Aliah University

B.Tech / Sciences/ MBA- Environmental Studies
Model Question Paper: I - 2025

Full Marks: 80 **Time: 3 Hours**

Group-A

(Answer any 20 questions)

(Each question carries 1 mark. $20 \times 1 = 20$)

1. The pyramid of energy in a forest ecosystem is:
   A) Always upright B) Always inverted C) Both upright and inverted D) None of these
2. The importance of ecosystem is:
   A) Flow of energy B) Cycling of materials C) Both A and B D) None of these
3. What is biodiversity?
   A) Variety of life forms on Earth B) Number of species on Earth
   C) Number of animals in an ecosystem D) Number of plants in a given area
4. Which biome has the highest biodiversity?
   A) Grassland B) Desert C) Tropical rainforest D) None of these
5. Which of the following pollutants are responsible for smog?
   A) From incinerators B) Emissions from vehicles C) Both A and B D) None of these
6. Which of the following is called a secondary air pollutant?
   A) Sulphur Dioxide B) Oxides of Nitrogen C) Ozone D) Carbon monoxide
7. What percentage of oxygen is present in the atmosphere?
   A) 60% B) 21% C) 34% D) 59%
8. Which chemical method is commonly used to purify water?
   A) Bromination B) Fluorination C) Filtration D) Chlorination
9. Which of the following is a waterborne disease?
   A) Typhoid B) Cholera C) Diarrhea D) All of the above
10. BOD stands for:
    A) Biological Oxygen Demand B) Biochemical Oxygen Demand
    C) Biological Oxidation Demand D) Biotic Oxidation Demand
11. How many National Parks are present in India?
    A) 45 B) 100 C) 106 D) 220

12. Which Indian state has the largest forest cover?
    A) Kerala B) Kashmir C) Madhya Pradesh D) None of these
13. In which galaxy is our solar system located?
    A) Milky Way B) Andromeda C) Ursa Major D) Orion Way
14. Which is the coldest region of the atmosphere?
    A) Exosphere B) Mesosphere C) Stratosphere D) Troposphere
15. Dominant organisms found nowadays are:
    A) Carnivores B) Rodents C) Herbivores D) Marine mammals
16. Chipko Movement is concerned with:
    A) Animal breeding B) Plant breeding C) Tiger project D) Plant conservation
17. Number of biological hotspots in the world is:
    A) 14 B) 74 C) 36 D) 25
18. Coal and natural gas are examples of:
    A) Non-metallic minerals B) Energy minerals C) Ferrous minerals D) Non-ferrous minerals
19. Which of the following is **not** a major greenhouse gas?
    A) Carbon dioxide B) Ozone C) Water vapour D) Methane
20. The average temperature maintained by greenhouse effect is:
    A) 15°C B) 33°C C) 18°C D) 50°C
21. The main source of urban air pollution is:
    A) Industries B) Transportation C) Domestic waste D) Municipal waste
22. The upper layer of the lithosphere is called:
    A) Mantle B) Core C) Crust D) None of these
23. The two most important gases responsible for global warming are:
    A) Oxygen & Nitrogen B) Carbon & Methane
    C) Hydrogen & Ozone D) None of these
24. Which cycle involves circulation of nitrogen through living and non-living parts of an ecosystem?
    A) Carbon cycle B) Nitrogen cycle C) Phosphorous cycle D) Sulphur cycle
25. Which layer protects us from UV radiation?
    A) Troposphere B) Stratosphere C) Mesosphere D) Exosphere

Group-B

(Answer any 6 questions)

(Each question carries 10 marks $6 \times 10 = 60$)

1. What is a food chain? Define grazing and detritus food chains with examples. What is a biogeochemical cycle? (2+5+3)
2. Define biodiversity. Write its uses and values. What are the major threats to biodiversity? (2+4+4)
3. Discuss the Chipko Movement. How has it impacted forest conservation in India? (10)
4. What is environmental governance? Briefly explain the Environmental Protection Act in India. (5+5)
5. How are environment and public health related? Define airborne diseases with examples. Write the full form of HIV and AIDS. (5+2+1+2)
6. What are the major threats to world forests? Discuss factors leading to forest conservation. Mention the total forest cover percentage of India. (5+4+1)
7. How are environmental zones classified? Briefly describe any one environmental zone. (2+8)
8. Write short notes on any two: (5+5)
   A) Oxygen evolution in primitive Earth atmosphere
   B) Global Warming
   C) Bhopal Gas Disaster
   D) Problems of Coal Mining Industries in India
9. What is air pollution? Define primary and secondary air pollutants with examples. Mention a few processes to reduce air pollution. (2+4+4)

