

USN

**Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025**  
**Environmental Studies and E – Waste Management**

Time: 1 hr.]

[Max. Marks: 50

**INSTRUCTIONS TO THE CANDIDATES**

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

1. Which of the following conceptual spheres of the environment is having the least storage capacity for matter?  
a) Atmosphere      b) Lithosphere      c) Hydrosphere      d) Biosphere
2. The ratio between energy flows at different points in a food chain is known as  
a) Ecological capacity      b) Ecological efficiency  
c) Ecological assimilation      d) Ecological potential
3. A predator is  
a) An animal that is fed upon another animal  
b) Animal that feeds upon both plants and animals  
c) An animal that feeds upon another animal  
d) A primary consumer
4. Why Rann of Kutch attracts aquatic birds in monsoon season?  
a) Because desert land is converted to forest land  
b) Because desert land is converted to snow  
c) Because desert land do not convert  
d) Because desert land is converted to salt marshes
5. Which kind of soil we can find on the surface of Thar desert?  
a) Rocky      b) Moist      c) Fertile      d) Aeolian
6. Which of the following type of forest important for watersheds?  
a) Tropical Evergreen forests      b) Tropical Deciduous forests  
c) Tropical Montana forests      d) Grassland forest

7. Hot spots areas have
  - a) Low density of biodiversity
  - b) Only endangered plants
  - c) High density of hot springs
  - d) High density of biodiversity
8. Sustainable Development means
  - a) meeting present needs without compromising on future needs
  - b) progress of human beings
  - c) balance between human needs and the ability of earth to provide the resources
  - d) all of these
9. The term Alpha diversity refers to
  - a) Genetic diversity
  - b) Community and ecosystem diversity
  - c) Species diversity within a community or ecosystem
  - d) Diversity among the plant
10. Algae, green plants and photosynthetic bacteria are
  - a) Autotrophic
  - b) Heterotrophic
  - c) Decomposers
  - d) Consumers
11. Veld type grasslands are located at
  - a) South Africa
  - b) South America
  - c) Australia
  - d) Britain
12. Which pyramid is always upright?
  - a) Energy
  - b) Biomass
  - c) Numbers
  - d) Food chain
13. In what form is solar energy is radiated from the Sun?
  - a) Ultraviolet Radiation
  - b) Infrared Radiation
  - c) Electromagnetic waves
  - d) Transverse waves
14. What does MHD stands for in the energy field?
  - a) Magneto Hydro Dynamic
  - b) Metal Hydrogen Detox
  - c) Micro Hybrid Drive
  - d) Metering Head Differential
15. The 'Miracle Material' that can turn CO<sub>2</sub> into liquid fuel is :
  - a) Propane
  - b) Copper
  - c) Graphene
  - d) Potassium
16. A tide whose difference between high and low tide is greatest.
  - a) Diurnal tide
  - b) Neap tide
  - c) Spring tide
  - d) Ebb tide
17. Which of the turbine can be mounted vertically and horizontally.
  - a) Pelton wheel
  - b) Kaplan turbine
  - c) Gorlov turbine
  - d) Francis turbine
18. Which type of fuel is removed from the reactor core after reaching end of core life service?
  - a) Burnt fuel
  - b) Spent fuel
  - c) Engine oil
  - d) Radioactive fuel
19. What is a fuel cell?
  - a) Converts heat energy to chemical energy
  - b) Converts heat energy to electrical energy
  - c) Converts chemical energy to electrical energy
  - d) Converts kinetic energy to heat energy

