

## QUESTION BANK

VALLIAMMAI ENGINEERING COLLEGE

Department of EIE

**GE6351- Environmental Science and Engineering**

**Unit – I Environment, Ecosystems and Biodiversity**

**Part – A (2 marks)**

1. Define biodiversity. **(BT-1)**
2. State food chain and food web. **(BT-1)**
3. List some of the hot spots of biodiversity in India. **(BT-1)**
4. Define ecological succession and ecological pyramid. **(BT-1)**
5. Describe estuary in coastal zones? **(BT-2)**
6. Differentiate between endangered and epidemic species. **(BT-4)**
7. Examine the value of Bio-diversity. **(BT-1)**
8. Demonstrate the function of Ecology and its cycle. **(BT-3)**
9. Explain Ecosystem. **(BT-4)**
10. Write the classification of Biodiversity. **(BT-6)**
11. Analyze what is an Abiotic environment? **(BT-4)**
12. Explain endangered species. **(BT-2)**
13. Summarize about Species & Genetic diversity. **(BT-5)**
14. Discuss about common hazardous chemical. **(BT-2)**
15. Compare biotic and abiotic components of an ecosystem. **(BT-5)**
16. Sketch and explain biogeochemical cycles. **(BT-3)**
17. Illustrate four important features of desert ecosystem. **(BT-3)**
18. Write about environmental science. **(BT-6)**
19. State the need for public awareness for solving environmental problems. **(BT-1)**
20. Summarize the aesthetic values of biodiversity. **(BT-2)**

### Part-B

1. (i) Describe the types, characteristics features, structures and functions of (8) **(BT-1)**
  - (1) Forest ecosystem
  - (2) Aquatic ecosystem.
- (ii) Explain the following: (8) **(BT-4)**
  - (1) Ecological Succession

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- (2) Ecological Pyramids.
2. (i) Examine the major causes of man-wild conflicts? Discuss the remedial steps that can curb the conflict. (8) **(BT-1)**  
(ii) Explain briefly the energy flow through ecosystem. (8) **(BT-4)**
3. (i) Explain the major factors that are responsible for the loss of biodiversity. (8) **(BT-4)**  
(ii) Analyze the importance and values of biodiversity reserves. **(BT-4)**
4. (i) Define ecosystem. Give an account of structure and functions of grassland ecosystem. (8) **(BT-1)**  
(ii) Define biodiversity. Discuss the values and significance of biodiversity. (8) **(BT-1)**
5. (i) Sketch the Nitrogen cycle with a brief note. (8) **(BT-3)**  
(ii) Explain conservation of biodiversity? State and explain the basic approaches to wild life conservation. (8) **(BT-4)**
6. (i) Describe food chains and food webs? (6) **(BT-1)**  
(ii) Define the cycles in eco systems? (5) **(BT-1)**  
(iii) Describe carbon cycle. (5) **(BT-1)**
7. With a neat sketch, discuss the structure and function of Ecosystem. (16) **(BT-3)**
8. (i) Discuss the hot-spots of biodiversity in India. (8) **(BT-2)**  
(ii) Explain the energy flow in the ecosystem with suitable diagram. (8) **(BT-2)**
9. Give an account of structure and functions of desert ecosystem with neat diagram. (16) **(BT-2)**
10. Write a note on physical, chemical and biological hazards in the environment. (16) **(BT-6)**
11. Explain oxygen cycle briefly with diagram. (16) **(BT-5)**
12. Predict the need for bio geographical classification? Briefly explain in detail. (16) **(BT-2)**
13. Describe the bio geographical classification of India. (16) **(BT-1)**
14. (i) Examine ecosystem. What are its components? (8) **(BT-3)**  
(ii) Explain the various threat to biodiversity. (8) **(BT-4)**

## Unit-2 Environmental Pollution

### Part – A (2 marks)

1. Define Pollution. Name any four air pollutants, and their sources and impacts. **(BT-1)**
2. Explain noise pollution. **(BT-4)**
3. Analyze the role of individual in pollution prevention. **(BT-4)**
4. Describe acid rain. **(BT-2)**
5. Classify the difference between sound and noise. **(BT-4)**
6. List out the sources and causes of thermal pollution. **(BT-1)**
7. Explain the sources and hazards of marine pollution. **(BT-5)**