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Model Question Paper - II - 2025

Full Marks: 80 **Time: 3 Hours**

Group-A

(Answer any 20 questions)

(Each question carries 1 mark $20 \times 1 = 20$)

1. Which is the largest freshwater lake in India?
   A) Chilika Lake B) Wular Lake C) Loktak Lake D) Dal Lake
2. An ecosystem consists of:
   A) Producers and Consumers B) Producers and Decomposers
   C) Producers, Consumers, and Decomposers D) Only Producers
3. Which is an abiotic component of the ecosystem?
   A) Plants B) Animals C) Bacteria D) Soil
4. Which gas is the most abundant in the atmosphere?
   A) Oxygen B) Nitrogen C) Carbon dioxide D) Hydrogen
5. Primary air pollutants are released directly from:
   A) Factories B) Automobiles C) Forest fires D) All of these
6. Ozone is mainly found in which layer of the atmosphere?
   A) Troposphere B) Mesosphere C) Thermosphere D) Stratosphere
7. Which of the following energy sources is renewable?
   A) Coal B) Petroleum C) Wind D) Natural gas
8. BOD is an indicator of:
   A) Noise pollution B) Water pollution C) Soil pollution D) Air pollution
9. The term 'Biomagnification' is related to:
   A) Air pollution B) Noise pollution C) Water pollution D) Soil pollution
10. Which one is an example of an endangered species in India?
    A) Asiatic Lion B) Bengal Tiger C) Indian Rhino D) All of the above
11. Greenhouse gases trap:
    A) X-rays B) Heat C) Ultraviolet radiation D) Sound
12. Which is an example of ex-situ conservation?
    A) National Park B) Biosphere Reserve C) Zoo D) Sanctuary
13. Which is **not** a source of noise pollution?
    A) Jet engines B) Loudspeakers C) Earthquake D) Road traffic

14. Which of the following is an example of a non-point source of pollution?
    A) Factory discharge B) Sewage outlet C) Agricultural runoff D) Oil spill
15. Which of the following sectors uses the maximum freshwater?
    A) Industry B) Agriculture C) Domestic use D) Power plants
16. Kyoto Protocol is related to:
    A) Biological diversity B) Climate change C) Ozone depletion D) Desertification
17. Name a disease caused by consuming contaminated water:
    A) Typhoid B) Asthma C) Tuberculosis D) Pneumonia
18. Which is a biotic resource?
    A) Rocks B) Minerals C) Forests D) Water
19. Earth Day is celebrated on:
    A) 5th June B) 22nd March C) 22nd April D) 16th September
20. Which Indian river is called "Sorrow of Bengal"?
    A) Ganga B) Brahmaputra C) Damodar D) Hooghly
21. Which of these is a fossil fuel?
    A) Solar energy B) Wind energy C) Coal D) Biomass
22. Water pollution can be measured by checking:
    A) Sound levels B) Salinity C) Dissolved oxygen D) Temperature
23. Which organization publishes the "Red Data Book"?
    A) WHO B) IUCN C) UNEP D) WWF
24. Which of the following is a heavy metal pollutant?
    A) Calcium B) Potassium C) Lead D) Sodium
25. The atmosphere is held to the Earth by:
    A) Temperature B) Gravity C) Winds D) Pressure

Group-B

(Answer any 6 questions)

(Each question carries 10 marks $6 \times 10 = 60$)

1. Define ecosystem. Briefly describe different types of ecosystems with examples. (2+8)
2. Discuss the structure and functions of an ecosystem. Draw a neat diagram. (5+5)
3. Explain the causes and effects of deforestation. Write down any two methods of forest conservation. (5+3+2)
4. Discuss the different types of air pollutants and their sources. (5+5)
5. What is a food web? How does it differ from a food chain? Draw an example of each. (3+3+4)

