

**DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE**

**PERAMBALUR -621 212**

**DEPARTMENT OF BIOMEDICAL ENGINEERING (II YEARS)**

**HS-1201 ENVIRONMENTAL SCIENCE AND ENGINEERING**

**UNIT-I**

**Part-A**

- 1) Define Environment.
- 2) What is meant by environmental science?
- 3) Define biosphere
- 4) What are the types of natural resources? Give examples.
- 5) Give any 3 functions of forest.
- 6) What are the consequences of timber extraction?
- 7) What is meant by deforestation? Give their causes.
- 8) Define sustainable forestry.
- 9) What are the types of fresh water resources?
- 10) What is meant by overgrazing? Give their effects.
- 11) Define flood.
- 12) Define blue baby syndrome.
- 13) Enumerate the desired qualities of ideal pesticides.
- 14) Wood is a renewable resource, but coal is not why?
- 15) What is water logging?
- 16) Explain soil leaching.
- 17) What is desertification? Give 2 reasons for it.
- 18) Differentiate between forest degradation and deforestation
- 19) What do you mean by environmental impact?
- 20) State the problems caused by construction of dam.

**Part-B**

- 1) What is deforestation? Explain its cause and control effects.
- 2) Describe the scope and importance of environmental studies.
- 3) Describe about dams and their effect on forest and tribal people.
- 4) Describe the effects and over utilization of surface and ground water.
- 5) Explain the causes and effects of flood and drought.
- 6) Explain about causes and management of conflicts over water
- 7) Describe the benefits and problems of dams.
- 8) Discuss the environmental effect of extracting and using mineral resources.

- 9) Write the problem of usage of fertilizers and pesticides on modern agriculture
- 10) Explain how the alternate energy resources play an important role in environmental impact
- 11) Define the term conservation of natural resources and explain the role of individual in conservation of natural resources.
- 12) Explain the methods of harvesting solar and wind energy

## **UNIT-II**

### **Part-A**

- 1) What is Ecology?
- 2) What are the components of ecosystem?
- 3) How are biotic components grouped.?
- 4) What are nutrient cycles?
- 5) What are hydrological cycle?
- 6) What is ecological succession?
- 7) What are food chains?
- 8) What are trophic levels or feeding levels?
- 9) What is food web?
- 10) What is ecological pyramids?
- 11) Define producers?
- 12) Name the 4 ecosystems?
- 13) Define biodiversity and what its significance is?
- 14) Explain the classification of biodiversity.
- 15) What is point richness?
- 16) What are biodiversity hotspots?
- 17) What are the criteria for recognizing hotspots?
- 18) Explain threatened and endangered species.
- 19) Explain vulnerable species.
- 20) What is the need for biodiversity conservation?
- 21) What are the advantages and disadvantages of ex-situ conservation?

### **PART-B**

- 1) Explain food chain and food web.
- 2) What is an ecosystem? Describe the structure and functions of various components of ecosystem?
- 3) Define ecological pyramids and what are the types of ecological pyramids.

- 4) Discuss the various aspects of grassland ecosystem.
- 5) Write in detail about fresh water ecosystem.
- 6) Explain the classification of values of biodiversity.
  - 7) Explain the various threats to biodiversity.
  - 8) Write the types of biodiversity conservation and explain Insitu conservation.
  - 9) Define exsitu conservation and explain its various expects.
  - 10) Discuss the threat faced by Indian biodiversity

### **UNIT-III**

#### **Part-A**

- 1) Define Pollution.
- 2) Mention the type of pollutants.
- 3) Write the composition of atmospheric air.
- 4) Differentiate primary and secondary air pollutants.
- 5) Write the sources of common air pollution.
- 6) Define water pollution
- 7) What are the point and nonpoint sources of water pollution?
- 8) Write the significance of BOD.
- 9) Write the composition of soil.
- 10) Define Marine pollution.
- 11) Define noise pollution.
- 12) Write 4 major water pollutant
- 13) What are the types of soil waste?
- 14) Differentiate between recycle and reuse.
- 15) Define hazardous waste.
- 16) How nuclear hazards can be disposed safely.
- 17) Define for disaster.
- 18) What are the causes of foods?
- 19) Mention the different name of cyclone.
- 20) Write the causes of earthquake.
- 21) Define tsunami.
- 22) Write the relation ship between earthquakes and tsunami
- 23) Write the effect of landslides.

