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PRATHYUSHA ENGINEERING COLLEGE
GE 8291: ENVIRONMENTAL SCIENCE AND ENGINEERING
QUESTION BANK

PART – A (QUESTIONS AND ANSWERS)

UNIT 1: ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY

1. Define Environment.

Environment is sum total of water, air, and land, inter-relationships among themselves and also with the human beings, other living organisms and property.

2. Define Hazard and its types .

A hazard is a situation that poses a level of threat to life, health, property, or environment, e.g., exposure to benzene may cause cancer.

Types of Hazards:

1. Physical hazards, e.g., earthquakes, floods
2. Chemical hazards, e.g., mutagens, teratogens, carcinogens
3. Biological hazards, e.g., pathogens – viruses, bacteria, toxins and allergens

3. Define Risk.

Risk is the probability of suffering harm from a hazard that can cause injury, disease, economic loss, or environmental damage. Risk is expressed in terms of probability of the likelihood of harm

4. Define Ecosystem & Ecology & Estuarine.

Ecosystem : Ecosystem has been defined as a system of interaction of organisms with their surroundings.

Ecology : Study of the distribution and abundance of organisms, the flows of energy and materials between abiotic and biotic components of ecosystems.

Estuarine: The delta formed at the junction where river water joints with the sea water.

5.Enumerate some characteristics of an Ecosystem.

Ecosystem is the major ecological unit.

It contains both biotic and abiotic components.

Through the biotic and abiotic components nutrient cycle and energy flow occur.

6. What are the functional components of ecosystem?

Biotic and Abiotic are the components of eco system

Biotic: Producers, consumers, decomposers

Abiotic: Light, Temperature, Humidity

7. Define Food chain and Food web.

Food chain : The sequence of eating and being eaten in an eco system is known as food chain.

Food web: The interlocking pattern of food chain is known as food web,

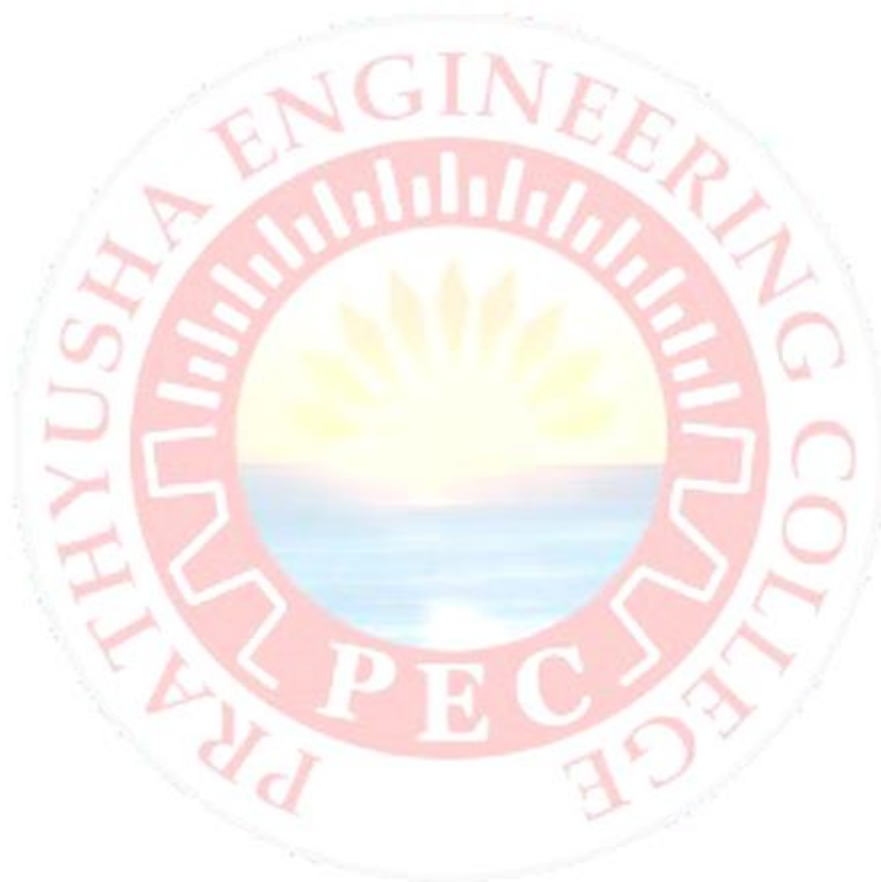
8. Define biogeochemical cycle.

Cyclic flow of nutrients between biotic and abiotic components.

9. What are the various types of functions in the ecosystem.

1. Primary function – Manufacture of starch

2. Secondary function – Distribution of energy in the form of food.



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3. Tertiary function: Dead organism decomposed to initiate third function namely cycling.

10. Define Biome.

Biome is defined as a major ecological community of organisms occupying in a larger area.

11. Define Primary and secondary succession.

(i) Primary ecological succession comprises of Hydrarch (Hydrosere – establishment starting in a watery area like pond and lake) and Xerarch (Xerosere – establishment starting in a dry area like, desert and rock)

(ii) Secondary succession involving establishment of biotic communities in an area, where some types of biotic community is already present

12. Why is Biodiversity rich in tropics?

Biodiversity is rich in tropics.- more stable climate, warm temperatures and high humidity, opportunity for many species to coexist, rate of out crossing appear to be higher in tropics.

13. What is the significance of Biodiversity?

Significance of biodiversity. – very important for human life, as we depend on plants, microorganisms, animals for food, medicine and industrial products., protects fresh air, clean water and productive land., important for forestry, fisheries and agriculture.

14. What do you understand by α , β & γ diversity?

Alpha, beta and gamma diversity – alpha – refers to number of species found in a small homogeneous area, beta – refers to rate of change of species composition across different habitats, gamma – refers to rate of change across large landscape.

15. Define biodiversity. Mention its classification

Biodiversity is defined as ‘the variety and variability all groups of living organisms and the eco system in which they occur. **TYPES:**

1. Species diversity : Diversity between different species
2. Genetic diversity : Variation of genes within the species
3. Ecosystem diversity: Diversity between different ecosystem.

16. What is poaching? Mention its types. What are the factors influencing poaching?

Poaching – killing of animals or commercial hunting – leads to loss of animal biodiversity.

Types : Commercial poaching – Killing for trade . Subsistence poaching - Killing for food

Factors influencing poaching – human population and commercial activities

17. Write a note on man – wild life conflict. . What are the factors influencing man – animal conflicts?

Man–wildlife conflict–arise when wild life starts causing immense damage and danger to man.

Factors influencing man–wild life conflict–shrinking of forest cover, human encroachment into forest, injured animals attacking man, of electric wiring around crop fields, etc.

18. What are the threats to the Indian biodiversity?

Threats to Indian biodiversity- deforestation, destruction of wetlands, habitat fragmentation, raw material, production of drugs, illegal trade and developmental activities.

19. Define Ecological succession. What are the different steps in the process of ecological succession?

The replacement of community by other community till the stable community formed in a particular areas.

1. Nudation
2. Invasion
3. Competition
4. Reaction
5. Stabilizations

20. Define First Law and Second Law of Thermodynamics.

I law: Energy can neither be created nor destroyed, but it can be converted from one form to another.

II Law: Whenever energy is transformed there is a loss of energy through the release of heat.

