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**Question Paper Version : D****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.

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1. 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
  2. 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
  3. 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
  4. Which of the integrated waste management is reduced on an individual level?  
a) Source Reduction      b) Recycling      c) Disposal      d) Burning
  5. 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
  6. The process of decomposition of biodegradable solid waste by earthworms is called  
a) Landfill      b) Vermicomposting      c) Composting      d) Shredding
  7. \_\_\_\_\_ is a liquid that passes through solid waste and extracts suspended impurities from it  
a) Leachate      b) Sludge      c) Distilled water      d) Municipal
  8. The colour code of plastic bag for disposing of microbial laboratory culture waste  
a) black      b) red      c) blue      d) white
  9. 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

10. 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
  
11. 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
  
12. 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
  
13. 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
  
14. 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
  
15. Which kind of soil we can find on the surface of Thar desert?
 

a) Rocky    b) Moist    c) Fertile    d) Aeolian
  
16. 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
  
17. Hot spots areas have
 

a) Low density of biodiversity  
b) Only endangered plants  
c) High density of hot springs  
d) High density of biodiversity
  
18. 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
  
19. 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
  
20. Algae , green plants and photosynthetic bacteria are
 

a) Autotrophic    b) Heterotrophic    c) Decomposers    d) Consumers

21. What is Extended Producer Responsibility (EPR) as per the e – waste management rules in India?
- The responsibility of consumer to manage e – waste
  - The responsibility of manufacturers to manage e – waste throughout the product life cycle
  - The responsibility of retailers to manage e – waste disposal
  - The responsibility of informal recyclers to manage e – waste.
22. Which international agreement regulates the transboundary movements of hazardous waste, including e – waste?
- Kyoto Protocol
  - Paris agreement
  - Montreal Protocol
  - Basel convention
23. Which colour bin is used for e – waste?
- Blue
  - Green
  - Yellow
  - Black
24. What are the health hazards which can be caused by E – waste?
- Lung cancer
  - DNA damage
  - Brain
  - All of these
25. Preparation of Guidelines for Environmentally sound Management of e – waste is a duty assigned to
- Producer
  - Consumer
  - MOEFCC
  - SP CB/PCC
26. What is India's global rank in e-waste?
- 3
  - 13
  - 23
  - 33
27. When did the Karnataka State Pollution Control Board for prevention and control of water pollution constituted?
- 1974
  - 1978
  - 1982
  - 1986
28. Aerosol consisting of liquid droplets is called as
- Mist
  - Dust
  - Fog
  - Aerosol
29. Which of the following is non – point source of water pollution?
- Factories
  - Sewage treatment plant
  - Urban and suburban land
  - All of these
30. When is World Water day celebrated?
- January 26<sup>th</sup>
  - June 5<sup>th</sup>
  - September 22<sup>nd</sup>
  - March 22<sup>nd</sup>
31. \_\_\_\_\_ is caused by drinking water high in nitrates.
- Cholera
  - Kidney problem
  - Liver problem
  - Methemoglobinemia
32. Bhopal gas tragedy took place in the year \_\_\_\_\_ and the gas responsible was \_\_\_\_\_
- 1964, Hydrogen fluoride
  - 1974, Methyl chloride
  - 1984, methyl ISO – cyanide
  - 1994, Methyl sulphate
33. The major chemical pollutants in photochemical smog are
- $\text{NO}, \text{NO}_2, \text{VOC}, \text{O}_3, \text{PAN}$
  - $\text{N}_2\text{O}, \text{NO}_2, \text{VOC}, \text{O}_3, \text{PAN}$
  - $\text{NO}, \text{NO}_2, \text{VOC}, \text{O}_2, \text{PAN}$
  - $\text{NO}, \text{N}_2\text{O}_5, \text{VOC}, \text{O}_3, \text{PAN}$

34. The international protocol to protect the Ozone layer is  
a) Vienna protocol b) Kyoto protocol  
c) Cartagena protocol d) Montréal protocol

35. 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

36. What is called for a Temporary hearing loss?  
a) Temporary ear pain b) Temporary hearing problem  
c) Temporary threshold shift d) Temporary hearing shift

37. 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

38. 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

39. 'Minamata Disease" is caused due to  
a) Lead b) Arsenic c) Mercury d) Cadmium

40. The process of reducing the fluoride content from water is called as  
a) Chlorination b) Fluoridation  
c) Defluoridation d) Fanning and Lofting