6. What are greenhouse gases? Describe their sources and effects. (2+4+4)
7. Write short notes on any two: (5+5)
   A) Water Pollution
   B) Biodiversity Hotspots
   C) Ozone Layer Depletion
   D) Environmental Ethics
8. Explain sustainable development. How is it related to environmental conservation? (5+5)
9. What are the causes and impacts of global warming? Mention two major international efforts to control global warming. (5+3+2)

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Model Question Paper - III - 2025

Full Marks: 80 **Time: 3 Hours**

Group-A

(Answer any 20 questions)

(Each question carries 1 mark $20 \times 1 = 20$)

1. The flow of energy in an ecosystem is:
A) Cyclic
B) Linear
C) Circular
D) None

2. The gaseous cycle among the following is:
A) Phosphorus cycle
B) Nitrogen cycle
C) Sulphur cycle
D) Carbonate cycle

3. Which one is a non-renewable resource?
A) Solar energy
B) Wind energy
C) Fossil fuels
D) Biomass

4. Species diversity is highest in:
A) Desert
B) Tundra
C) Tropical rainforests
D) Grasslands

5. Ecological pyramids were first described by:
A) Darwin
B) Elton
C) Linnaeus
D) Wallace

6. Which layer protects us from UV radiation?
A) Troposphere
B) Stratosphere
C) Mesosphere
D) Exosphere

7. Ozone depletion is mainly caused by:
A) CO_2
B) CFCs
C) CH_4
D) SO_2

8. An example of a primary air pollutant is:
A) Ozone
B) Sulphur dioxide
C) Peroxyacetyl nitrate
D) Smog

9. Which disease is caused by contaminated water?
A) Influenza
B) Cholera
C) Tuberculosis
D) Measles

10. Which gas causes acid rain?
A) Methane
B) Carbon dioxide
C) Sulphur dioxide
D) Helium

11. The first Biosphere Reserve in India is:
A) Sundarbans
B) Nanda Devi
C) Nilgiri
D) Manas

12. BOD is an indicator of:
A) Noise level
B) Air quality
C) Water pollution
D) Soil fertility

13. The Montreal Protocol is related to:
A) Global warming
B) Biodiversity loss
C) Ozone layer protection
D) Desertification

14. The main source of noise pollution is:
A) Forest
B) Ocean
C) Traffic
D) Mountain

15. Which mineral is a renewable resource?
A) Iron
B) Coal
C) Water
D) Gold

16. Soil erosion can be prevented by:
A) Deforestation
B) Overgrazing
C) Afforestation
D) Urbanization

17. The largest National Park in India is:
A) Jim Corbett
B) Gir
C) Hemis
D) Kaziranga

18. World Environment Day is celebrated on:
A) 5th June
B) 22nd April
C) 1st December
D) 14th November

19. Minamata disease is caused by:
A) Arsenic
B) Lead
C) Mercury
D) Cadmium

20. Which country emits the highest amount of CO_2?
A) India
B) China
C) USA
D) Russia

21. Which zone is rich in biodiversity?
A) Polar
B) Desert
C) Tropical
D) Tundra

22. The primary component of smog is:
A) Dust
B) Water
C) Smoke
D) Sulphur

23. Acid rain affects:
A) Forests
B) Oceans
C) Deserts
D) Tundras

24. Environmental Impact Assessment (EIA) is for:
A) Pollution control
B) Assessing project impacts
C) Climate control
D) Biodiversity survey

25. Deforestation leads to:
A) Increase in rainfall
B) Loss of biodiversity
C) Soil formation
D) Ocean pollution

Group-B

(Answer any 6 questions)

(Each question carries 10 marks $6 \times 10 = 60$)

1. What are ecological pyramids? Discuss types of ecological pyramids with examples.

2. Explain the nitrogen cycle with a neat diagram.

3. Define biodiversity. Explain the categories of biodiversity with examples.

4. Describe the major causes and effects of global warming.

5. Write short notes on any two:
a) Biosphere reserve
b) Greenhouse gases
c) Carbon cycle

6. Discuss the major sources and effects of air pollution. Suggest control measures.

7. What is sustainable development? Explain its objectives and importance.

8. Describe the reasons for forest depletion and suggest conservation strategies.

9. Explain water pollution. Describe any two methods of water purification.

10. Write a short note on the Chipko Movement and its significance in forest conservation.

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Model Question Paper - IV - 2025

