

## 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) he 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 m<sup>3</sup> of GHG with 1 m<sup>3</sup> of CO<sub>2</sub>**
- b) 1 kg of GHG with 1 kg of CO<sub>2</sub>**

- c) 1 gram mole of GHG with 1 gram mole of CO<sub>2</sub>  
d) 1 kg of GHG with 1 mole of CO<sub>2</sub>
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**