

## **QUESTION BANK**

### **GE6351-ENVIRONMENTAL SCIENCE AND ENGINEERING**

#### **UNIT-1- ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY**

##### **PART A (2 MARKS)**

1. Define Environmental Science and Environmental Engineering.
2. Define Environmental. Name its components.
3. Explain the structure of atmosphere.
4. What is Nutrient cycling?
5. State the need for public awareness for solving environmental problems.
6. What is ecological succession? Explain the Energy flow through an ecosystem.
7. What is Hazards? Name its types.
8. What is an Ecosystem? Name its types.
9. What is an Estuary?
10. Differentiate between Food Chain and Food Web?
11. What is RED Data book?
12. What are hotspots of biodiversity?
13. Explain the measurements of biodiversity.
14. What are endangered and endemic species? Name the factors effecting.
15. What are the aesthetic values of biodiversity?
16. What is biodiversity and write its significance?
17. Define Species & Genetic diversity.
18. What are the principles of environmental education?
19. Mention the scope and importance of Environmental studies.
20. How forests are useful to mankind?

##### **PART B (16 MARKS)**

1. (a) Explain the various hazards of biodiversity in detail. (12)  
(b) Explain the types of public participation in protecting environment. (4)
2. Explain the various threats to biodiversity. (16)
3. (a) What is an ecosystem? Describe the structure & function of various components of an ecosystem. (10)  
(b) Write the scope and importance of Environmental Studies. (6)

4. Define Ecological succession and explain the stage, different types and process of Ecological succession. (16)
5. Describe the types, characteristics features, structure& function of Forest ecosystem. (16)
6. Describe the types, characteristics features, structure& function of Aquatic ecosystem (16)
7. Discuss elaborately the characteristic features, structure and functions of grassland and desert ecosystems (16)
8. Explain In-Situ & Ex-Situ Conservation of Biodiversity (16)
9. What is meant by value of biodiversity? Explain different values of biodiversity (16)
10. (a) Explain INDIA as a Mega-Diversity Nation.(6)  
(b) Explain oxygen and nitrogen cycle. (4+6)

## **UNIT-2 -ENVIRONMENTALPOLLUTION**

### **PART-A**

1. Define Pollution. Name any four air pollutants, and their sources and impacts.
2. What are the types of Air pollutants.
3. What is suspended particulate matter. Give example.
4. How will you control air pollution.
5. Give the major water pollutants with example.
6. Define BOD and COD.
7. Define soil pollution. What are the sources of soil pollution.
8. What are the sources effects of marine pollution.
9. What are the control methods of thermal pollution.
10. What are the sources of urban and industrial wastes.
11. Why do earth quake occur.
12. What are the various types of natural disasters.
13. What are Municipal Solid Wastes(MSW)
14. What is incinerators.
15. Explain aerobic and anaerobic oxidation.
16. Define thermal pollution
17. Define noise pollution.
18. What are point and non-point sources of water pollution?

19. Write any two quality parameters of water.
20. Define photochemical smog.

### **PART- B**

- 1.i..Mention the sources and effects of various air pollutants.
- ii. Describe the method of control of air pollution.
- 2..Briefly describe the sources effects and control of noise pollution.
- 3.i. Enumerate with example the major sources of surface and ground water pollution.
- ii.Explain the method of sewage water treatment
4. What are the major sources of soil pollution? What are the measures to be taken to prevent soil pollution?
5. What are the major sources of soil pollution?What are the causes,effects and control measures on Municipal Solid Wastes(MSW)
6. Explain any two case studies on Nuclear pollution.
7. What are the sources, effects & control measures of Marine pollution?
8. What are the causes of soil erosion and methods of preventing it.
- 9.What are the source, health and environmental effect of carbon dioxide, carbon mono oxide, nitrogen dioxide and sulphur dioxide? (16)
- 10.Discuss the aspects of prevention & control of noise.