Full Marks: 80 **Time: 3 Hours**

Group-A

(Answer any 20 questions)

(Each question carries 1 mark $20 \times 1 = 20$)

1. The essential process of energy flow in an ecosystem is:
A) Respiration
B) Decomposition
C) Photosynthesis
D) Circulation

2. Which of the following is a waterborne disease?
A) Malaria
B) Typhoid
C) Dengue
D) Tuberculosis

3. In-situ conservation refers to conservation of species:
A) In laboratory
B) In natural habitat
C) In zoological parks
D) In botanical gardens

4. The main layer where weather phenomena occur is:
A) Troposphere
B) Stratosphere
C) Mesosphere
D) Thermosphere

5. Noise pollution is measured in:
A) Hertz
B) Decibel
C) Pascal
D) Tesla

6. Which is not a fossil fuel?
A) Coal
B) Petroleum
C) Natural gas
D) Biomass

7. Which of the following has the maximum biodiversity?
A) Ocean
B) Rainforest
C) Desert
D) Arctic

8. The Chipko Movement started in:
A) Himachal Pradesh
B) Rajasthan
C) Uttarakhand
D) Kerala

9. Ganga Action Plan was initiated in:
A) 1975
B) 1985
C) 1990
D) 1995

10. Which of the following is a secondary pollutant?
A) Carbon monoxide
B) Sulphur dioxide
C) Ozone
D) Methane

11. Which mineral resource is energy providing?
A) Copper
B) Gold
C) Coal
D) Diamond

12. Greenhouse gases trap:
A) Rainfall
B) Earth’s heat
C) Oxygen
D) Winds

13. Which of the following is NOT a biogeochemical cycle?
A) Water cycle
B) Carbon cycle
C) Nitrogen cycle
D) Energy cycle

14. The Kyoto Protocol deals with:
A) Wetland conservation
B) Climate change
C) Wildlife protection
D) Forest conservation

15. Biodiversity Hotspot term was given by:
A) Norman Myers
B) Charles Darwin
C) Linnaeus
D) Wallace

16. An example of an endangered species in India is:
A) House sparrow
B) Indian tiger
C) Peacock
D) Indian myna

17. Major contributor to global warming is:
A) Oxygen
B) Nitrogen
C) Carbon dioxide
D) Hydrogen

18. Bhopal Gas Tragedy was caused by leakage of:
A) Chlorine
B) Ammonia
C) Phosgene
D) Methyl isocyanate

19. The major cause of biodiversity loss is:
A) Habitat destruction
B) Climate stability
C) Seed dispersal
D) Rainfall

20. What percentage of the earth's surface is covered by forests approximately?
A) 10%
B) 30%
C) 60%
D) 80%

21. The main component of acid rain is:
A) Hydrochloric acid
B) Sulphuric acid
C) Citric acid
D) Carbonic acid

22. Which ecosystem is known as "lungs of the earth"?
A) Forest
B) Ocean
C) Grassland
D) Desert

23. Which Indian Act deals with Wildlife Protection?
A) 1972
B) 1986
C) 1992
D) 2000

24. Coral bleaching is due to:
A) Water pollution
B) Climate change
C) Soil pollution
D) Air pollution

25. Which gas is not a greenhouse gas?
A) Carbon dioxide
B) Nitrogen
C) Methane
D) Ozone

Group-B

(Answer any 6 questions)

(Each question carries 10 marks $6 \times 10 = 60$)

1. What is an ecosystem? Discuss its structure and functions.

2. Describe the carbon cycle with a neat diagram.

3. Explain causes, impacts, and control measures of water pollution.

4. Discuss the causes of biodiversity loss and strategies for biodiversity conservation.

5. Define and distinguish between renewable and non-renewable resources with examples.

6. Write a detailed note on the Environmental Protection Act, 1986.

7. Discuss global warming and measures to control it.

8. Describe noise pollution and its control methods.

9. Explain acid rain: causes, effects, and preventive measures.

10. Write short notes on:
a) Ecological succession
b) Phosphorus cycle