

ENVIRONMENTAL & SUSTAINABILITY

Subject Code: 4300003

Date: 2025-04-01

Subject Name: ENVIRONMENTAL & SUSTAINABILITY

Time Duration: 81.0 minutes

Total Marks: 108

1. The reason for Sea Level rise is

- ☐ Depletion of ozone layer ☒ Global warming ☐ Smog ☐ Acid Rain

2

2. The type of generator used in HAWT which supply power to the grid line is

- ☒ Synchronous Induction Generator
☐ D.C Generator
☐ A.C. Generator
☐ Asynchronous Generator

2

3. Atmosphere of big cities is polluted by

- ☐ Household Waste ☐ Radioactive Fallout ☐ Pesticides ☒ Automobile Exhaust

2

4. BOD Measures

- ☐ content of bacteria
☐ Content of inorganic matter
☒ Carbonic matter in domestic sewage
☐ OUD

2

5. BOD stands for

- ☐ Biochemical Oxygen Dissolution
☒ Biochemical Oxygen Demand
☐ Biochemical Oxidation Demand
☐ Biological Oxygen Demand

2

6. The component of environment made of sea, rivers, lakes, etc is called

- ☐ Atmosphere ☒ Hydrosphere ☐ Biosphere ☐ Lithosphere

2

7. In which atmospheric layer do most cloud form ?

- ☐ Stratosphere ☐ Atmosphere ☐ Mesosphere ☒ Troposphere

2

8. Which type of clouds are responsible for thunderstorm

- ☐ Cirrus ☐ Stratus ☒ Cumulonimbus ☐ Nacreous

2

9. Which is the lowest layer of the atmosphere

- ☐ Stratosphere ☐ Mesosphere ☒ Troposphere ☐ Thermosphere

2



- 10. The ozone layer is mainly found in which atmospheric layer** 2
☐ Troposphere ☒ Stratosphere ☐ Mesosphere ☐ Exosphere
- 11. In which layer do most airplanes fly ?** 2
☒ Stratosphere ☐ Troposphere ☐ Thermosphere ☐ Mesosphere
- 12. The hottest layer of the atmosphere is** 2
☐ Troposphere ☐ Stratosphere ☒ Thermosphere ☐ Mesosphere
- 13. Which layer is known as the "ionosphere" due to its charged particles ?** 2
☐ Troposphere ☐ Stratosphere ☒ Thermosphere ☐ Mesosphere
- 14. The outermost layer of the Earth's atmosphere is called ?** 2
☐ Troposphere ☐ Mesosphere ☐ Thermosphere ☒ Exosphere
- 15. In a food chain** 2
☒ energy flows from tropic level-1 to tropic level-4
☐ energy flows from tropic level-4 to tropic level-1
☐ energy does not flow
☐ energy flows from tropic level-4 to tropic level-3
- 16. Which fuel used in automobiles produce least pollution ?** 2
☒ CNG ☐ LPG ☐ Diesel ☐ Petrol
- 17. Coal is the main contributor of** 2
☒ CO₂ ☐ SO₂ ☐ N₂ ☐ CO
- 18. Which gas is mainly responsible for green house effect ?** 2
☐ CO₂ ☒ CFC ☐ CH₄ ☐ N₂O
- 19. Hydrogen fuel cell** 2
☐ produce electric power by burning of hydrogen gas
☒ works like a battery
☐ Does not require recharging
☐ All of above
- 20. What is typical number of blades in most modern HAWTs ?** 2
☐ 1 ☐ 2 ☒ 3 ☐ 6
- 21. What happens if the wind speed exceeds the turbine's cut-out speed ?** 2
☐ The turbine speeds up
☒ The turbine stops to prevent damage
☐ The turbine stores extra energy
☐ The turbine reverses its rotation



22. What is the main function of the yaw mechanism in a HAWT ?

2

- ☐ To adjust the blade pitch
- ☒ To rotate the nacelle to face the wind
- ☐ To slow down the rotor speed
- ☐ To generate electricity directly

23. Where are the most HAWTs installed ?

2

- ☐ Underground
- ☒ Offshore and Onshore
- ☐ Inside buildings
- ☐ In urban rooftops

24. What is the main advantage of a HAWT over a VAWT (Vertical Axis Wind Turbine) ?

2

- ☐ Can operate in all wind direction without orientation
- ☒ More efficient at converting wind energy
- ☐ Require less land area
- ☐ Works better in low wind speed

25. In horizontal axis Wind Turbine (HAWT) where generator is placed ?

2

- ☒ In the nacelle
- ☐ Above the tower
- ☐ At ground level
- ☐ In the gearbox

26. Which of the following solid waste disposal methods is ecologically most acceptable ?

2

- ☐ Sanitary land fill
- ☐ Incineration
- ☒ Composting
- ☐ Pyrolysis

27. In a HAWT, the rotor shaft is aligned in which direction ?

2

- ☒ Horizontal
- ☐ Vertical
- ☐ Diagonal
- ☐ Perpendicular to wind Flow

28. What does HAWT stand for ?

2

- ☒ Horizontal Axis Wind Turbine
- ☐ Horizontal Axis Wind Tubeline
- ☐ Horizontal Airflow wind Turbine
- ☐ Hybrid Axis Wind Technology