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8. Compare BOD and COD. **(BT-5)**
9. List out the types of land pollution. **(BT-1)**
10. Relate the effects of ozone on plants. **(BT-3)**
11. Summarize thermal pollution. **(BT-2)**
12. Show the major sources of solid waste cause. **(BT-3)**
13. Illustrate any four nuclear hazards. **(BT-3)**
14. Give two effects of Ozone layer depletion. **(BT-2)**
15. Describe bioaccumulation? **(BT-2)**
16. Examine the point and nonpoint sources? **(BT-1)**
17. Write about Municipal Solid Wastes (MSW). **(BT-6)**
18. State composting and what are incinerators? **(BT-1)**
19. Define photochemical smog. **(BT-1)**
20. Generalize aerobic and anaerobic oxidation. **(BT-6)**

### **Part-B**

1. (i) Explain the causes, effects and control measures of water pollution. (8) **(BTL-5)**  
(ii) Explain the various methods of controlling air pollution. (8) **(BTL-5)**
2. (i) Define the following : (8) **(BTL-1)**
  - (1) Nuclear hazards.
  - (2) Thermal pollution.
(ii) Examine the ill effects of marine pollution with help of a case study. (8) **(BTL-1)**
3. (i) State the causes and effects of air pollution? (8) **(BTL-1)**  
(ii) State the control and prevention measures of municipal solid wastes. (8) **(BTL-1)**
4. (i) Examine the hazards caused by nuclear wastes briefly. (8) **(BTL-1)**  
(ii) Analyze the role of an individual in pollution prevention. (8) **(BTL-4)**
5. Explain the various control measures of noise pollution with relevant diagrams. (8) **(BTL-4)**
6. (i) Summarize some informative notes on water treatment processes. (8) **(BTL-2)**  
(ii) Show the steps to be taken to prevent pollution of our oceans? (8) **(BTL-3)**
7. (i) List the adverse effects caused by solid wastes. (8) **(BTL-1)**  
(ii) Prepare and portrait the steps to manage solid wastes (8) **(BTL-3)**
8. (i) Discuss the effects and control measures of soil pollution. (8) **(BTL-2)**  
(ii) Analyze and explain the following  
“As an individual how will you prevent the pollution load in the environment?” (8) **(BTL-4)**
9. (i) Discuss on chemical composition of atmosphere. (8) **(BTL-2)**  
(ii) Explain about the physical and chemical properties of terrestrial and marine water. (8) **(BTL-4)**

10. Write about water treatment processes and water quality parameters with relevant diagram. (16) **(BTL-6)**
11. Define marine pollution. What are the causes of marine pollution? (8) **(BTL-1)**
12. (i) Describe various chemical and photochemical reactions in the atmosphere. (8) **(BTL-2)**  
(ii) Explain the source and effects of noise pollution. (8) **(BTL-4)**
13. Classify various water pollutants. Give examples of each type. (16) **(BTL-3)**
14. Discuss on control of particulate and gaseous emission. (16) **(BTL-2)**

### **Unit-3 Natural Resources**

#### **Part – A (2 marks)**

1. Explain renewable and non-renewable energy resources. **(BTL-4)**
2. Define land degradation? **(BTL-1)**
3. Explain desertification. **(BTL-4)**
4. Examine overgrazing and the consequence of overgrazing. **(BTL-3)**
5. Give any two problems associated with chemical fertilizer usage. **(BTL-2)**
6. Define eutrophication. **(BTL-1)**
7. Describe deforestation. **(BTL-1)**
8. Evaluate the term landslides and explain what man induced landslides are. **(BTL-5)**
9. Write about the major causes of Earth quake. **(BTL-6)**
10. List the reasons of water logging and their effects. **(BTL-1)**
11. Describe fossil fuels and why they are non-renewable **(BTL-2)**
12. State green revolution. **(BTL-1)**
13. State the environmental effects of extracting & using mineral resources. **(BTL-1)**
14. Examine geo thermal energy. **(BTL-3)**
15. Analyze soil fertility and soil leaching. **(BTL-4)**
16. Deduce the effects of mining on the environment. **(BTL-5)**
17. Infer any two problems caused by the construction of dams and explain how Dams are useful to human beings? **(BTL-2)**
18. Discuss super pests and explain the type of minerals. **(BTL-2)**
19. Generalize salinization and crop rotation. **(BTL-6)**
20. Illustrate biological magnification and organic farming. **(BTL-3)**

#### **Part-B**

1. (i) Discuss the impact of mining on environment and human health. (8) **(BTL-2)**  
(ii) Infer the effects of deforestation. Is deforestation justified? Comment. (8) **(BTL-2)**
2. (i) Explain the merits and demerits of dam. (8) **(BTL-4)**

