



**ENVIRONMENTAL SCIENCE & ENGINEERING
QUESTION BANK**

UNIT – I

PART – A

1. Define Environmental studies.
2. What are the principles of environmental education?
3. Mention the scope and importance of Environmental studies.
4. Define Ecology?
5. Define Eco-System with an example?
6. What are the structural components of an Ecosystem?
7. Bring out the functional features of an Ecosystem?
8. Differentiate between Food Chain and Food Web?
9. What are Ecological Pyramids. Give examples.
10. Pyramid of energy is always upright. Explain.
11. What are Biochemical cycles. Explain their importance?
12. What is the significance of Ecological pyramids?
13. There found to be only 4 to 5 trophic levels in any Ecosystem. Explain.
14. What is Ecological Succession. Mention its types.
15. Discuss about the prime characteristics of
 - a. Forest Ecosystem
 - b. Grassland Ecosystem
 - c. Desert Ecosystem
 - d. Aquatic Ecosystem
16. Differentiate species and genera. (or) Define genetic diversity.
17. Differentiate between biodiversity and ecosystem biodiversity.
18. What are hotspots of biodiversity?
19. Justify India to be a great spot of biodiversity.
20. Bring out the threats towards biodiversity .How poaching affects biodiversity.
21. Define Endemism with an example.
22. What are endangered species? Give examples.
23. What are the aesthetic values of biodiversity.
24. What are National Parks. Name few parks in India.
25. Explain the necessity to conserve biodiversity.
26. What are GPP and NPP.
27. What is Ecological regulators.
28. Define Food Chain with an example.
29. Define Food Web with an example.
30. Discuss the water cycle.
31. Bring few methods to conserve biodiversity.
32. What is stratification?
33. Bring out the classification of aquatic ecosystem.
34. Explain ecological; pyramids with respect to pond ecosystem.



35. What is ecosystem diversity.
36. Bring out the Bio-geographical classification of India.
37. Comment on local or regional biodiversity.
38. Explain Endemism with respect to India.
39. Bring out the order of distribution of biodiversity through out the world with reasons.
40. What is biodiversity and its significance.
41. Explain biosphere.
42. Explain threatened species.

PART-B

1. Explain the components, characteristics and biodiversity of Forest ecosystem.
2. Explain the structure and functional features of Aquatic ecosystem.
3. Discuss in detail about Ecological succession stating the various stages.
4. What are trophic levels? Explain the flow of energy and minerals in ecosystem.
5. Explain the two models of energy flow in an ecosystem.
6. Discuss the value of biodiversity.
7. Explain Carbon and Nitrogen cycles.
8. Explain the Sulphur and Phosphorus cycles.
9. What are the threats faced by biodiversity. What are the solutions for the threats.
10. Explain In-situ and Ex-situ conservation of biodiversity.(or) What are the measures recommended for conservation of biodiversity.

UNIT-II

PART-A

1. Define Pollution.
2. What are the types of pollutants.
3. What are the types of Air pollutants.
4. What is suspended particulate matter. Give example.
5. Define photochemical smog.
6. What are types of acid rain.
7. How will you control air pollution.
8. Give the major water pollutants with example.
9. What is meant by point and nonpoint sources.
10. What is chlorosis and necrosis.
11. What is bioaccumulation.
12. Mention the diseases caused by nitrates.
13. Define BOD and COD.
14. Define soil pollution.
15. What are the sources of soil pollution.
16. What are the sources effects of marine pollution.



17. What are the control methods of thermal pollution.
18. Give the sources of radio activity.
19. Classify solid wastes.
20. What are the sources of urban and industrial wastes.
21. Why do earth quake occur.
22. What are the damages caused by ionic radiations.
23. What are the various types of natural disasters.
24. What are the roles of a citizen in reducing pollution.
25. What are Municipal Solid Wastes(MSW)
26. What is composting.
27. What is incinerators.
28. What are aerosols. Give examples.
29. Explain aerobic and anaerobic oxidation.
30. What are the two main commonly used radio isotopes in nuclear fission reactions?
31. Explain disaster management briefly.
32. What is meant by automobile pollution.
33. What is domestic sewage?
34. What are the sources and effects of air pollutants.
35. Define thermal pollution.