21. Define Hotspot. Mention the two hot spots in india.

The geographical areas which possess high endemic species. The two Hotspots in India are

1. Eastern Himalayas
2. Western Ghats.

22. What is meant by Red Data Book?

Red data book contains the list of endangered species of plants and animals. It gives warning signal for those species which are endangered and if not protected they become extinct in future.

23. Define conservation of biodiversity. Mention the methods and its advantages and disadvantages.

Management of biosphere that it will yield the greatest sustainable benefit to present generation while maintaining its potential meet the benefits of future generation.

Methods : Insitu(within habitat) and Exsitu. (outside habitats)

Insitu 1. Advantages: Cheap, Convenient, Species adjusted with natural disaster.

2. Disadvantages: Required Large area, Poor maintenance.

Exsitu 1. Advantages: Special care and attention, Longer life span.

2. Disadvantages: Expensive, Cannot survive with natural environment

24. Define endemic species endangered species, Extinct species, vulnerable species.

Endemic - species which are found only in a particular region

Endangered species : A species is said to be endangered when its number has been reduced to a critical level. Extinct species: A species which is no longer found in the world.

Vulnerable species: When the species population is facing continuous decline.

25. Mention the characteristics, biotic and abiotic components of forest, grassland, desert and aquatic ecosystem.

Ecosystem	Characteristics	Biotic components	Abiotic components
Forest Ecosystem	1. Maintain climate and rainfall. 2. Support wild animals 3. Protect Biodiversity	Producer: Trees Consumers: Insects, birds, snake, Lion, Tiger Decomposers: Fungi	Light, Temperature, Rainfall

Grass land Ecosystem	1. Soil is rich in nutrients 2. ideal place for grazing	Producer: Grass Consumers: Insects, birds, snake, Eagle Decomposers: Fungi	Light, Temperature, Rainfall
Desert Ecosystem	1. Climate is Hot 2. Annual rainfall is less	Producer: Shrubs Consumers: Mice, fox Decomposers: Fungi	Light, Temperature
Aquatic Ecosystem	Fresh water : Pond, lake, River Marine water : Ocean, Estuarine	Producer: Phytoplanktons Consumers: Zooplanktons, fishes Decomposers: Fungi	Light, Temperature, Rainfall, water

UNIT- II: ENVIRONMENTAL POLLUTION

PART A

1. Define Environmental Pollution. Mention the types of pollutants.

Environmental Pollution is defined as any undesirable change in the physical, chemical, or biological characteristics of any component of the environment (air, water, soil) which can cause harmful effects on various forms of property. **TYPES:**

Biodegradable pollutants: Decompose rapidly by natural process

Non-degradable pollutants : Do not decompose or decompose slowly in the environment.

2. What do you mean by indoor air pollution?

Houses in the under-developed & developing countries use fuels like wood kerosene in their kitchens & incomplete combustion produces toxic gas like CO. The most important indoor radioactive material is radon gas that can be emitted from building materials like bricks, concrete etc. which are derived from soil containing radium. This is called indoor air pollution. It is also a type of primary pollutants..

3. Define air pollution. Mention causes and effects:

The presence of one or more contaminants like dust, smoke, mist and odour in the atmosphere which are injurious to human beings, plants and animals. **Causes :** CO, NO₂, SO₂, SPM **Effects:** Lungs damage, bronchitis, cancer

4. Define smog. Mention its types and effects.

Smog is a mixture of smoke and fog in suspended droplet form. Types : 1. London smog 2. Los angles smog.

Health Effects: Breathing problems, cough, eye, nose and throat irritation, heart ailments, reduces resistance to colds and pneumonia.

5. What is SPM & PAN. Mention its effects.

SPM: Variety of particles and droplets suspended in atmosphere for short periods to long periods.

Effects: Nose and throat irritation and lungs damage

PAN : Peroxy Acetyl Nitrates is a secondary pollutants, lachrymatory substance, thermally unstable.

Effects: Eye irritants, toxic, damage to vegetation, skin cancer.

6. Define Acid rain. Mention its impacts

Acid rain occurs when these gases SO_2 , NO_2 react in the atmosphere with water, oxygen, and other chemicals to form various acidic compounds.

Eg. $\text{NO}/\text{NO}_2 + \text{H}_2\text{O} \text{-----} > (\text{HNO}_3/\text{NO}_3)$ etc.

Effects 1. Dangerous to destroy life 2. Corrode metals, paints, buildings 3. Affects vegetation.

7. Mention the impacts of ozone layer depletion. How will you measure the ozone layer thickness?

Impacts: 1. Harmful UV rays reach the atmosphere and damage genetic material and cause skin cancer.

2. suppress the immune system in human and animals. 3. Responsible for global warming.

Measurement: The amount of atmospheric ozone is measured by Dobson Spectrometer and is expressed in Dobson unit. 1 DU is equivalent to 0.01mm thickness .

8. Define water pollution . Mention the causes and effects.

Water pollution can be defined as alteration in physical, chemical or biological characteristics of water making it unsuitable for designated use in its natural state. Causes: Infectious agents, Organic and Inorganic chemicals.

9. Define point and non point sources?

Point sources – specific sites near water which directly discharge effluents into them

Non point sources – location of the sources of polluting water is not identified.

10. What do you mean by DO , BOD & COD and mention its significance.

Dissolved Oxygen (DO) is the amount of O_2 dissolved in a given quantity of water at a particular temperature & atmospheric pressure. **Significance:** Support for aquatic animals, Minimum level: 4mg/lit.

Biological Oxygen Demand (BOD) is defined as the amount of O_2 required to aerobically decompose biodegradable organic matter over a period of 5 days at 20°C . It is represented by BOD_5 . **Significance:** Indicate the amount of organic matter in the river.

Chemical Oxygen Demand (COD) is defined as the amount of Oxygen required for chemical oxidation of organic matter using some oxidising agent like $\text{K}_2\text{Cr}_2\text{O}_7$ and KMnO_4 . **Significance:** Determine the pollution strength.

11. Explain thermal pollution. Mention the causes and effects.

Thermal pollution can be defined as the presence of waste heat in the water which can cause undesirable changes in the environment. **Causes:** Thermal power plants, Industrial effluents, Domestic sewage

Effects: 1. The solubility of O_2 is decreased at high temperature. 2.. Toxicity of pesticides increases with increase in temperature

12. Explain Marine pollution. Mention the causes and effects.

The discharge of waste into the sea which cause harmful effects to human health and aquatic organism

Causes: Dumping of waste in marine. Oil pollution of marine water

Effects: Prevent Photosynthetic activity, Affects marine birds..

13. Define nuclear pollution. Mention the causes and effects.

Radioactive substances undergo natural radioactive decay in which unstable isotopes spontaneously give out harmful radiation. **Causes:** Nuclear accidents, Nuclear bombs **Effects:** Genetic , eye cataract, bone cancer .

14. Mention the activities involved in solid waste management.

1. Waste generation 2. onsite handling ,storage and processing 3. Collection 4. transfer and transport

5. processing and recovery and disposal

15. What is meant by hazardous waste? How to manage hazardous waste?

The useless, unwanted, discarded material that may threat to human health and environment.