41. Veld type grasslands are located at  
a) South Africa b) South America c) Australia d) Britain

42. Which pyramid is always upright?  
a) Energy b) Biomass c) Numbers d) Food chain

43. In what form is solar energy is radiated from the Sun?  
a) Ultraviolet Radiation b) Infrared Radiation  
c) Electromagnetic waves d) Transverse waves

44. 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

45. The 'Miracle Material' that can turn CO<sub>2</sub> into liquid fuel is :  
a) Propane b) Copper c) Graphene d) Potassium

46. A tide whose difference between high and low tide is greatest.  
a) Diurnal tide b) Neap tide c) Spring tide d) Ebb tide

47. Which of the turbine can be mounted vertically and horizontally.  
a) Pelton wheel b) Kaplan turbine c) Gorlov turbine d) Francis turbine

48. 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
49. 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
50. 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

# CBCS SCHEME

BCS508



Question Paper Version : A

## Fifth Semester B.E./B.Tech. Degree Examination, June/July 2025 **Environmental Studies and E – Waste Management**

[Max. Marks: 50]

### INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
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1. In an ecosystem biological cycling of materials is maintained by
    - a) Producer
    - b) Consumer
    - c) Decomposer
    - d) All of these
  2. The primary producers in a forest ecosystem are
    - a) Chlorophyll containing trees and plants
    - b) Herbivores
    - c) Carnivores
    - d) Bacteria and other micro - organisms
  3. Which of the following is the terrestrial ecosystem?
    - a) Forest
    - b) Grass land
    - c) Desert
    - d) All of these
  4. Food web consists of
    - a) a portion of food chain
    - b) an organism position in a food chain
    - c) interlocking food chain
    - d) a set of similar consumers
  5. The area of National Parks range between
    - a) 0.61 to 7818 kms
    - b) 0.04 to 3162 kms
    - c) 0.14 to 3612 kms
    - d) 0.16 to 8718 kms
  6. Which Indian state has its maximum area under the forest cover?
    - a) Maharashtra
    - b) Madhya Pradesh
    - c) Arunachal Pradesh
    - d) Karnataka
  7. How many parts are there in forest ecosystem?
    - a) Biotic type
    - b) Abiotic type
    - c) Both (a) & (b)
    - d) None of these
  8. To which of the following is Ramsor convention related?
    - a) Protection of wild life
    - b) Protection of environment
    - c) Protection of rivers
    - d) Protection of wetlands

9. Which of the following option is not included in the sustainable development parameters?  
a) Gender inequality  
b) Intergenerational and intragenerational equity  
c) Growing annually  
d) None of these
10. How many sustainable development goals are there?  
a) 10                    b) 12                    c) 13                    d) 17
11. Which of the following are biodegradable pollutants?  
a) Plastics              b) Domestic sewage    c) Detergent              d) All of these
12. BOD means  
a) Biochemical Oxygen Demand              b) Chemical Oxygen Demand  
c) Biophysical oxygen Demand              d) All of these
13. Sound beyond which of the following level can be regarded as a pollutant.  
a) 40 dB              b) 80 dB              c) 120 dB              d) 150 dB
14. Which of the following is a point source of water pollution?  
a) Factories              b) Sewage treatment plants  
c) Urban & Sub – urban lands              d) Both (a) & (b)
15. Pesticide causes  
a) Eye irritation              b) Skin irritation              c) Respiratory ailment    d) All of these
16. Amount of waste infectious produced in hospitals.  
a) 45 %              b) 65 %              c) 80 %              d) 100 %
17. Cytotoxic and expired drugs are disposed of by  
a) Dumping              b) Autoclave              c) Incineration              d) All of these
18. Color code of plastic bag for disposing of microbial laboratory culture waste \_\_\_\_  
a) Black              b) Red              c) Blue              d) White
19. All of the waste are incinerated except  
a) Reactive chemical waste              b) Vaccine  
c) Mutilated parts              d) Discarded drugs
20. The average composition of municipal solid waste is  
a) 41 % organic , 40 % inert & 19 % recyclable.  
b) 20 % organic , 60% inert & 20 % recyclable  
c) 30 % organic , 20% inert & 50 % recyclable  
d) 19 % organic , 41% inert & 40 % recyclable
21. Major atmospheric gas layer in stratosphere is  
a) Hydrogen              b) Carbon dioxide    c) Ozone              d) Helium
22. World Environment day is on \_\_\_\_  
a) 5<sup>th</sup> May              b) 5<sup>th</sup> June              c) 3<sup>rd</sup> Jan              d) 1<sup>st</sup> June