#### **Part-B**

- 1) Discuss the major air pollutants and their impact
- 2) Explain the various methods controlling air pollution
- 3) Write a note on water pollution

- 4) Define DO, BOD and COD. Write its significance.
- 5) Write the various treatments process of sewage water.
- 6) Discuss the major soil pollution and their impact.
- 7) Write the control measure of soil pollution
- 8) Discuss the effects and control measure of noise pollution and marine pollution.
- 9) What are the effects of thermal pollution? Write its management.
- 10) Explain the effects of nuclear and radiation pollution
- 11) Write a note on municipal soil waste.
- 12) Write a note on disposal of radioactive waste.
- 13) Write a role and responsibility of individual participation in environmental pollution.
- 14) Discuss about cyclone. Write its effects and management.
- 15) What is earthquake? Enumerate its effects. What measures should be taken to mitigate the disaster?

## **UNIT-IV**

### **Part-A**

- 1) What is meant by sustainable development?
- 2) What are the important aspects of sustainable development?
- 3) Define urbanization.
- 4) Write the causes of urbanization.
- 5) Explain the needs of conservation
- 6) Write the objectives of rain water harvesting.
- 7) Explain the factor affecting water shed.
- 8) Define environmental ethics.
- 9) What are the causes of climate change?
- 10) Mention the effects of climate change.
- 11) What is green house effect?
- 12) Give example of green house gas.
- 13) What are the causes and effects of global warming?
- 14) What is acid rain and other names of acid rain?
- 15) Write the causes and effects of ozone layer depletion.
- 16) How CFC's are accumulated in atmosphere?
- 17) What is dopson unit?
- 18) How ozone layer depletion takes place?
- 19) Give examples for nuclear holocausts.
- 20) What is meant by environmental audit?

## **PART-B**

- 1) What is sustainable development and its concepts?
- 2) Write the strategies of water conservation.
- 3) Write a note on water shed management.
- 4) Write in detail about the environmental ethics.
- 5) What are the sources of green house and global warming?
- 6) Write the formation and effect of acid rain.
- 7) Write about ozone depleting substances.
- 8) Write briefly on any one of the nuclear disaster.
- 9) Write short notes on waste land reclamation.
- 10) Explain a) wildlife protection act b) Forest preservative act

## **UNIT-V**

### **Part-A**

- 1) Define Immigration and emigration.
- 2) What is population explosion?
- 3) What are the causes of population explosion?
- 4) Define population density.
- 5) Name the parameters affecting population growth.
- 6) What is meant by Infant mortality rate?
- 7) What are the problems of population growth?
- 8) What are the classifications of population based on age structure?
- 9) What are the objectives of family welfare programme?
- 10) Mention ill effects of HIV/Aids.
- 11) State the role of information technology in environment.
- 12) Define population equilibrium.
- 13) What are the major precautions to avoid AIDS.
- 14) Differentiate between HIV and AIDS.
- 15) What are the reasons for child labour?
- 16) What are the objectives of child welfare?
- 17) What are the types of education?

## **PART-B**

- 1) Discuss the variation in population growth among nation.
- 2) What is population dispersion?
- 3) Explain the environmental and social impact of growing population.

- 4) Write briefly on implementation of family planning programme?
- 5) Discuss how the population explosion affects the environment seriously.
- 6) Discuss the role of IT in Environment and human health.
- 7) Write a note on human rights.
- 8) Discuss the methods and strategies of imparting value education.
- 9) What are the modes of transmission of HIV and how it can be prevented?
- 10) Discuss the various schemes launched for women and child welfare in India.

