

ENGINEERING AND TECHNOLOGY**ENVIRONMENTAL SCIENCE AND ENGINEERING****COURSE CODE: 24BTely103****SEM: I/II****QUESTION BANK****MODULE 1: INTRODUCTION TO ENVIRONMENT**

1. Which of the following statements define Environmental Engineering?
 - a) Information on environment
 - b) Waste disposal
 - c) Pollution control of various kinds
 - d) All of the mentionedAnswer: d) All of the mentioned
2. Which of the following is a renewable source of energy?
 - a) Ocean currents
 - b) Solar energy
 - c) Biomass
 - d) All of the aboveAnswer: d) all of the above
3. What is the estimated percentage of forest land that India should ideally have?
 - a) 15%
 - b) 50%
 - c) 44%
 - d) 33%Answer: (d) 33%
4. An extensive number of chains interlinked in an ecosystem forms a _____ together.
 - a) Food chain
 - b) Food web
 - c) Carbon cycle
 - d) Nitrogen cycleAnswer: (b) Food web
5. Which one of these does NOT refer to the direct use of forest products?
 - a) Grass for grazing
 - b) Gums and resins
 - c) Medicine
 - d) Bamboo for basketsAnswer: (b) Gums and resins
6. Name the day that is celebrated as the World Environment Day.
 - a) June 5th
 - b) June 6th

c) June 8th

d) June 10th

Answer: a) June 5th

7. What's the reason behind the blue color of the sky?

a) The water vapor is present

b) The sunlight gets scattered due to the air molecules

c) The blue light gets absorbed by the air

d) The blue light is emitted through the atmosphere

Answer: b) The sunlight gets scattered due to the air molecules

8. Environmental science is defined by which of the following statements?

a) study of the interactions between the environment's and humans only

b) study of the interactions between the environment's and physical components

c) study of the interactions between the environment's and chemical component

d) study of the interactions between the environment's physical, chemical, and biological components

Answer: d) study of the interactions between the environment's physical, chemical, and biological components

9. Which of the following is a non-renewable energy source?

a) Solar power

b) Wind power

c) Natural gas

d) Biomass

Answer: C) Natural gas

10. What does the term "biodiversity" refer to?

a) The variety of life forms in a given area

b) The number of endangered species

c) The rate of species extinction

d) The spread of invasive species

Answer: A) The variety of life forms in a given area

11. What does the global environment consists of

a) Atmosphere

b) Hydrosphere

c) Biosphere

d) All of the above

Answer: d) All of the above

12. What are the physical hazards to the environment?

a) Radioactive and UV radiation

b) Pesticides and heavy metals

c) Bacteria and viruses

d) None of the above

Answer: a) Radioactive and UV radiation

13. Plants utilize solar energy and make their own food through

a) Wind energy

b) Fossil Fuels

- c) Hydro power
- d) Photosynthesis

Answer: d) Photosynthesis

14. Photosynthesis is a process by which green plants turn _____ into food using energy from sunlight.

- a) Carbon-dioxide and water
- b) Hydrogen Sulphide
- c) NO_2
- d) Water

Answer: a) Carbon-dioxide and water

15. _____ is the power that is generated from moving water such as river.

- a) Electric charge
- b) Hydro power
- c) Bio-gas
- d) None of the above

Answer: b) Hydro power

16. Which of the following are the fossil fuels

- a) Coal
- b) Natural gas
- c) Petroleum
- d) All of the above

Answer: d) All of the above

17. Abiotic components of an ecosystem includes _____?

- a) Producers
- b) Living organisms
- c) Organic components
- d) None of the above

Answer: c) Organic components

18. The biotic components of an ecosystem includes _____?

- a) Living organisms
- b) Organic components
- c) Consumers
- d) None of the above

Answer: a) Living organisms

19. Biotic components is classified into

- a) Producers
- b) Consumers
- c) Decomposers
- d) All of the above

Answer: d) All of the above

20. The primary class of the consumers is called?

- a) Herbivore
- b) Carnivore
- c) Tertiary

d) Omnivores

Answer: a) Herbivore

21. Gross primary productivity (GPP) is called

- a) Organic matter synthesized per unit time
- b) Organic matter synthesized per unit area
- c) Rate of increase in body weight plus loss through respiration, grazing and damages
- d) All of the above

Answer: d) All of the above

22. Net primary productivity (NPP) is called

- a) Organic matter stored per unit time
- b) Organic matter stored per unit area
- c) Organic matter synthesized by photosynthesis minus utilization in respiration and losses
- d) All of the above