20. Which one of the following is the apex organization in our country in the field of pollution control?
  - a) Water Pollution Control Board
  - b) State Pollution Control Board
  - c) Central Pollution Control Board
  - d) Air Pollution Control Board
21. \_\_\_\_\_ is caused by drinking water high in nitrates.
  - a) Cholera
  - b) Kidney problem
  - c) Liver problem
  - d) Methomoglobinemia
22. Bhopal gas tragedy took place in the year \_\_\_\_\_ and the gas responsible was \_\_\_\_\_.
  - a) 1964, Hydrogen fluoride
  - b) 1974, Methyl chloride
  - c) 1984, methyl ISO – cyanide
  - d) 1994, Methyl sulphate
23. The major chemical pollutants in photochemical smog are
  - a) NO, NO<sub>2</sub>, VOC, O<sub>3</sub>, PAN
  - b) N<sub>2</sub>O, NO<sub>2</sub>, VOC, O<sub>3</sub>, PAN
  - c) NO, NO<sub>2</sub>, VOC, O<sub>2</sub>, PAN
  - d) NO, N<sub>2</sub>O<sub>5</sub>, VOC, O<sub>3</sub>, PAN
24. The international protocol to protect the Ozone layer is
  - a) Vienna protocol
  - b) Kyoto protocol
  - c) Cartagena protocol
  - d) Montreal protocol
25. Which is the best and the worst method of plume behavior for pollution dispersion?
  - a) Lofting and fumigation
  - b) Trapping and fanning
  - c) Conning and fumigation
  - d) Fanning and Lofting
26. What is called for a Temporary hearing loss?
  - a) Temporary ear pain
  - b) Temporary hearing problem
  - c) Temporary threshold shift
  - d) Temporary hearing shift
27. What timings loud speakers shouldn't use in public areas?
  - a) 10.00 pm to 5.00 am
  - b) 11.00 pm to 6.00 am
  - c) 1.00 am to 7.00 am
  - d) 10.00 pm to 6.00 am
28. In which section, if a person violates the noise pollution regulations, is liable for penalty according to Environmental Protection Act, 1986.
  - a) Section 12
  - b) Section 15
  - c) Section 18
  - d) Section 19
29. 'Minamata Disease' is caused due to
  - a) Lead
  - b) Arsenic
  - c) Mercury
  - d) Cadmium
30. The process of reducing the fluoride content from water is called as
  - a) Chlorination
  - b) Fluoridation
  - c) Defluoridation
  - d) Fanning and Lofting
31. What is the Dissolved oxygen value required for the survival of aquatic species?
  - a) 7 mg/L
  - b) 8.2 mg/L
  - c) 6.5 mg/L
  - d) 4 mg/L
32. Which among the following is used to dump the waste collected in the cities?
  - a) Land fills
  - b) Ocean
  - c) River
  - d) All of these



33. Which type of waste includes items such as leftover food, fruit peels and yard trimmings?  
a) Hazardous waste                      b) Organic waste  
c) Bio – medical waste                d) Electronic waste
34. Which of the integrated waste management is reduced on an individual level?  
a) Source Reduction   b) Recycling          c) Disposal                  d) Burning
35. What is called for the process of burning municipal solid waste in a properly designed furnace under suitable temperature and operating conditions?  
a) Landfill                  b) Recycling              c) Vermicomposting   d) Incineration
36. The process of decomposition of biodegradable solid waste by earthworms is called  
a) Landfill                  b) Vermicomposting   c) Composting              d) Shredding
37. \_\_\_\_ is a liquid that passes through solid waste and extracts suspended impurities from it  
a) Leachate                b) Sludge                  c) Distilled water        d) Municipal
38. The colour code of plastic bag for disposing of microbial laboratory culture waste  
a) black                      b) red                        c) blue                      d) white
39. Average hospital waste produced per bed per day in Government hospital is  
a) 1.5 to 2 kg              b) 0.5 – 4 kg              c) 0.5 to 1 kg              d) 0.5 – 2 kg
40. Which of the following are the main contributors of the e –waste in the world?  
I. Refrigerators / freezers , washing machines , dishwashers.  
II. Small household appliances  
III. Personal computers, telephones , laptops , printers.  
IV. Gas cylinders, chimneys and home appliances  
a) Only I, II, III        b) Only I & II              c) Only I, III , IV        d) All of these
41. What is Extended Producer Responsibility (EPR) as per the e – waste management rules in India?  
a) The responsibility of consumer to manage e – waste  
b) The responsibility of manufactures to manage e – waste throughout the product life cycle  
c) The responsibility of retailers to manage e – waste disposal  
d) The responsibility of informal recyclers to manage e – waste.
42. Which international agreement regulates the transboundary movements of hazardous waste, including e – waste?  
a) Kyoto Protocol                      b) Paris agreement  
c) Montreal Protocol                  d) Basel convention
43. Which colour bin is used for e – waste?  
a) Blue                              b) Green                      c) Yellow                      d) Black
44. What are the health hazards which can be caused by E – waste?  
a) Lung cancer              b) DNA damage          c) Brain                      d) All of these

45. Preparation of Guidelines for Environmentally sound Management of e – waste is a duty assigned to
  - a) Producer
  - b) Consumer
  - c) MOEFCC
  - d) SP CB/PCC
46. What is India's global rank in e –waste?
  - a) 3
  - b) 13
  - c) 23
  - d) 33
47. When did the Karnataka State Pollution Control Board for prevention and control of water pollution constituted?
  - a) 1974
  - b) 1978
  - c) 1982
  - d) 1986
48. Aerosol consisting of liquid droplets is called as
  - a) Mist
  - b) Dust
  - c) Fog
  - d) Aerosol
49. Which of the following is non – point source of water pollution?
  - a) Factories
  - b) Sewage treatment plant
  - c) Urban and suburban land
  - d) All of these
50. When is World Water day celebrated?
  - a) January 26<sup>th</sup>
  - b) June 5<sup>th</sup>
  - c) September 22<sup>nd</sup>
  - d) March 22<sup>nd</sup>

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