29. Which is the most common material used for modern HAWT blades ?

2

- ☐ Carbon Fibre
- ☒ Fibreglass - reinforced plastic
- ☐ Pure aluminium
- ☐ Titanium Alloy

30. The biggest pollutant receptor or sink on the earth is

2

- ☒ Hydrosphere
- ☐ Lithosphere
- ☐ Atmosphere
- ☐ Biosphere

31. As per IS Code, the acceptable noise level in urban residential area is

2

- ☒ 35-45 dBA
- ☐ 45-55 dBA
- ☐ 30-40 dBA
- ☐ 40-50 dBA



- 32. Which is the largest ecosystem on the earth ?** 2
☐ Forests ☒ Sea ☐ Deserts ☐ Grasslands
- 33. In biogas plant, digestion takes place in the absense of** 2
☒ Oxygen ☐ Carbon dioxide ☐ Hydrogen ☐ Methane
- 34. The daily cover of MSW landfills consists of which of the following** 2
☒ Compacted Soil ☐ Geomembrane ☐ Geotextile ☐ Geocomposite
- 35. In the atmosphere reaction between Nitrogen oxides, hydrocarbon and sunlight produces** 2
☐ Sulphur Dioxide ☐ Benzene ☐ CO ☒ PAN
- 36. Noise pollution is measured in** 2
☒ Decibel ☐ Newton ☐ Dyne ☐ ECO
- 37. Vegetables, grass, trees, etc are which type of biotic components ?** 2
☒ Producers ☐ Consumers ☐ Decomposers ☐ Transformers
- 38. Nacelle is used in** 2
☐ Darious wind turbine
☐ Savonious wind turbine
☒ Horizontal axis wind turbine
☐ Water pumping wind mill
- 39. Due to 'Ozone hole' in the earth's atmosphere, which ray comes to earth surface ?** 2
☐ Laser rays ☐ X-rays ☒ Ultravoilet rays ☐ None of these
- 40. Less of removal of the superficial layer of soil by the action of water, wind, or by the human activites are termed as** 2
☒ Soil Erosion ☐ Soil Pollution ☐ Desertification ☐ Salination
- 41. Minamata disease is caused by _____** 2
☒ Mercury ☐ Lead ☐ Zinc ☐ Manganese
- 42. Which of the following is an artifical ecosystem ?** 2
☐ Forests ☐ Desert ☒ Fish house ☐ Pond
- 43. Which pollutant is primarily responsible for causing respiratory problems and cardiovascular diseases in humans ?** 2
☐ Lead ☐ Benzene ☐ Carbon Monoxide (CO) ☒ Particulate matter (PM10)



44. What is the approximately range of modern solar photovoltaic (PV) panels in converting sunlight in to electricity ? 2
☐ 5-10% ☒ 15-20% ☐ 20-30% ☐ 40-50%
45. CFCs are not recommended to be used in refrigerator because they ____ 2
☐ Increase Temperature
☒ Deplete Ozone
☐ Affect Environment
☐ Affect Human Body
46. Clouds are present ____ in layer of atmosphere. 2
☐ Stratosphere ☒ Troposphere ☐ Thermosphere ☐ Mesosphere
47. Which pollutant is commonly associated with blue baby syndrome in infants ? 2
☐ Lead ☐ Arsenic ☐ Mercury ☒ Nitrate
48. Which disease is known as 'pain-pain-diseases' due to severe bone pain and fractures ? 2
☐ Black Lung Disease ☒ Itai-Itai Disease ☐ Silicosis ☐ Fluorosis
49. Which occupational disease is caused by inhaling coal dust over a long period ? 2
☐ Asbestosis ☐ Silicosis ☒ Black Lung Diseases ☐ Eutrophication
50. What is the primary pollutant responsible for Fluorosis ? 2
☒ Fluoride ☐ Lead ☐ Sulfur dioxide ☐ Arsenic
51. The Bhopal Gas Tragedy was caused due to which leakage of gas ? 2
☐ Carbon Monoxide
☒ Methyl isocyanate (MIC)
☐ Sulfur dioxide
☐ Nitrogen dioxide
52. Which disease is associated with inhaling silica dust ? 2
☒ Silicosis ☐ Asbestosis ☐ Itai-Itai Disease ☐ Blue Baby Syndrome
53. Acid Rain is mainly caused by which pollutants ? 2
☐ Carbon monoxide and Lead
☒ Nitrogen oxide and Sulphur dioxide
☐ Fluoride and Mercury
☐ Ozone and PM2.5
54. What is the main source of Cadmium Contamination leading to Itai-Itai diseases 2
☐ Fertilizer runoff ☒ Industrial wastewater ☐ burning of fossil fuels ☐ Oil spills