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- (ii) List some informative notes on causes of modern agriculture. (8) **(BTL-1)**
- 3. (i) Describe the following : **(BTL-2)**
  - (1) Food resources.
  - (2) Mineral resources. (8)
- (ii) Draw a neat diagram and explain the production of biogas. (8) **(BTL-3)**
- 4. (i) Examine the causes for deforestation. (8) **(BTL-1)**
  - (ii) Define land degradation? Discuss the factors responsible for land degradation. (8) **(BTL-1)**
- 5. (i) State the changes caused by agriculture and overgrazing? (8) **(BTL-1)**
  - (ii) Mention the uses of Biogas. (8) **(BTL-3)**
- 6. Brief note on Global food problems, its causes and effects. (16) **(BTL-4)**
- 7. (i) List the importance of land as a natural resource? (8) **(BTL-1)**
  - (ii) Define the impact of urbanization and industrialization on land? (8) **(BTL-1)**
- 8. (i) Explain major use of forest. (8) **(BTL-4)**
  - (ii) Justify how the ecological uses of forests surpass commercial uses? (8) **(BTL-3)**
- 9. (i) Explain droughts and floods with respect to their occurrences and impacts. (8) **(BTL-5)**
  - (ii) Point out the role of an individual in conservation of natural resources. (8) **(BTL-4)**
- 10. Describe Environmental biochemistry. (16) **(BTL-2)**
- 11. Write a note on construction of dams and their effects on forests and tribal people. (16) **(BTL-6)**
- 12. (i) List the effects of modern agriculture? (8) **(BTL-1)**
  - (ii) Illustrate the advantages of biogas? (8) **(BTL-3)**
- 13. (i) Enlist and define renewable and non-renewable energy resources. Why are non-renewable energy resources preferred for energy utilization now-a-days? What are the advantages and disadvantages of harnessing non-renewable energy resources? (10) **(BTL-1)**
  - (ii) Explain conversion of pollutants with examples. (6) **(BTL-4)**
- 14. (i) Explain in detail on various renewable energy sources in the earth. (8) **(BTL-5)**
  - (ii) Discuss in detail on: **(BTL-2)**
    - (1) Land resources (4)
    - (2) Soil erosion and desertification. (4)

#### **Unit-4 Social Issues and the Environment**

##### **Part – A (2 marks)**

- 1. List out the advantages of rain water harvesting. **(BTL-1)**
- 2. Define consumerism. **(BTL-1)**
- 3. Explain disaster management. **(BTL-2)**

4. Differentiate between inter and intra generational equity in sustainable developments. **(BTL-4)**
5. State Rain water harvesting and list its objectives **(BTL-1)**
6. Write the social values of environmental education. **(BTL-6)**
7. Define sustainable development and explain sustainability in context to environment. **(BTL-1)**
8. Write short notes on Wild life protection act. **(BTL-6)**
9. Summarize the major effects of global warming. **(BTL-5)**
10. Examine the objectives of water act. **(BTL-3)**
11. Explain environmental ethics. **(BTL-5)**
12. Describe greenhouse gases. **(BTL-2)**
13. Illustrate greenhouse effect. **(BTL-3)**
14. Define holocaust. **(BTL-1)**
15. Illustrate 3R principle with its quote. **(BTL-3)**
16. Discuss some important points on Earth Summit – 1992. **(BTL-2)**
17. Analyze the objectives (or) principles of watershed management. **(BTL-4)**
18. Differentiate between Re-habilitation & Re-settlement of people. **(BTL-4)**
19. Mention the objectives of Environment Protection Act. **(BTL-2)**
20. Enlist the objectives of Air-Pollution Act. **(BTL-1)**

### **Part-B**

1. (i) Name the laws that have framed for environmental protection and mention the objectives for each act. (8) **(BTL-3)**  
(ii) Discuss various measures for wasteland reclamation. (8) **(BTL-2)**
2. (i) Write a note on: **(BTL-6)**  
(1) Earthquake  
(2) Cyclone. (8)  
(ii) Explain in detail, how biomedical wastes are managed and handled. (8) **(BTL-4)**
3. (i) Explain the effects of nuclear accidents. (8) **(BTL-4)**  
(ii) List out the salient features of forest conservation act in detail. (8) **(BTL-1)**
4. (i) Explain rain water harvesting. What are the purposes served by it? (8) **(BTL-5)**  
(ii) Write about the causes and effects of Ozone layer depletion. (8) **(BTL-6)**
5. (i) Summarize the objectives of water conservation. How is it carried out? (8) **(BTL-5)**  
(ii) Explain the effects of an earthquake. What measures should be taken to mitigate this disaster? (8) **(BTL-4)**
6. Describe the various urban problems related to energy. (16) **(BTL-1)**
7. (i) Discuss the resettlement and rehabilitation of people, its problems and concerns. (8) **(BTL-2)**  
(ii) Illustrate the salient features of wildlife protection act. (8) **(BTL-3)**