- Dispose the waste as early as possible
- Prevent illegal, international traffic in hazardous waste

16. Explain soil pollution. Mention the causes and effects.

The contamination of soil by human and natural activities which may cause harmful effects on living beings, **Causes:** Domestic waste, Industrial wastes, **Effects:** 1. Alter the physical and chemical properties of soil, 2. Affects food chain.

17. Define green house effect. Name some green house gases present in the atmosphere

The greenhouse effect is a naturally occurring process that makes the earth warmer by trapping more energy in the atmosphere. The green house gases absorb and hold heat from the sun, preventing it from escaping back into the space; much like a green house absorbs and holds the sun's heat.

Carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); chlorofluorocarbons (CFC); water vapour (H_2O) and troposphere ozone (O_3)

18. Define the term Noise Pollution. Mention its unit. Mention its types.

Unpleasant, disagreeable and Unwanted sound that cause discomfort to all living being. The Unit of sound is Decibel. Normal conversation ranges from 35dB to 60 dB.

Types: 1. Transport Noise 2. Industrial Noise 3. Neighbourhood Noise.

19. What are heavy metals? Explain the methods for removal of heavy metals.

Heavy metals are chemical elements with a specific gravity that is atleast 5 times greater than specific gravity of water. The atomic number is greater than 20. **Methods:**

1. Using coconut Shell carbons. 2. Using Rice-Husk carbon 3. Using fly ash 4. Using caly and coal nased adsorbents,

20. Define 3R.

Reduce, Reuse, Recycle, (if 5R add Remove, Refuse)

21. What are the classification of Radio active waste.

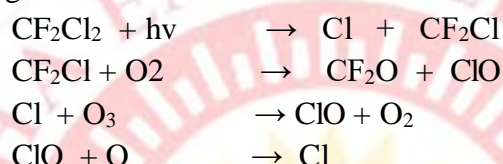
1.HLW – High Level Waste 2.MLW – Medium Level Waste 3.LLW- Low Level Waste

22.What are the roles of individual in prevention of pollution.

- 1.Plant more trees.
- 2.Purchase environmentally safe products.
- 3.Reduce deforestation.
- 4.Reduce population growth.
- 5.Use renewable resources.

23. Explain the mechanism responsible for depleting ozone layer. List the ozone depleting chemicals.

Chloro Fluoro Carbon is green house gas , ozone depleting chemicals.CFC release chlorine which breaks ozone into oxygen.



Ozone depleting substances: Chlorofluorocarbons (CFC), HCFC, HBFC.

24.Mention the advantages and disadvantages of Ion-Exchange process & Zeolite process in Water treatment.

Ion-Exchange process : Advantages: 1.Highly acidic and alkaline water can be treated by this process.

2. The treated water will have very low hardness. **Disadvantages:** 1.Fe and Mn impurities in water cannot be treated 3.Very Costly 3. More expensive chemical are used.

Zeolite process : Advantages: 1.Very cheap 2. Easy to operate **Disadvantages:** 1.Fe and Mn impurities in water cannot be treated 2.Acidic water cannot be treated.

25. Mention the standard specification of drinking water.

- 1.pH should be in the range of 7.0-8.5
- 2.Chloride and Sulphate should be less than 250 ppm.
- 3.Total hardness should be less than 500 ppm.
- 4.TDS (Total Dissolved Salts) should be less than 500 ppm.

UNIT- III : NATURAL RESOURCES

PART – A

1. What are the benefits and Problems of dams?

Benefits:1. Provides large scale employment of tribal people 2.Help in checking flood 3.Generate electricity 4. Reduce power and water shortage 5. Provide irrigation water 6. Promote navigation and fishery.

Problems : 1. Displacement of tribal people 2.Loss of flora and fauna 3. Breeding of disease vectors 4.Water logging and salinity

2. What is water logging?

Water logging is the land where water stand for most of the year.

3. What are the effects or consequences of timber extraction?

1. Deforestation. 2. Soil erosion 3. Loss of fertility of soil. 4. Reduce thickness of forest 5. Loss of tribal culture..

4. Define Deforestation. What are the causes and effects of deforestation?

Deforestation : Destruction of forest area.

Causes: Developmental projects, Mining, Forest fire

Effects: Global warming, Soil erosion, Loss of biodiversity.

5. Why wood is renewable but coal is non-renewable?

Wood is renewable because we can get new wood by growing a sapling within 15-20 years. But the formation of coal is not able to regenerate in our life time.

6. Define Hydrologic cycle.

The cyclic process of evaporation, condensation and transpiration.

7. Define mining. Mention its causes and impacts.

Extraction of minerals form the earth surface is known as mining.

Causes: Large usage of minerals in industries, Source of raw material

Impact: Air pollution, Surface & Ground water pollution. Subsidence of land.

8. Define biomagnification.

Most of the pesticides are non-biodegradable and keep on concentrating in the food chain.

9. Define overgrazing. What are the causes and adverse effects caused by overgrazing?

Eating away the forest vegetation without giving a chance for regeneration.

Causes: Increase Livestock population (Cattle population)

Effects: Land degradation, soil erosion, loss of useful species.

10. Explain soil leaching? Mention its effects.

The process in which materials in or on the soil gradually dissolve and are carried by water seeping through the soil. **Effects:** Remove valuable nutrients form soil. 2. Ground water contamination.

11. What are strategic and critical minerals? Give examples.

Strategic minerals – required for the defence of the country [Eg. – manganese, cobalt.] Critical

minerals – essential for the economic power of a country. [Eg. – iron, aluminium.]

12. Define biogas (Gobar gas)? Mention its composition and its uses.

Biogas is a mixture of various gases formed by the anaerobic degradation of cowdung in the absence of air.

Composition: Methane 50-75%, CO₂-25-50%, N₂-0-10%, H₂-0-1%. H₂S-0-3%, O₂-0%

Uses: Cooking food and heating water, To run engines 3. Illuminant in villages.

13. What do you understand by micronutrient imbalance?

Most of the chemical fertilizers used in modern agriculture contain N.P.K. which are macro-nutrients, when excess of nutrients is used in the fields it leads to micronutrient imbalance.

14. What is blue baby Syndrome?

When nitrogen fertilizers are applied in the fields they leach deep into the soil and contaminate the ground water, the nitrate in the water gets increased, when the nitrate concentration exceeds 25mg/lit they cause serious health problem called blue baby syndrome.

15. Define Eutrophication.

A large portion of N and P used in crop fields is washed off by the runoff water and reaches the water bodies causing over nourishment of lakes called Eutrophication.

16.Explain the methods practice for conservation of soil.

1. Conservational till farming 2. Contour farming 3.Terracing 4. Alley cropping 5. Wind breaks.

17. What is anaerobic digestion?

Anaerobic digestion is a series of biological processes in which microorganisms breakdown biodegradable materials in the absence of oxygen.

18. What are renewable and non-renewable energy sources?

Renewable energy resources are natural resources which can be regenerated continuously and are inexhaustible. They can be used again and again. Eg: solar energy, wind energy etc. Non-renewable energy resources are energy resource that is not replaced or is replaced only very slowly by natural processes. Eg: fossil fuels--oil, natural gas, and coal.

19. Write briefly about GTE and OTE:

GTE: Geo thermal Energy: Temperature of the earth increases at the rate of 20 – 75°C per Km, when we move down the earth's surface. High temperature and pressure fields exist below the earth's surface in many places. The energy harnessed from the high temperature present inside the earth is called geothermal energy.

