ m)
 - c) Infrared rays (wave length $< 10^{-4}$ m)
 - d) **All of these**
22. The code based GPS receivers are generally used for
- a) Vehicle tracking
 - b) Land navigation
 - c) Trans movement
 - d) **All of these**
23. Among the following _____ can be expressed as an example of hardware component
- a) **Keyboard**
 - b) Arc GIS
 - c) Auto CAD
 - d) Digitalization
24. Which of the following formats can be used for GIS output?
- a) DXF
 - b) PDF
 - c) **GIF**
 - d) HTML
25. Among the following, which do not come under the components of GIS?
- a) Hardware
 - b) Software
 - c) **Compiler**
 - d) Data
26. 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**
27. Which of the following acts a benefit of GIS?

- a) **Maintaining geo spatial data**
- b) Data sharing
- c) Accurate data information
- d) Presence of data retrieval service

28. Which among the following is a server based hardware platform of GIS?

- a) Autodesk Revit
- b) STAAD Pro
- c) Arc GIS
- d) **Google-maps**

29. Mapmakers use GIS to

- A) store geographic information
- B) use geographic information
- C) view geographic information
- D) **store, use and view geographic information**

30. The information in GIS is entered and stored as

- A) panels
- B) **layers**
- C) single panel
- D) dual-panel

31. The user can use GIS to make

- A) complex analyses only
- B) display maps only
- C) complex analyses and display maps
- D) none of these

32. Melting of polar ice is expected to cover a sea level rise of approximately

- a) 10 metre
- b) 20 metre
- c) **60 metre**
- d) 100 metre

33. Global Warming Potential (GWP) of a greenhouse gas (GHG) is a factor comparing the global warming impacts of

- a) 1 m³ of GHG with 1 m³ of CO₂
- b) **1 kg of GHG with 1 kg of CO₂**

- c) 1 gram mole of GHG with 1 gram mole of CO₂
 - d) 1 kg of GHG with 1 mole of CO₂
34. The term B10 implies
- a) **Blending of 10 percent biodiesel with 90 percent conventional diesel.**
 - b) Blending of 90 percent biodiesel with 10 percent conventional diesel.
 - c) Blending of 50 percent biodiesel with 50 percent conventional diesel.
 - d) Blending of 1 percent biodiesel with 10 percent conventional diesel.
35. The validity period of Environmental Clearance after Environmental Impact Assessment is least for
- a) Mining projects
 - b) River valley projects
 - c) Harbor projects
 - d) **Area development projects**
36. In Environmental assessment study, interpretation and evaluation should consider
- a) Uncertainty of possible impacts
 - b) Significance of measured impacts
 - c) Comparison of alternatives
 - d) **All of the above**
37. Who are responsible for the public consultation process of EIA?
- a) State Pollution Control Board
 - b) **State Pollution Control Board and District Collector**
 - c) State Pollution Control Board and CPCB Chairman
 - d) State Pollution Control Board and Civil Society
38. Environmental Impact Assessment (EIA) is mandatory under which one of the following India legislations:
- a) Indian Forest Act
 - b) Air (Prevention and Control of Pollution) Act
 - c) Wildlife Protection Act
 - d) **Environment (Protection) Act**
39. What is Eutrophication?
- a) thermal change in water

- b) **filling up of water body with aquatic plants due to excessive nutrients**
- c) pollution of water due to solid waste
- d) none of the above

40. In which year EIA was started in India?

- a) 1967-68
- b) **1976-77**
- c) 1986-87
- d) 1972-73

40. ISO 14000 standards are for the _____

- a. Quality Management System
- b.Environmental Management System**
- c. Administration
- d. Supply chain

41. Which is the first environmental management system standard?

- a. BS 7750**
- b. ISO 9000
- c. ISO 9001
- d. ISO 9004

42. In which year did the current revision of ISO 14001 get published?

- a) 2010
- b) 2011
- c) **2015**
- d) 2016

42. Which one of the following is not within the purview of ISO 14000 family of standards?

- a) Environmental management system
- b) Environment auditing
- c) Life-cycle assessment
- d) Quality management system**

43. What is the full form of NGOs?

- a) Non-Governmental Organizations**
- b) Non Governance Organizations
- c) No Governance Organizations
- d) Null Governmental Organizations

44. In which of the following sector NGOs are playing an important role?

- a) In governing the police force
- b) In framing the policy related to laws
- c) In framing the environmental policy**
- d) In deforestation

45. Which one of the following does not belong to the area of Organization Evaluation Standards in ISO 14000 series?
- a) Environmental management system
 - b) Environmental auditing
 - c) Environmental performance evaluation
 - d) Environmental labels and declarations**
46. Which of the following pair of ISO 14000 standards fall under the category of Environmental Management System?
- a) ISO 14001 and ISO 14004**
 - b) ISO 14010 and ISO 14001
 - c) ISO 14011 and ISO 14001
 - d) ISO 14011 and ISO 14004
47. Which of the following pair of ISO 14000 standards fall under the category of Environmental Auditing?
- a) ISO 14001 and ISO 14004
 - b) ISO 14010 and ISO 14011**
 - c) ISO 14011 and ISO 14001
 - d) ISO 14012 and ISO 14004
48. Which ISO 14000 series standard refers to the guidelines on Environmental Performance Evaluation?
- a) ISO 14001
 - b) ISO 14004
 - c) ISO 14010
 - d) ISO 14031**