Answer: d) All of the above

23. Types of ground detritus are

- a) Dried plants
- b) Underground Dead animals
- c) Dead roots
- d) None of the above

Answer: a) Drier plants

24. Types of below ground detritus are

- a) Dead plants
- b) Underground Dead animals and plants
- c) Animals remains
- d) Excretions

Answer: b) Underground Dead animals

25. Energy “flows” through the ecosystem in the form of _____

- a) Hydrogen-Hydrogen bonds
- b) Carbon-Hydrogen bonds
- c) Carbon-Carbon bonds
- d) Hydrogen-Oxygen bonds

Answer: c) Carbon-Carbon bonds

26. The autotrophs obtain the inorganic nutrients from the inorganic nutrient pool, which is usually the soil or water surrounding the plants or algae. The inorganic nutrients include?

- a) The phosphorous in our teeth, bones, and cellular membranes
- b) The nitrogen in our amino acids
- c) The iron in our blood
- d) All of the above

Answer: d) All of the above

27. _____ is the gradual process by which ecosystems change and develop over a period of time

- a) Inhibition Hypothesis
- b) Ecological succession

- c) Food Chain
- d) None of these

Answer: b) Ecological succession

28. _____ is the path of food from a given final consumer back to a producer

- a) Food chain
- b) Producer
- c) Inhibition Hypothesis
- d) None of above

Answer: a) Food chain

29. How many number of trophic levels are present in Food chain

- a) 2-4
- b) 3-5
- c) 3-6
- d) 6-9

Answer: c) 3-6

30. An ecological pyramid is a _____ representation of an ecological parameter.

- a) Postural
- b) Graphical
- c) Numeral
- d) None of these

Answer: b) Graphical

31. The word bio-diversity refers to the variety of living organisms which includes

- a) Flora
- b) Fauna
- c) Both flora and fauna
- d) None of the above

Answer: c) Both flora and fauna

32. The process of using the raw material from which new species arise through evolution like breed new crop varieties and disease resistant crops is called?

- a) Species diversity
- b) Ecosystem diversity
- c) Genetic diversity
- d) All of the above

Answer: c) Genetic diversity

33. Species diversity is seen in

- a) Natural ecosystem
- b) Agricultural ecosystem
- c) Both natural and agricultural ecosystem
- d) None of the above

Answer: c) Both natural and agricultural ecosystem

34. Distinctive ecosystem includes

- a) Forest
- b) Deserts
- c) Aquatic ecosystem

- d) All of the above

Answer: d) All of the above

35. Ecosystem consists of

- a) Terrestrial
- b) Aquatic
- c) Both terrestrial and aquatic
- d) None of the above

Answer: c) Both terrestrial and aquatic

MODULE 2: ENVIRONMENTAL POLLUTION

36. Which of the following is/are types of pollution that affect the environment?

- a) Air pollution
- b) Water pollution
- c) Land pollution
- d) All of the above

Answer: d) All of the above

37. Which of the following is NOT a primary pollutant?

- a) Oxygen
- b) Ground-level ozone
- c) Carbon monoxide
- d) Carbon dioxide

Answer: a) Oxygen

38. Solid waste can be classified into

- a) Municipal solid waste (MSW) and agricultural waste
- b) Hazardous and industrial waste
- c) Agricultural waste
- d) All of the above

Answer: d) All of the above

39. Which of the following air pollution control device has maximum efficiency?

- a) Spray tower
- b) Wet cyclonic scrubber
- c) Dynamic precipitator
- d) Electrostatic precipitator

Answer: d) Electrostatic precipitator

40. Which of the following is not a part of photochemical smog?

- a) SPM (Suspended Particulate Matter)
- b) SO₂
- c) O₃
- d) NO₂

Answer: a) SPM (Suspended Particulate Matter)

41. The high level of lead air pollutant exposure causes

- a. Blue baby disease

- b. Fluorosis
- c. Damage to blood, brain, kidney and reproductive system
- d. Bone marrow disease

Answer: c) Damage to blood, brain, kidney and reproductive system

42. The air pollutants released to the atmosphere by burning of hydrocarbons combined with nitrogen oxide compounds are

- a. CO
- b. O₃
- c. Suspended Particulate Matter
- d. Dust particles

Answer: c) O₃

43. The catalytic converter converts the harmful pollutants into

- a. CO₂, H₂O and N₂
- b. CO
- c. Hydrocarbons
- d. NO_x and SO₂

Answer: a) CO₂, H₂O and N₂

44. The effect of air pollution on property causes

- a. Killing of tissues
- b. Erosion and corrosion
- c. Effects the respiratory system
- d. Causes lack of appetite, air born diseases etc.