OTE: Ocean Thermal Energy: Due to temperature difference between upper and lower level of the ocean , able to rotate turbine to generate electricity.

20. What are bio fuels? Explain Gasohol.

Fuels obtained by fermentation of biomass is bio fuels. Gasohol: It is a mixture of Ethanol and Gasoline.

21. What is LPG?

Petroleum gas obtained during cracking and fractional distillation can be converted into liquid under pressure, colorless and odourless gas.

22. What is the role of an individual in conservation of natural resources?

Role of individual in the conservation of natural resources. – duty of every individual to conserve natural resource in such a way that it is available for future generations also. Due to advancement I technology and population growth, the present world is facing lot of problems on degradation of natural resource..

23. What is land degradation? What are the causes of land degradation? Mention its harmful effects.

Land degradation. – Process of deterioration of soil or loss of fertility of soil.

Causes of land degradation. – Increase in population, increase in urbanization, increased applications of fertilizers and pesticides, damage of top soil.

Harmful effects of land degradation. – Soil structure and texture are deteriorated, loss of soil fertility due to loss of valuable nutrients, increase in water logging, salinity, alkalinity, acidity problems.

24. What do you understand by desertification? What are the causes and effects for desertification.

Desertification–Progressive destruction or degradation of arid or semi arid lands to desert.

Causes: Deforestation, Overgrazing Mining and quarrying , Pollution

Effects: Productive land in arid and semi arid region converted to desert People are in threatened condition.

25. Define Landslides. Mention the causes and Effects of land slides.

Landslides: Downward and outward movement of a slope composed of earth materials such as rock, soil, etc.

Causes of landslides – removal of vegetation, underground mining, transport, addition of weight

Effects: Loss of life, Destruction of communication links, Loss of infrastructure.

26. Define soil erosion and mention its types.

Soil erosion. Damage or removal of top soil renders the soil infertile.

Natural erosion: Erosion takes by nature itself Accelerated erosion : Erosion takes place due to man made activities.

27. Explain overgrazing. What are the changes caused due to overgrazing?

Overgrazing-A process of eating away of forests without giving it a chance to regenerate.

Overgrazing leads to loss of biodiversity, loss of minerals, Soil erosion, leads to desertification..

28. Define Environmental biochemistry.

Environmental biochemistry involves approaches to treat polluted air, waste water and solid waste using metabolic activities of micro organisms.

29. What do you mean by bioconversion of pollutants . What are the types of Biodegradable pollutants?

The change of pollutants into a source of energy by the action of microorganism **TYPES:** 1. Very easily degradable 2. Easily degradable 3. Potentially degradable 4. Very slowly degradable.

30. What are the types of bioconversion methods?

1. Enzymatic hydrolysis 2. Synthesis gas fermentation 3. Composing

UNIT IV: SOCIAL ISSUES AND ENVIRONMENT

PART A

1. Define Sustainable Development. What are the aim of sustainable development?

Sustainable Development : Meeting the needs of present generation without compromising the ability of future generation to meet their needs.

Aims: High degree of reusability, Minimum wastage, Least generation of toxic by products ,Maximum productivity..

2.What are the approached are there to attain sustainable development?

Developing appropriate technology
Reduce, Reuse, Recycle (3R) approach
Providing environmental education & awareness
Consumption of renewable resources
Conservation of non renewable resources
Population control

3.Define Urbanisation. Mention its causes

Urbanization is the movement of human population from rural areas to urban areas for the want of better education, communication, health, employment, etc.,
Causes of urbanization : Economic growth, trade, transportation, education, medical facilities

4.Define Urban sprawl.

Due to rapid urbanization there is spreading of the cities into sub-urban or rural areas. This phenomenon is known as *urban sprawl*.

5. Define Water conservation. Mention its necessities. Mention the methods of water conservation.

The process of saving water for future utilization is known as water conservation.

Need for water conservation:

Better life style requires more fresh water.

Increase in population

Due to deforestation, the annual rainfall is also decreasing.

Over exploitation of ground water, leads to drought.

Agricultural & industrial activities require more fresh water.

Methods of water conservation

- 1) Rainwater harvesting
- 2) Watershed management

6.Define Rainwater harvesting . Mention its objectives

Rainwater harvesting is a technique of capturing and storing of rainwater for further utilization.

Need (or) Objectives of Rainwater Harvesting

To meet the increasing demands of water.

To raise the water table by recharging the ground water.

To reduce the groundwater contamination

To reduce the surface run off loss.

7.Define Watershed and WSM. Mention Watershed management techniques

Watershed is defined as the land area from which water drains under the influence of gravity into a stream, lake, reservoir or other body of surface water.

Watershed management : The management of rainfall and resultant runoff is called watershed management..

8. Define Resettlement and Rehabilitation.

RESETTLEMENT : Resettlement is simple relocation or displacement of human population.

REHABILITATION: Rehabilitation includes replacing the lost economic assets, safeguard employment, provide safe land for building, repair damaged infrastructures, etc.,

9. Define Environmental Ethics.

Environmental ethics refers to the issues, principles & guidelines relating to human interactions with their environment.

10. Define Green Chemistry.

Green chemistry is the chemistry that involves developing and protection of chemicals without polluting the environment. Green chemistry is the pollution free chemistry.

11. What are the major reason for Nuclear Accidents?

1. Nuclear test 2. Nuclear power plant accidents 3. Improper disposal of radioactive waste
4. Accident during transport 5. Core melt down :

12. Mention the effect of nuclear radiation

1. Radiation may break chemical bonds such as DNA in cells .
2. Exposure at low dose of radiation (100-250 rads), people do not die, suffer from fatigue, vomiting, lose of hair.
3) Exposure at higher dose of radiation (400-500 rads), affect bone marrow, blood cells, natural resistance blood fails to clot.
4) Exposure at very high dose of radiation (10,000 rads) kills the organism by damaging the tissues of heart, brain.

13. Define Nuclear Holocaust

It means destruction of biodiversity by nuclear equipments & nuclear bombs.

14. Define Nuclear winter

Nuclear bombardment will cause combustion of wood, plastics, petroleum, forest, etc.,

Large quantity of black soot will be carried to the stratosphere.

Black soot will absorb all UV-radiations & will not allow the radiation to reach the earth cause ill result.

Thus, due to nuclear explosions, a process opposite to global warming will occur. This is called nuclear winter.

15. What are the reasons for the formation of waste land? Mention the methods of waste land reclamation

Reason : Soil erosion, Deforestation, Overgrazing, Water logging, Salinity, Excessive use of pesticides, Mining. **Methods:** 1. Drainage - Excess water is removed by artificial drainage. 2. Leaching - The process of removal of salt from the salt affected soil by applying excess amount of water. 3. Irrigation practices - High frequency irrigation with controlled amount of water 4. Green manures & biofertilizers

16. Define Consumerism. Mention its objective.

Consumption of resources by the people.

Objectives of consumerism

It forces the manufacturer to reuse & recycle the product after usage.

The items which are very difficult to decompose like computers, televisions etc., can be returned to manufacturer for reclaiming useful parts & disposing the rest.

The reusable packing materials like bottles can be taken back to the manufacturer.

