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CBCS SCHEME

BCS508

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Question Paper Version : A

Fifth Semester B.E./B.Tech. Degree Examination, June/July 2026
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. An ecosystem is a region in which
   a) Dead organism interact with environment
   b) Living organism interact with their environment
   c) Living organisms do not interact the environment
   d) All of these

2. Tendency of pollutants to become concentrated in successive trophic levels is known as
   a) Bioremediation b) Biomagnification
   c) Biopiracy d) Biorhythm

3. Algae, green plants and photosynthetic bacteria are
   a) Autotrophic organism b) Heterotrophic
   c) Decomposers d) Consumers

4. "The pyramid of energy is always upright" states that
   a) The energy conversion efficiency of herbivores is better than carnivores
   b) The energy conversion efficiency of carnivores is better than herbivores
   c) Producers have the lowest energy conversion efficiency
   d) Energy conversion efficiency is same in all trophic levels

5. What is the process by which nutrients are reused in an ecosystem?
   a) Photosynthesis b) Respiration
   c) Decomposition d) Nutrient cycling

6. What type of ecosystem is known for its unique plants adapted to water-logged condition?
   a) Forest b) Desert c) Wetland d) Tundra

7. Which desert ecosystem is known for its extreme heat and arid conditions?
a) Sahana b) Mojave c) Atacama d) All of these

8. What are the SDG's also known as
a) Global goals b) Millenium Development Goals
c) Sustainable Development Agend d) Agend 2030

9. What is the focus of SDG5?
a) Quality Education b) Gender Equality
c) Clean water and sanitation d) Affordable and clean energy

10. Who is the current UN secretary-General leading the SDG implementation
a) Antonio Guterres b) Ban ki-moon
c) Kofi Annan d) Javier Perez de Cuellar

11. Hydrogen fuel cells are primarily used for which application.
a) Heating homes b) Powering vehicles
c) Electricity generation in solar panels d) Water treatment

12. What is one way hydrogen can be used in the industrial sector?
a) To produce steel b) To produce biofuels
c) To generate wind energy d) To decompose plastics

13. What technology is used to convert sunlight direct into electricity?
a) Photovoltaic (PV) cells b) Solar thermal panels
c) Wind turbines d) Biomass generators

14. Which country is the largest producer of solar energy?
a) United States b) Germany
c) China d) Japan

15. Which ministry is mainly responsible for research and development in renewable energy sources such as wind power, small hydro, biogas and solar power?
a) Human Resource Development b) Agriculture and Farmers Welfare
c) Ministry of New and Renewable Energy d) Health and family Welfare

16. What is the primary cause of Eutrophication in water bodies?
a) Increased salinity
b) Excessive nutrients, particularly nitrogen and phosphorus
c) Heavy metals
d) Sedimentation

17. How can waterborne diseases be prevented?
a) Drinking unfiltered water b) Vaccination
c) Proper sanitation and hygiene d) Eating cooked food

18. Which water treatment process is most effective at killing bacteria?
a) Sedimentation b) Filtration
c) Chlorination d) Coagulation

19. What is the term for excessive fluoride exposure that affects bones?
a) Osteoporosis b) Skeletal fluorosis
c) Osteoarthritis d) Bone cancer

20. What is the percentage of fresh water available in lakes and streams?
a) 0.0001% b) 0.001%
c) 0.01% d) 0.1%

21. When is World water day celebrated?
a) January 26th b) June 5th
c) September 22nd d) March 22nd

22. Which of the following statements are true about CNG – Compressed Natural Gas?
a) It is a clean fuel b) It is a harmful fuel
c) It is a polluting fuel d) All of these

23. Which of the following is involved in production of Carboxy-haemoglobin?
a) SO_2 b) CO c) NO_3 d) NO_2

24. When the organic matter present in the sanitary landfill decomposes, it generates
a) Methane b) Nitrogen c) Hydrogen d) All of these

25. Air pollution from the industrial stack can be controlled by fitting
a) Electrostatic precipitator b) Catalytic converter
c) Ringlemann chart d) Chlorinator

26. The major automobile pollutants include
a) CO, NO_X, Hydrocarbons and SPM b) CO, NO_X, Hydrocarbons and CH_4
c) CH_4, NO_X, Hydrocarbons and SPM d) CO_4, NO_X, Freon's and SPM