PART- B

1. Mention the sources and effects of various air pollutants.
2. Describe the method of control of air pollution.
3. Briefly describe the sources effects and control of noise pollution.
4. Enumerate with example the major sources of surface and ground water pollution.
5. Write short notes on a) Minimata disease b) blue baby syndrome c) itai-itai disease.
6. Explain the method of sewage water treatment.
7. What are the major sources of soil pollution?
8. What are the measures to be taken to prevent soil pollution?
9. Explain in detail the Solid waste management techniques.
10. Write notes on (i) Floods (ii) Landslides (iii) Cyclones.
11. Explain any two case studies on Nuclear pollution.
12. What are the sources, effects & control measures of Marine pollution?
13. Explain the various types of Radio-active radiations.
14. Explain the causes, effects & control measures of Water pollution.
15. What are the effects of improper municipal solid waste management? State the measures recommended for proper management of the solid waste.
16. Explain the methods of disposal of municipal solid waste.
17. Write notes on disposal of radio-active wastes.
18. Compare the nuclear power with coal power.
19. What are the causes of soil erosion and methods of preventing it.
20. Discuss the aspects of prevention & control of noise.

UNIT-III

PART-A

1. What is mining? Mention the methods of mining.
2. Enumerate the effects of mining on the environment.
3. What are Dams? How is it useful to human beings?
4. Discuss the problems of over-exploitation of Ground water.
5. What are the methods of flood control?
6. What are the up-stream impacts of construction of dams?
7. Define under-nutrition & mal-nutrition.
8. What are the merits of using renewable energy resources?
9. Why alternate energy resources are required?
10. What is the application of wind energy?
11. Write a note on Geo-Thermal energy.
12. What is soil erosion?
13. Differentiate between renewable & non-renewable energy resources.
14. Mention the advantages & disadvantages of modern agriculture.
15. Differentiate between organic and synthetic fertilizers.
16. What is an aquifer? Mention its types.
17. What are the types of mining?
18. Mention the types of drought.
19. What are super-pests?
20. Define Eutrophication.
21. What is biological magnification?
22. What is organic farming?
23. What is meant by sustainable development?
24. What are the major causes of deforestation?
25. Mention the effects of ground water usage?
26. What are the types of minerals?
27. What is microbial leaching technique?
28. What is carrying capacity?
29. What are the types of soil erosion?
30. What are the uses of various types of minerals?
31. What is bio-gas?
32. What is nuclear energy?
33. Define sustainable forestry.
34. State the environmental effects of extracting & using mineral resources.
35. State the need for public awareness for solving environmental problems.
36. What is water logging?
37. What is salinization?
38. How forests are useful to mankind?

PART – B

1. What are conventional energy resources? Discuss about solar energy and Ocean thermal energy.
2. Discuss the major causes & consequences of deforestation?
3. Explain the major impacts of timber extraction and mining.
4. Enumerate the various benefits and drawbacks of constructing dams.
5. What are the uses and over-exploitation of water? Explain with a case-study.
6. Comment on floods & drought.
7. What are the environmental impacts of mineral extraction? Explain.
8. Discuss in detail the impacts of over-grazing & agriculture.
9. Write short notes of (i) Tidal energy (ii) Bio-gas (iii) Nuclear energy.
10. Explain the various types of land degradation.
11. Explain as an individual how will you conserve natural resources.
12. How will you achieve sustainable life-style by equitable share of resources.
13. What are the measures recommended for conservation of natural resources.
14. Explain briefly the various methods of harvesting solar energy.
15. Explain in detail the effects due to pesticides usage in moderns agriculture.