17. Define E-Waste. Give Example

Electric and Electronic Waste is known as E-Waste. Eg: Computers, printers, mobile phones, xerox machines, calculators, etc., **EFFECTS:** Environmental pollution, Respiratory problems.

18. What do you mean by Environmental Legislation law. Mention some important Protection Acts.

It means Environmental management requires a strong legal framework in order to protect our valuable environment from environmental pollution.

Important Protection Acts:

1. Environment Protection Act, 1972
2. Air Act, 1981 amended in 1987.
3. Water Act, 1974, amended in 1978.
4. Wildlife protection Act, 1972.
5. Forest Act, 1980.

19. Explain the Function of Central & state pollution control boards :

Central Board:

It advises the central government regarding the prevention of pollution.

It plans for the prevention & control of pollution.

It provides technical assistance & guidance to state boards

It encourages industries to recycle & reuse the wastes.

It also advises the industries to treat waste water & gases with modern technology.

State Board:

It has the right to inspect at all times any pollution control equipment, industrial plant & gives orders to take the necessary steps to control pollution.

It organizes educational programmes in collaboration with central board.

The analyst of the board is expected to analyze the sample, sent to him & submit a report to the board & industry.

20. Define Environmental Audit. Mention its types

Environmental audits are intended to qualify the environmental performance and position. It aims to define what needs to be done to improve environmental performance and position.

Types:

Liability audit: It assess compliance with legal obligations

A Management audit: It verifies that an environmental management strategy meets its states objectives.

A Functional audit: It investigates a specific area such as energy or water use.

21. What do you mean by Bio-Medical Waste.

Bio medical wastes are one type of biowaste generated from health care activities. It may be solid or liquid in nature also be hazardous or non hazardous. It must be properly managed and disposed off safely to protect the environment. If it is not properly treated, produces many infectious diseases.

22. What are the steps involved in management of biomedical wastes?

1. Generation and accumulation
2. Handling and Storage
3. Transport and Disposal.

23. What do you mean by On-site and Off-site treatment?

1. On-site treatment : It involves use of relatively expensive equipments and is used only by very large hospitals and major universities.
2. Off-site treatment : It involves hiring of a biomedical waste disposal service

24. What are the important aspects of sustainable development?

1. **Inter-generational equity:** It states that we should handover a safe, healthy and resourceful environment to our future generation.
2. **Intra-generational equity:** IT states that technological development of rich countries should support the economic growth of the poor countries and help in narrowing the wealth gap between and lead to sustainability.

25. What are the requirements needed for awarding ecomark?

1. Sources of raw materials.
2. Production process.
3. Use of natural resources.
4. Energy conservation in the production of products.
5. Disposal of wastes.
6. Utilisation of wastes and recycled materials.
7. Product to be accompanied by detailed instructions for proper use.
8. Bio-degradability

26. What is ECOMARK. Draw (I) bio-hazard symbol and (II) logo of Ecomark

Eco mark is a certification issued BIS (Bureau of Indian Standard) for the environment friendly product.

(I)



(II)



27. Define Disaster. Mention its types

A disaster is the realization of this hazard. Disaster is an event , concentrated in time and space in which a society undergoes severe danger and causes loss of its members and physical property.

Types of disaster:

Natural disaster: Generated by natural process. Eg. Cyclone, Flood, Earthquake.

Man made disaster: Disaster resulting from man made hazards. Eg. Pollution, Accidents.

28. Define flood. Mention the causes and effects.

A flood is an overflow of water, whenever the magnitude of flow of water exceeds the carrying capacity of the channel within its banks.

Causes: Heavy rainfall, Sudden melt of snow, Reducing the capacity of dams.

Effects: Affects crops and Livestock. Economic loss.

29. Define Cyclone. What are the major Effects ? Mention various names of cyclone.

It is a meteorological phenomena, intense depressions forming over open oceans and moving towards the land. Cyclones are most powerful, destructive, dangerous atmospheric storms on the earth. Their speed varies between 180-500 km/hr. The main requirement of formation of tropical cyclone is that the sea surface temperature (SST) must be below 25°C. The tropical cyclones move like a spinning top at the speed of 10-30 km/hr. Hurricanes in USA, Typhoons in China and Japan, Willy Willies in Australia. Cyclone in India.

30. Define Earthquake. What are the major causes and Effects of Earth quakes?

An earthquake is a sudden vibrations caused on the earth surface due to the sudden release of tremendous amount of energy stored in the rocks under the earth surface.

Causes: Due to dis equilibrium in any part of the earth crust caused by volcanic eruptions, hydrostatic pressure. 2. Underground Nuclear Testing 3. Decrease ground water level.

Effects: Deformation of ground surface, Loss of life and property .

UNIT V : HUMAN POPULATION

PART A

1. Define Population & Population density.

Population: It is defined as a group of individuals belonging to the same species, which live in a given area at a given time.

Population Density: It is expressed as the number of individuals of the population per unit area (or) per unit volume.

2. Define TFR and IMR.

TFR: Total Fertility Rate: Average number of children delivered by a woman in her life time.

IMR: Infant Mortality Rate: The percentage of infants died out of those born in one year.

3. What are the parameters affecting population size?

Birth rate (or) Natality: It is the number of live birth per 1000 people in a population in a given year.

Death rate (or) Mortality: It is the number of deaths per 1000 people in a population in a given year.

Immigration: It denotes the arrival of individuals from neighbouring population.

Emigration: It denotes the dispersal of individuals from the original population to new areas.

4. Define exponential growth:

Population growth occurs exponentially like $10, 10^2, 10^3, 10^4$ etc., which shows the dramatic increase in global population in the past 160 years.

5. Define Doubling Time.

t is the time required for a population to double its size at a constant annual rate. It is calculated as follows.

$$T_d (\text{Doubling time}) = 70/r$$

Where r = annual growth rate (OR) It is the number of years needed for a population to double its size

6. Define Demographic transition:

Population growth is generally related to economic development. The death rates and birth rates fall due to improved living conditions. This results in low population growth. This phenomenon is referred to as demographic transition.

7. How can we classify the population based on Age structure?

Age structure of population can be classified into three classes.

Pre-productive population (0-14 years).

Reproductive population (15-44 years)

Post reproductive population (above 45 years)

8. Define Population Explosion. What are the causes for population explosion.

The enormous increase in population due to low death rate (mortality) and high birth rate (Natality), is termed as population explosion.

Causes (or) reasons of population explosion

Invention of modern medical facilities reduces the death rate (mortality) and increases the birth rate (Natality), which leads to population explosion.

Increase of life expectancy is another important reason for the population explosion.

Illiteracy is one of the reasons for the population explosion.

9. Mention the objectives of Family Welfare programme

Slowing down the population explosion by reducing the fertility

Pressure on the environment due to over exploitation of natural resources is reduced.

10. Define population stabilization ratio. Based on that explain zero population growth.

The ratio is derived by dividing crude birth rate by crude death rate.

Developed countries: The stabilization ratio of the developed countries is 1, which is more or less stabilized indicating zero population growth.

Developing Countries: The stabilization ratio of the developing countries is nearing 3, which is expected to lower down by 2025.

11. Mention the objectives of Family Planning Programmes (OR) Factors influencing family size.

Achieve 100% registration of birth, deaths, marriage and pregnancy.