23. Which of the following is not a green house gas?  
a) Hydro chlorofluorocarbons      b) Methane  
c) CO<sub>2</sub>      d) SO<sub>2</sub>
24. Global warming could affect  
a) Climate      b) Increase in sea level  
c) Melting of glaciers      d) All of these
25. Primary cause of acid rain around the world is due to  
a) Carbon dioxide      b) Sulphur dioxide      c) Carbon monoxide      d) Ozone
26. What is the main reason for the depletion of groundwater levels?  
a) Rains are less frequent  
b) Tree cover has reduced  
c) Tube wells and hand pumps are used for irrigation  
d) The course of river being changed and dams built
27. What happens when water contains 8 – 20 PPM of fluoride concentration?  
a) Blue baby disease      b) Crippling fluorosis  
c) Dental fluorosis      d) Mottling of teeth
28. Coral reefs of India are located in  
a) Goa      b) Himalayan region  
c) Andaman & Nicobar Islands      d) Uttar Pradesh
29. What is the allowable concentration of fluorides in drinking water?  
a) 1.0 mg/L      b) 1.25 mg/L      c) 1.5 mg/L      d) 1.75 mg/L
30. Minmata disease is caused by  
a) Lead      b) Mercury      c) Cadmium      d) Arsenic
31. When did National Disaster Management Authority form?  
a) 2000      b) 2005      c) 2010      d) 2015
32. Scientific study of earthquake is called  
a) Seismograph      b) Seismology      c) Both (a) & (b)      d) None of these
33. Mass killing diseases can be referred as  
a) Biological disaster      b) Industrial disaster  
c) War disaster      d) Flood disaster
34. South Africa is leading exporter of which mineral?  
a) Copper      b) Diamond      c) Silver      d) Gold
35. Which one of the following is an exhaustible resource?  
a) Coal      b) Rain precipitation      c) Air      d) Tidal energy
36. Which of the following is a non – renewable resource?  
a) Solar energy      b) Wind energy      c) Fossil fuels      d) Hydro power

37. Which of the following is an example of sustainable use of water resources?  
a) Overuse of ground water      b) Building dams on rivers  
c) Rainwater harvesting      d) Dumping industrial waste in rivers

38. Geothermal energy is a  
a) Heat energy      b) Current energy      c) Wind energy      d) Solar energy

39. Molasses from sugar industry is used to generate  
a) Biodiesel      b) Hydrogen      c) Bio-ethanol      d) Bio - methanol

40. Nuclear power plant in Karnataka is located at  
a) Bhadravati      b) Sandur      c) Raichur      d) Kaiga

41. Wild Life Protection Act in India was passed in  
a) 1978      b) 1972      c) 1986      d) 1992

42. Environment Protection Act was enacted in year  
a) 1986      b) 1974      c) 1992      d) 1984

43. Water Protection Act was enacted in  
a) 1974      b) 1990      c) 1985      d) 2021

44. Blue baby syndrome is caused by the contamination of water due to  
a) Phosphates      b) Sulphur      c) Arsenic      d) Nitrates

45. Which toxic compound is not found in e – waste?  
a) Mercury      b) Cadmium      c) Neon      d) Lead

46. What are the health hazards caused by E – waste?  
a) Lung cancer      b) DNA damage      c) Brain      d) All of these

47. The Kyoto protocol was adopted at the  
a) 3<sup>rd</sup> conference of UNFCC in 1977  
b) Convention on the trans boundary effects of industrial accidents  
c) UNFCC in 1992  
d) Convention on Biological diversity

48. The primary cause of acid rain around the world is due to  
a) Carbon dioxide      b) Sulphur dioxide      c) Carbon monoxide      d) Ozone

49. The carbon “credit is permit” representing the right to emit.  
a) One tonne of CO<sub>2</sub>      b) 10 tonnes of CO<sub>2</sub>  
c) 5 tonnes of CO<sub>2</sub>      d) 15 tonnes of CO<sub>2</sub>

50. Fossil fuels are converted into energy by  
a) Burning      b) Cooling      c) Sublimation      d) Melting

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