### **UNIT – III -NATURAL RESOURCES**

#### **Part-A**

1. What are the types of natural resources?
2. Define deforestation and causes of deforestation.
3. Mention some consequences of deforestation.
4. Define mining and its types.
5. What are the steps involved in mining.
6. What are the effects of dams on forest?
7. Briefly explain a case study for thermal pollution.
8. What are the types of fresh water resources?
9. What are the consequences of over utilization of ground water?

10. How minerals are formed and what are the classifications of mineral resources?
11. How minerals are exploited?
12. What are the impacts of extracting and using minerals?
13. Mention the problems in using fertilizers and pesticides.
14. What is salinity? And what are the problems faced during salinity.
15. Define OTE.
16. What is biomass energy?
17. Differentiate coal power and nuclear power.
18. Define soil erosion and its types.
19. Define desertification.
20. What is meant by bioconversion of pollutants?

## **PART – B**

1. Explain in detail about forest resources, its functionality and benefits.
2. What is deforestation? What are the causes of deforestation? And explain their impact on the environment.
3. Write short notes on: (1) timber extraction(2) water logging
4. (i)What are dams and explain their effects on forest and tribal people. Explain with any one case study.
5. (i)write short notes on Noise pollution.  
(ii) Mention the benefits and problems in constructing a dam.
5. (i)Discuss in detail about water and mineral Resources.
6. Briefly explain in detail about (1)proteins (2)
7. Explain in detail about world Food problems and various factors that effects food resources.
8. Describe in detail about Renewable and nonrenewable energy resources.
9. i)Discuss in detail about energy conversion process.  
(ii)Briefly explain about biochemical degradation of pollutants.
10. Write short notes on: (1)land degradation (2) desertification.

## **UNIT – IV- SOCIAL ISSUES AND THE ENVIRONMENT**

### **PART - A**

1. Define sustainable development
2. What are the causes of urbanization?
3. What are the measures of water conservation?
4. List out the need of rain water harvesting.
5. What are the factors affect watershed?
6. What are the roles of NGO?
7. Define environmental ethics.
8. Mention some ethical guidelines.
9. List out the principles of green chemistry.
10. Define nuclear holocaust.
11. What is the need of waste land reclamation?
12. What are the objectives of consumerism?
13. What is the environment protection act?
14. Define air prevention and control of pollution act.
15. Brief about water act.
16. Define the objectives of wildlife act and forest act.
17. What is meant by environmental audits? What are its types?
18. What are the issues involved in enforcement of environmental legislation.
19. Briefly explain the role of central and state pollution control boards.
20. Define disaster management.

### **PART – B**

1. State the provisions in Environment protection act, Air Act and water act.
2. (i) Explain in detail about sustainable Development. (ii) Discuss about bio medical waste
3. (i) Discuss in detail about water Conservation. (ii) Explain in detail the concept of Green chemistry

4. Describe in detail the role of NGO.
5. What is meant by environmental ethics, mention the functions of environment and the problems and issues.
6. Explain with any case study about the nuclear Accidents and Holocaust
7. (i) Describe about Waste land development and the need for it. (ii) Describe the objectives of consumerism.
8. Discuss in detail about Water Act and Wildlife, Forest Act.
9. Explain the concept of Disaster Management with an example case study.
10. (i) What are the issues involved in Environmental legislation  
(ii) How public awareness is done to conserve the environment.

## **UNIT – V - HUMAN POPULATION AND THE ENVIRONMENT**

### **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 and the reason behind it.
5. What kinds of problems are created due to Urbanisation?
6. Define population stabilization ratio.
7. What are the factors influencing human health.
8. Define NIMBY syndrome.
9. Define human rights and the universal declaration of rights.
10. What is the meant by Indian constitution.
11. What are the objectives of family welfare programme.
12. What is the role of primary health care against AIDS?
13. What do you mean by remote sensing?
14. What is doubling time, total fertility rates?
15. Define Zero Population growth.
16. Define EIA.
17. What is meant by value education? What is the need for it?

18. What is GIS?
19. Define (i) Toxins (ii) Carcinogens (iii) Tetrogenic (iv) Neurotoxins.
20. State how environment & human health are related?

## **PART – B**

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