Encourage late marriages and later child-bearing.

Enables to improve women's health, education, employment.

Prevent and control of communicable diseases.

Promote vigorously the small family norms.

Making school education upto age 14 free and compulsory.

12. What are the factors influencing human health ?

1.Nutritional factors 2.Biological factors 3.Chemical factors 4.Psychological factors

13. Explain NIMBY Syndrome

NIMBY means Not In My Back Yard, which describes the opposition of residents to the nearby location of something they consider undesirable even if it is clearly a benefit for many.

Example: An incinerator, an ethanol plant, a nuclear power plant, a prison.

An airport is a typical example of a NIMBY complex. It benefits a city economically, but no-one wants it near them because of the noise pollution and traffic it generates.

14. Define Human rights. Mention all the rights.

Human rights are the fundamental rights which are possessed by all human beings irrespective of their caste, nationality, sex and language.

1.Human right to freedom 2.Human right to property 3.Human right to freedom of religion 4.Human right to culture and education 5.Human right to constitutional remedies 6.Human right to equality 7.Human right against exploitation 8.Human right to food and environment 9.Human right to good health

15. Define Value education. Mention its types. What are the types of values?

It is nothing but learning through which knowledge about the particular thing can be acquired. With the help of our knowledge and experience we can identify our values to understand ourselves and our relationship with others and their environment.

Types of Education:1.Formal education 2.Value education: 3.Value-based environmental education:

Types of values: 1.Universal values (or) Social values 2.Cultural values: 3.Individual values: 4.Global Values: 5.Spiritual Values:

16. Differentiate between HIV and AIDS.

HIV	AIDS.
Human Immune deficiency Virus	Acquired Immune Deficiency Syndrome
It is a Virus	It is a disease

17. Explain EIA.Mention its objectives. What are the elements used in the process of EIA

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) : EIA is defined as a formal process of predicting the environmental consequences of any development projects. **Objective:** It is used to identify the environmental, social and economic impacts of the project prior to decision making.

Elements:

Scoping, Screening,Identifying and evaluating alternatives, Mitigating measures dealing with uncertainty

Issuing environmental statements

18.Define population equilibrium.

A state of balance between birth rate and death rate in a population.

19. How does HIV function in Human body? Mention the factors Influencing and Not influencing of HIV

Functions: AIDS itself does not kill humans. The death occurs due to the attack by diseases because of the weakening of immune system. White Blood Cell (WBC) responsible in the formation of antibodies are called T-helper cells, T-helper cells are the key infection fighters in the immune system. The HIV enters into the human body and destroys the T-cells as a result of which various types of infection diseases occur. Even cancer can easily develop in the HIV infected persons.

Influencing: Syringes Infected mother to babies, Blood transfusion.

Not Influencing: Tears, food and air, cough, handshake, mosquito, flies, insect bites, urine

20. What are the importance of Value education.

To improve the integral growth of human being.

To create attitudes and improvement towards sustainable lifestyle

To create and develop awareness about the values and their significance and role.

To understand about our natural environment in which how land, air and water are interlinked.

21. Define Geographical Information System (GIS)

“GIS is a technique of superimposing various thematic maps using digital data on a large number of inter-related aspects.”

22. What are the problems of population growth?

1. Increasing demand for food
2. Loss of agricultural lands
3. Unemployment
4. Pollution

23. Define Population Equation.

$$P_{t+1} = P_t + (B-D) + (I - E)$$

P_t and P_{t+1} = sizes of population in an area at two different points in time t and $t+1$

B = Birth rate

D = Death rate

I = Immigration

E = Emigration

24. What are the objective Women Welfare? Mention the various schemes.

1. To provide education
2. To impart vocational training and improve employment opportunities.
3. To generate awareness of the environment and problems of population.
4. To restore the dignity, status, equality and respect for women.

Various schemes:

1. The National Network for Women And Mining (NNWM)
2. International Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)

25. Mention the necessity of Child Welfare. Mention the various Schemes.

Most of the Children are working as a Child Labourers due to poverty and demand of money.

Schemes:

1. United Nation Convention on Rights of Child.
2. Ministry of Human Resources and Development.

PART B & C

PART B

UNIT –I

1. Distinguish between hazard and risk. What are the different types of hazards? Explain the different types of hazards with examples.
2. Define ecosystem. Give an account of the structure and functions of grassland ecosystems.
3. Describe the types, characteristic features, structure and functions of aquatic ecosystems (Fresh and Marine)
4. Describe the types, characteristic features, structure and functions of forest ecosystems.
5. Describe the types, characteristic features, structure and functions of desert ecosystems.
6. With a neat sketch discuss the nitrogen cycle. & Oxygen cycle
7. What do you mean by conservation of biodiversity? Explain its methods.
8. Discuss the values of Biodiversity in India.
9. Explain the major factors that are responsible for the loss of biodiversity or threats to biodiversity.
10. Define Hot Spot. Explain the hot spots of biodiversity that extend in India?
11. What are the major causes of man-wildlife conflicts? Discuss the remedial steps that can curb the conflict.
12. Discuss the biodiversity at Global, National and Local levels.
13. India is a mega diversity- Justify .
14. Discuss Bio geographical classification of India.
15. Discuss about Ecological succession.

UNIT II

1. Explain about the causes, effects and control measures of air pollution.
2. Explain about the causes, effects and control measures of water pollution.
3. Explain about the causes, effects and control measures of soil pollution.
4. Explain about the causes, effects and control measures of Noise pollution
5. Explain about the causes, effects and control measures of Marine pollution.
6. Explain about the causes, effects and control measures of thermal pollution.
7. Explain about the causes, effects and control measures of radioactive pollution.
8. Explain chemical and photochemical reactions in atmosphere. (Smog, PAN, Acid rain, Ozone chemistry)
9. Elaborately discuss the steps involved in solid waste management.
10. With a flow diagram explain the waste water treatment process.
11. Describe Ion-exchange and Zeolite process for water treatment.
12. Discuss the significant parameters of drinking water quality standards.
13. Discuss the ways and means for an individual to prevent environmental pollution
14. Write a note on disposal of radioactive wastes.
15. Discuss the properties (physical and Chemical) of terrestrial and marine water.
16. Pollution related case studies.

UNIT :III

1. Describe the causes and effects and control measures of deforestation.
2. Discuss the impact of mining on environment and human health OR Consequences of over-exploitation of mineral resources.
3. Give an account of non-conventional energy resources OR Renewable energy sources
4. Discuss the effects of modern agriculture on the environment.
5. Discuss in detail the benefits and problems of constructing dams.
6. Discuss the role of an individual in the conservation of natural resources.
7. Explain briefly the soil conservation practices adopted in India.
8. With the help of a neat diagram explain the production of biogas and mention its uses.
9. Discuss the causes and consequences of desertification.
10. Discuss the consequences of overdrawing surface and ground water.
11. Discuss the various techniques for harnessing solar energy.
12. Describe the utilization of wind energy to produce electricity.
13. Explain the following: i) tidal power ii) Ocean thermal energy iii) geothermal energy iv) biomass energy.
14. Discuss about Non-Renewable Energy Resources.
15. Compare Nuclear Power and Coal Power.
16. Write notes on the following i) Degradation of proteins ii) Bioconversion of pollutants iii) Biochemical degradation of pollutants
17. What is land degradation? Discuss the factors responsible for land degradation.
18. Discuss the causes and consequences of desertification.