Answer: b) Erosion and corrosion

45. Oxygen depleting waste water pollution causes

- a. Sediment erosion
- b. Radioisotopes
- c. Fish killing and oxygen depletion
- d. None of the above

Answer: c) Fish killing and oxygen depletion

46. Poisoning of water is caused by

- a. Hazardous waste
- b. Hot water
- c. Human waste
- d. Paper and cardboards

Answer: a) Hazardous waste

47. Which of the following type of pollution is Cultural Eutrophication?

- a) Noise pollution
- b) Thermal pollution
- c) Soil pollution
- d) Water pollution

Answer: d) Water pollution

48. What is the cause of the soil pollution?

- a. Acid rain
- b. Ozone

- c. Aerosol
- d. None of the above

Answer: a) Acid rain

49. The disease caused by Fluorine contamination in drinking water?

- a) Fluorosis
- b) Blue baby disease
- c) Bone marrow disease
- d) None of the above

Answer: a) Fluorosis

50. Which of the mentioned devices are used for removing vapour phase/gaseous pollutants?

- a) Wet scrubber
- b) Absorption towers
- c) Catalytic converters
- d) All of the above

Answer: d) All of above

51. Which of the following gas is not colorless?

- a) SO_3
- b) Pb
- c) NO
- d) O_3

Answer: c) NO

52. Which of these gases is not permitted to be released by the Prevention and Control of Pollution Act by the Government?

- a. Sulphur Dioxide
- b. Carbon Monoxide
- c. Nitrogen Oxide
- d. All of the above

Answer: d) All of the above

53. Which of these elements is present in the drinking water that can lead to numerous fatal diseases?

- a. Phosphorus
- b. Calcium
- c. Arsenic
- d. None of the above

Answer: c) Arsenic

54. Which of the following gases is the primary cause of acid rain?

- a. Nitrogen
- b. Carbon dioxide
- c. Sulfur dioxide
- d. Methane

Answer: c) Sulfur dioxide

55. What are the classification of air pollution sources

- a. Stationary sources
- b. Mobile sources
- c. Stationary and mobile sources
- d. None of the above

Answer: c) Stationary and mobile sources

56. Effects of air pollution on plants are

- a. Necrosis
- b. Chlorosis
- c. Abcission
- d. All of the above

Answer: d) All of the above

57. Sources of water pollution are

- a. Industrial effluents
- b. Domestic sewage
- c. Fertilizers and pesticides
- d. All of the above

Answer: d) All of the above

58. Excess pesticides causes

- a. Biomagnifications
- b. Eutrophication
- c. Sediments
- d. Thermal pollution

Answer: a) Biomagnifications

59. NO_3 contamination in drinking water causes

- a. Biomagnifications
- b. Fluorosis
- c. Methaemoglobinaceae (Blue baby disease)
- d. None of the above

Answer: c) Methaemoglobinaceae (Blue baby disease)

60. Solid waste is classified as

- a. Municipal solid waste
- b. Industrial waste
- c. Hazardous and biomedical waste
- d. MSW, Industrial waste, Hazardous and biomedical waste
- e. Answer: d) MSW, Industrial waste, Hazardous and biomedical waste

61. Municipal solid waste is also called as _____

- a. Bio-medical waste
- b. Industrial waste
- c. Leachate
- d. Trash and garbage

Answer: d) Trash and garbage

62. Composting of solid waste generates

- a. Medical waste
- b. Manure (Fertilizer)
- c. Hazardous waste
- d. None of above

Answer: b) Manure (Fertilizer)

63. A engineered facility used for disposal of solid waste on land is called

- a. Dumping yard

- b. Industries
- c. Landfills
- d. Transport trucks

Answer: c) Landfills

64. Bio-medical waste which is a disposal of bio-hazardous material is generated mainly in

- a. Schools and colleges
- b. Hotels
- c. Hospitals and nursing homes
- d. Municipal area

Answer: c) Hospitals and nursing homes

65. How many categories of bio-medical waste are classified by The Ministry of Environment and Forests

- a. 7
- b. 8
- c. 9
- d. 10

Answer: c) 9