UNIT – IV

PART – A

1. Define Sustainable development.
2. Write a note on Earth Summit – 1992.
3. Bring out the important aspects of sustainable development.
4. Write a note on 3R principle.
5. Define Rain Water Harvesting.
6. What are the objectives of rain water harvesting?
7. What is water Shed?
8. What are the objectives (or) principles of watershed management?
9. Write a note on agro-forestry.
10. Name few Green-House gases.
11. What are the effects of global warming?
12. Mention few practices to reduce global warming.
13. Explain acid-rain and its effects.
14. Bring out the reactions taking place at stratosphere.
15. What are the effects of Ozone-Layer depletion?
16. Compare Consumerism & Waste generation.
17. Enlist the factors affecting the sustainable society.
18. Differentiate between Re-habilitation & Re-settlement of people.
19. Mention the objectives of Environment Protection Act.
20. Enlist the objectives of Air-Pollution Act.
21. Explain the Wild-Life protection Act.
22. Explain the necessity of Environmental Legislation.



23. What is nuclear holocaust? How can it occur?
24. Write a note on crop rotation.
25. Discuss the articles 48-A & 51-A of Indian Constitutional provision for Environmental protection.
26. Write a note on CPCB & SPCB.
27. Indicate some methods to create environmental awareness among public.
28. How can we achieve the goal of sustainable development?
29. Define environmental ethics.
30. How does a climate change occur?
31. Mention any two control measures on acid rain.
32. What is acid deposition ?
33. Define population explosion.

PART – B

1. Bring out the activities of NGO's on environmental protection.
2. Discuss about the Forest Act, 1980 and its amendment –1992.
3. Describe about Water Act – 1974.
4. Describe the important waste land reclamation practices.
5. Describe environmental ethics in detail.
6. Discuss the modern techniques of rain water harvesting.
7. Discuss the water shed management practices.
8. Discuss in detail about the water conservation methods.
9. Discuss the agenda for sustainable development.
10. Write in detail about global warming.
11. Explain the mechanism of Ozone layer depletion.
12. Write briefly on community participation in environment management programmes.
13. Discuss briefly of the Indian environmental Acts.
14. Write short notes on a) environmental ethics b) waste land reclamation.
15. State the important provisions in Environment protection Act , Air Act Water Act.
16. Explain the role of NGOs in Environmental management.

UNIT – V

PART –A

1. Write short notes on population dynamics.
2. What are the factors affecting population size?
3. What is meant by population stabilization.
4. Define the term population explosion.
5. What kinds of problems are created due to Urbanisation?
6. What are the objectives of Family Planning Programmes?
7. Mention the types of health hazards with examples.
8. What is the role of primary health care against AIDS?



9. What do you mean by remote sensing?
10. Mention the applications of remote sensing on water resources.
11. What is doubling time, total fertility rates?
12. Define Zero Population growth.
13. What are the two important views of population growth?
14. What is meant by value education?
15. What is GIS?
16. Define (i) Toxins (ii) Carcinogens (iii) Tetrogenic (iv) Neurotoxins.
17. State how environment & human health are related?

PART – B

1. Explain the population characteristics & variations among nations.
2. What is meant by population explosion? Discuss the Indian Scenario.
3. What is meant by population stabilization? Discuss the family welfare and family planning in Indian context.
4. Discuss the influence of environmental parameters and pollution on human health.
5. What is Universal declaration of Human rights? What is its importance in achieving the goals of equity, justice & sustainability.
6. Discuss the salient features of Draft declaration of Human Rights on environment.
7. What are the objectives & elements of Value-education? How can the same be achieved?
8. Briefly discuss HIV/AIDS, mode of its spread and its effect on environment.
9. Discuss various issues & measures for Women & Child Welfare at International & National level.
10. What is the role of NMIS, ENVIS & GIS in dissemination of environmental information and environmental management?
11. Explain the role of Information Technology in environment & Human health.
12. Discuss the environmental and social impacts of growing population.
13. Write briefly on the effect of increasing affluence on environment.
14. Write briefly on implementation of family planning programme.
15. Write a note on AIDS in developing countries.
16. Discuss the factors influencing the family size.