UNIT IV:

1. What are the objectives of water conservation? How is it carried out? (RWH & WSM)
2. Briefly discuss the salient features of all Environmental Legislation Acts.
3. Write a brief note on environmental ethics.
4. Give an account on Green Chemistry.
5. Write short notes on nuclear accidents and holocaust.
6. Discuss the resettlement and rehabilitation of people, its problems and concerns.
7. Discuss various measures for wasteland reclamation.
8. Explain the role of NGOs in environmental protection and health.
9. Write briefly on Bhopal disaster and Chernobyl disaster.
10. Explain the Role of CPCB and SPCB in control of pollution.
11. Discuss the causes, Effects and Management of Disasters like Flood, Earthquake, Cyclone and Landslides.
12. Define Sustainable Development. What are the approaches made to attain sustainable development.
13. Discuss the issues involved in the enforcement of environmental legislation or Drawbacks of Environmental Legislation Acts.
14. Define Biomedical Waste. What are the steps involved in management of biomedical waste.

15. What do you mean by Eco Mark. Mention the Objective and Criteria for awarding Ecomark.
16. Mention the Objective and Methods to create Environmental awareness to public.

UNIT – V

1. Define Population Growth. Mention the Characteristics of Population Growth.
2. Discuss the population growth variation among nations.
3. Write the methods and strategies of imparting value education.
4. Define Population Explosion. Mention the Causes and Effects of Population Explosion.
5. Briefly describe the various schemes launched for women and child welfare in India.
6. Discuss the origin, modes of transmission, symptoms, and control measures of AIDS.
7. Discuss the influence of environmental parameters on human health.
8. Define Human Rights and discuss the salient features of the Universal Declaration of Human Rights by UN.
9. Briefly discuss the following: i) factors affecting family size ii) family planning Programme.
10. Discuss in detail about EIA.
11. Explain the Role of IT in Environmental Protection and Human Health.

PART-C

1. Disaster Management- (Flood, Cyclone, Tsunami, Landslides, Earthquake)
2. Renewable and Non-Renewable Energy Resources - Solar, wind, Hydro energy, Usage of petrol
3. Environmental Act and Role of NGO's
4. Mineral Resources – Mining and Impacts
5. Water Resources - Dams – Benefits, Problems, Impact on forest and tribal people
6. Modern Agriculture- Impacts
7. Role of IT in Environment and Human Health – Case studies
8. Karnataka-TamilNadu water problem issues
9. Recent flood issues in Chennai
10. Any Pollution related case studies.
11. Bio degradable pollutants.
12. Recent cyclone issues in Chennai.
13. What are the conservation technologies available for water?
14. Explain the consequences and causes of flood and landslides by taking a case study.
15. Explain the environmental problems caused by population explosion. What are the measures to be taken to check population explosion.
16. Discuss 1. Taj Trapezium case 2. Bhopal Gas Tragedy 3. Chrenobyl nuclear disaster.
17. Discuss the impact of deforestation activity by taking any case study.
18. Discuss about bio conversion of pollutants.
19. Compare Renewable and Non-Renewable .
20. Write about the need for public awareness about the environment.

UNIVERSITY QUESTION BANK

UNIT-I - PART-A

1. Give any two examples of physical hazard: (June 2016)
2. Mention two primary and secondary consumers in grassland system: (June 2016)
3. Define Biodiversity (Dec 2015/ May 2015/June 2007)
4. What are called decomposers? (Dec 2015)
5. What is hot spot? (Dec 2015)
6. Distinguish between biotic and abiotic components of an ecosystem: (Dec 2015)
7. What is the effect of habitat loss on biodiversity? (Dec 2015)
8. What is an abiotic environment? (Dec 2014)
9. What are called endangered species? (Dec 2014 & May 2011)
10. Define ecological succession: (Dec 2014 & Dec 2011)
11. Differentiate between 'endangered' and 'epidemic' species: (Dec 2014 & Dec 2011)
12. Write about ecological pyramids: (June 2012)
13. Define the term producers and consumers: (May 2008)
14. What is meant by genetic diversity? (May 2008)
15. How does biome differs from an ecosystem? (Dec 2007)
16. Define genetic diversity and species diversity: (Dec 2007)
17. Explain the concept of ecosystem : (June 2007)
18. What do you meant by environmental impact? (Dec 2006)
19. Name the few endangered wild life species of India : (June 2006)
20. Explain threatened and endangered species: (Dec 2005)
21. Define ecosystem diversity (Dec 2016)
22. Write about any two chemical hazards present in the environment. (Dec 2016)

PART-B

1. Discuss the components of ecosystem: (Dec 2005/Dec 2006)
2. Briefly explain the energy flow through ecosystem: (Dec 2005/Dec 2006), Dec 2016
3. What are the different types of ecosystem and explain them with an example: (June 2006)
4. Describe in-situ and ex-situ conservation of biodiversity: (June 2006) Dec 2016
5. Discuss the four kinds of diversity: (Dec 2006)
6. What are the causes for loss of biodiversity? (Dec 2006)
7. Explain the role of biodiversity at global, national and local levels: (June 2007)
8. Describe the term hot spot in Biodiversity: (Dec 2007)
9. Describe the types, characterisitic features, structure and functions of
 1. Forest ecosystem
 2. Aquatic ecosystem (DEC 2015)
10. Explain the following : (i) Ecological Succession (ii) Energy flow in the ecosystem.(DEC 2015), Dec 2016
11. What are the major causes of man wild conflicts? Discuss the remedial steps that can curb the conflict: (DEC 2015)
12. Justify India to be Mega diversity in nation.(Dec 2016)

13. Explain Man and wild life conflicts. Dec 2016
14. Explain Productive use of biodiversity. Dec 2016

UNIT-II - PART-A

1. What is PAN? Give its detrimental effect: (JUNE 2016)
2. What are the causes of thermal pollution? (JUNE 2016)
3. Define noise pollution: (DEC 2016)
4. What do you mean by land degradation? (DEC 2016)
5. Mention the effects of noise pollution: (DEC 2015)
6. What is eutrophication? (DEC 2015)
7. What is acid rain? (JUNE 2015)
8. What are renewable and non renewable energy resources? (JUNE 2015)
9. Mention the effects of ozone on plants: (JUNE 2015)
10. List the sources of marine pollution: (JUNE 2015)
11. Explain the term photo-chemical smog: ((JUNE 2012)
12. Mention any two anthropogenic sources responsible for soil pollution: (DEC 2015)
13. What are the impacts of thermal pollutant on aquatic ecosystem? (DEC 2015)
14. Mention few non renewable energy sources: (JUNE 2007)
15. Define air pollution: (JUNE 2007)
16. Give examples for primary and secondary air pollutants: (DEC 2007)
17. Define decibel: Give the permissible noise levels in heavy machinery shop and hospital zone: (DEC 2007)
18. Define Blue Baby Syndrome.
19. 19. What do you mean by DO , BOD &COD and mention its significance.
20. What are Heavy Metals ? Explain the methods for removal of heavy metals.
21. Mention the control measures for thermal pollution in industries. (Dec 2016)
22. List any four water quality parameters and their significance. (Dec 2016)