27. Physical pollution of water is due to
a) Dissolved oxygen b) Turbidity
c) BOD d) COD

28. Which of the following is biodegradable pollutant?
a) DDT b) Sewage c) CFC d) Freons

29. Bhopal Gas tragedy took place in the year _____ and the gas responsible was _____
a) 1964 Hydrogen fluoride b) 1974, Methyl chloride
c) 1986, Methyl sulphate d) 1984, Methyl iso-cyanide

30. Which major air pollution incident occurred in London in 1952?
a) The Great smog b) The London fog
c) The Industrial smog d) The London Haze

31. The international protocol to protect the ozone layer is
a) Vienna protocol b) Kyoto protocol
c) Cartagena protocol d) Montreal protocol

32. Noise pollution limits at residential area during night time
a) 45 dB b) 80 dB c) 55 dB d) 90 dB

33. What is the role of a landfill liner?
a) To prevent the growth of plants
b) To trap methane gas
c) To prevent the leaching of contaminants into the ground
d) To increase landfill capacity

34. Under which rule of Government, guidelines for solid waste management are followed today?
a) Municipal Solid Waste Rules, 2000
b) Municipal Solid Waste Rules, 2016
c) Solid Waste Rules, 2020
d) Solid Waste Rules, 2016

35. The average composition of Municipal solid waste is
a) 41% inorganic, 40% inert and 19% recyclable
b) 41% organic, 40% inert and 19% recyclable
c) 20% organic, 60% inert and 20% recyclable
d) 30% organic, 20% inert and 50% recyclable

36. What is meant by 'waste to energy'?
a) Waste that is recycled into energy
b) Waste that is incinerated to generate electricity
c) Waste that can be composted for agricultural energy use
d) Waste that is used to create biofuels

37. Under the Biomedical Waste Management Rules, 2016 biomedical waste should be treated and disposed of within how many hour generation.
a) 12 hours b) 24 hours c) 48 hours d) 72 hours

38. Which of the following element make e-waste hazardous in nature?
a) Lead b) Glass c) Plastic d) Iron

39. According to Comptroller and Auditor-General's (CAG) report what is the amount of e-waste generated annually?
a) 4 LT b) 5 LT c) 6 LT d) 7 LT

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 (toasters, coffee makers, iron, hair dryers)
III. Personal computers, telephones, mobile phones, laptops, printers, scanners, photocopiers.
IV. Gas cylinder, chimneys and home appliances
a) Only I, II, III b) Only I and II
c) Only I, III, IV d) All of these

41. The highest proportion of large house hold appliances of E-waste is composed of
a) Ferrous metal b) Non-ferrous metal
c) Plastic d) glass

42. What is extended producer responsibility as per the e-waste management rules in India?
a) The responsibility of consumers to manage e-waste
b) The responsibility of manufacturers 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

43. What are the main categories of e-waste?
a) Large appliances, small appliances, IT and telecommunication equipment, consumer electronics, lighting equipment and electrical and electronic tools.
b) Glass, metal, plastic and paper
c) Food waste, organic waste and inorganic waste
d) Industrial waste, commercial waste and residential waste

44. The E-Waste (Management) Rules were revised in the year _____?
a) 2012 b) 2014 c) 2016 d) 2018

45. Which body issues guidelines for environmentally sound management of e-waste?
a) Central Pollution Control Board (CPCB)
b) Ministry of Commerce
c) National Green Tribunal
d) Bureau of Indian Standards (BIS)

46. What protective measures can reduce the health risks for workers handling e-waste
a) Wearing Personal Protective Equipments (PPE)
b) Working long hours
c) Reducing water intake
d) Increasing caffeine consumption

47. What is the primary purpose of the 'Basel Convention'?
a) To promote international trade
b) To control the transboundary movements of hazardous wastes and their disposal
c) To establish guidelines for recycling programs
d) To regulate greenhouse gas emissions

48. What is a common practice for managing e-waste in developing countries?
a) High-tech recycling facilities
b) Manual dismantling in informal sectors
c) Complete incineration
d) Export to other countries

49. The volume of nitrogen present in the troposphere is
a) 85% b) 75% c) 78% d) 99%

50. _____ are referred to as Earth's lungs
a) Forests b) Carboncycles c) Water sources d) Mines

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