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8. (i) Justify why Environmental protection Act 1986 is referred as an umbrella act? Discuss the major environmental protection rules, 1986. (8) **(BTL-3)**  
(ii) Explain global warming and its measures to prevent it and also explain the effects of global warming. (8) **(BTL-4)**
9. Enlist the environmental ethics that are to be followed by the non-governmental organizations. (16) **(BTL-1)**
10. (i) Describe environment refugees. (4) **(BTL-1)**  
(ii) List the major causes for displacement of native tribal people. (12) **(BTL-1)**
11. (i) Describe the issues about climate change and give solutions for solving this problem. (8) **(BTL-2)**  
(ii) Illustrate the various principles of green chemistry. (8) **(BTL-3)**
12. (i) Define acid rain. What are the impacts on the man and the environment? (8) **(BTL-1)**  
(ii) Explain the agenda of “sustainable development”. (8) **(BTL-4)**
13. Discuss the recent approaches to achieve sustainable development. (16) **(BTL-2)**
14. (i) Discuss the various applications of green chemistry for achieving sustainable development. (8) **(BTL-2)**  
(ii) Explain the salient features of Water Act. (8) **(BTL-4)**

### **Unit-5 Human Population and the Environment**

#### **Part – A (2 marks)**

1. State the role of information technology in Environment. **(BTL-1)**
2. Define population explosion. **(BTL-1)**
3. List out the advantages of family welfare program. **(BTL-1)**
4. State doubling time. How it is calculated? **(BTL-1)**
5. Explain HIV and the sources of HIV infection. **(BTL-4)**
6. Define value education **(BTL-1)**
7. Give the significance of value education. **(BTL-2)**
8. Analyze the objectives of EIA. **(BTL-4)**
9. Write the reason for child labor. **(BTL-6)**
10. Define the term Nuclear energy. **(BTL-1)**
11. Summarize GIS? State any four applications of GIS. **(BTL-5)**
12. Give two effects of population growth. **(BTL-2)**
13. Compare under-nutrition & mal-nutrition. **(BTL-4)**
14. Write short notes on population dynamics. **(BTL-6)**
15. Report the factors affecting population size. **(BTL-3)**
16. Rank the different kinds of problems created due to Urbanization. **(BTL-5)**
17. Mention the types of health hazards with examples. **(BTL-2)**
18. Examine the meaning of remote sensing. **(BTL-3)**

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19. Illustrate Zero Population growth and total fertility rates. (BTL-3)
20. Describe population stabilization. (BTL-2)

### Part-B

1. (i) Define AIDS. What are the sources and mode of transmission of HIV infection? (8) (BTL-1)  
(ii) Write notes on the following: (BTL-6)
  - (1) Women and child welfare in India.
  - (2) Human rights. (8)
2. (i) List the objectives and elements of value education. How can the same be achieved? (8) (BTL-1)  
(ii) Discuss how population explosion affects the environment seriously. (8) (BTL-2)
3. (i) Describe the role of information technology in environment and human health. (8) (BTL-2)  
(ii) Show the population variation among the nations with relevant graph. (8) (BTL-3)
4. Point out the advantages of family welfare programme. (16) (BTL-4)
5. (i) Sketch and explain the growth pattern of India's population. (8) (BTL-3)  
(ii) Write the connection between the environment and human health. (8) (BTL-6)
6. Describe universal declaration of Human Rights. What is its importance in achieving the goals of equity, justice and sustainability? (16) (BTL-1)
7. Describe the role of NMIS, ENVIS and GIS in dissemination of Environmental information and Environmental management? (16) (BTL-1)
8. Discuss in detail the various health schemes initiated by Indian government. (16) (BTL-2)
9. Explain the major choice in modern birth control. (16) (BTL-4)
10. Plot a graph showing the variation in percentage of population across the India and also write a brief note on it. (16) (BTL-5)
11. Explain about Environmental Impact Analysis (EIA). (16) (BTL-4)
12. Illustrate how remote sensing is used in the issues related to Human population and the environment. (16) (BTL-3)
13. Discuss the hurdles encountered for women and child welfare programs in India. (8) (BTL-2)
14. (i) State sparsely populated areas. Give examples and reasons for poor population in those areas. (8) (BTL-1)  
(ii) Define HIV. What are the preventive measures suggested? (8) (BTL-1)