PART-B

1. Discuss the sources, effects and control measures of air pollution: (DEC 2015/May 2015 JUNE 2016), Dec 2016
2. Write notes on salinity and dissolved oxygen: (DEC 2015)
3. Explain the methods of disposal of solid wastes: (DEC 2015)
4. Explain the causes, effects and control measures of water pollution: (DEC 2015)
5. Write an elaborate notes on chemical and photochemical reactions in the atmosphere: (JUNE 2016)
6. What are the causes and effects of marine pollution: (JUNE 2016), Dec 2016

7. What are the methods adopted for control of air pollutants? Explain each briefly: (JUNE 2016)
8. How are water pollutants classified? Give example of each type: (JUNE 2016)
9. Write notes on Nuclear hazards, thermal pollution: (DEC 2015)
10. What is marine pollution? Explain the ill effects of marine pollution with the help of a case study?
11. Explain the control and prevention measures of municipal solid wastes: (MAY 2015)
12. Write briefly about the hazards caused by the nuclear wastes: (MAY 2015)
13. Explain in detail the role of an individual in pollution prevention: (MAY 2015)
14. How would you manage the floods and cyclones? What are the precautionary measures to be adopted in such occurrences? (DEC 2014)
15. Explain the process of waste water treatment.
16. Discuss about ozone layer depletion. (Dec 2016)
17. Explain the steps involved in SWM. Dec 2016

UNIT-III - PART-A

1. What are the reasons for land degradation? (JUNE 2016/DEC 2015)
2. Explain the term sustainability briefly: (JUNE 2016)
3. How does overgrazing contribute to environmental degradation? (DEC 2015)
4. In what tectonic environments do mineral deposits form? (MAY 2015)
5. What is desertification? (MAY 2015)
6. Define the term land slide: (MAY 2015)
7. What are renewable resources? (MAY 2015)
8. Define sustainable development: (DEC 2014)
9. What is deforestation? (DEC 2014)
10. What are the consequences of overgrazing? (DEC 2014)
11. What is man induced land slides? (DEC 2014)
12. Define BOD₅ (JUNE 2012)
13. Mention any four natural resources: (JUNE 2012/DEC 2011)
14. Indicate any four major global food problems: (DEC 2011)
15. What are oxygen demanding wastes? (MAY 2011)
16. What is an aquifer? Give example: (MAY 2011)
17. What is sustainable forest management? (DEC 2006)
18. Differentiate between deforestation and forest degradation: (DEC 2007)
19. What is biogas? Mention its uses. (Dec 2016)
20. Define sustainable lifestyle. (Dec 2016)

PART-B

1. How is biogas produced? What are its advantages? (JUNE 2016/ MAY 2015/DEC 2014)

2. What are the effects of modern agriculture? (JUNE 2016)
3. What are 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? (JUNE 2016)
4. Explain bioconversion of pollutants with examples: (JUNE 2016)
5. Discuss the impact of mining on environment and human health: (DEC 2015/MAY 2015)
6. What are the effects of deforestation? Is deforestation justified?
Comment: (DEC 2015/MAY 2015), Dec 2016
7. What are the effects of over utilization of surface and ground waters? (DEC 2015), Dec 2016
8. Explain the role of an individual in the conservation of natural resources: (DEC 2015)
9. Write in detail the effects of timber extraction of forest and tribal people: (DEC 2015)
10. What is land degradation? Discuss the factors responsible for land degradation: (DEC 2014)
11. What are the changes caused by agriculture and overgrazing? (DEC 2014)
12. Briefly explain the forest resources its use and over exploitation : (DEC 2014)
13. What is the need for soil conservation? Write briefly about different soil conservation practices in India? (DEC 2014)
14. Discuss the major world's food problems and suggest possible ways to solve the problems: (DEC 2014)
15. Explain the role of alternate energy sources in pollution control with case studies: (JUNE 2012) , Dec 2016
16. Explain the stages in desertification. Dec 2016
17. Write notes on 1. Uses of fertilizers and Pesticides 2. Soil salinity problems (Dec 2016)
18. Explain about Bio degradation of pollutants. (Dec 2016)

UNIT-IV - PART-A

1. Define the term sustainable development. (Dec 2009, Dec 2008)
2. What is meant by environmental audit.(Dec 2008)
3. State the drawbacks of pollution related acts.(Dec 2008)
4. List the objectives of watershed management.(Dec 2009)
5. What are objectives of public awareness?(Dec 2009)
6. What are the various sources of radioactive pollution?(Dec 2008)
7. What are landslides? What are the harmful effects of landslides? (May 2008)
8. Define Resettlement and Rehabilitation.
9. Define Consumerism.(Dec 2015, May 2015)
10. State any two biomedical waste handling rules. (June 2016)
11. Define the term sustainability briefly .(June 2016)
12. What is environmental protection act? (May 2016)
13. What are the causes of unsustainable development? (May 2016)
14. List out the advantages of rain water harvesting.(Dec 2015)

15. What do you mean by disaster management? (May 2015)
16. What is rain water harvesting?(Dec 2014)
17. What are the objectives of water act?(Dec 2014)
18. Define green house effect.(Dec 2014)
19. Give some reasons behind global warming. (June 2014)
20. List any four environmental potentials act. (June 2014)
21. What is environmental ethics?
22. What are the objectives of Forest (Conservation) Act?
23. What are the objectives of Wild Life (Protection) Act, 1972?
24. What is meant by NIMBY syndrome?(Dec 2008)
25. What is meant by e-waste
26. Write four principles of green Chemistry.(Dec 2016)
27. What is consumerism? (Dec 2016)

PART-B

1. Write about water prevention and control pollution act 1974.(Dec 2014)
2. Discuss Forest conservation act 1980(Dec 2014)
3. What is rain water harvesting? Explain their types with suitable sketches(Dec 2014)
4. What is an earthquake? Enumerate its effects. What measures should be taken to mitigate this disaster. (Dec 2014)
5. Discuss the resettlement and rehabilitation of people, its problems and concerns. (Dec 2014)
6. Discuss the salient features of wild life protection act. (Dec 2014)
7. Discuss various measures for wasteland reclamation. (Dec 2015)
8. Write note on earthquake and cyclone. (Dec 2015)
9. Explain in detail how biomedical wastes are managed and handled. (Dec 2015)
10. Discuss the various applications of green chemistry for achieving sustainable development. (June 2016)
11. Explain the salient features of water act. (June 2016)
12. What is environmental ethics? Write about the issues and possible solution .(June 2016)
13. Discuss about watershed management. (June 2016)
14. Write short notes on nuclear accidents and ozone layer depletion. (Dec 2013)
15. Give brief account of global warming.(Dec 2009)
16. Explain waste land reclamation practices. (Dec 2009)
17. Discuss chrenobyl and nuclear disaster. (Dec 2009)
18. Define cyclone and explain management of cyclone using fore casting. (Dec 2016)
19. What is Ecomark. Explain (Dec 2016)
20. Explain the salient features of Air act 1981 (Dec 2016)
21. Name any three significant biomedical wastes and their safe disposal. Dec 2016
22. Describe in details about any one pollution related case study. Dec 2016

UNIT-V - PART-A

1. Define population explosion. (Dec 2009, May 2015)
2. What are the effects of population explosion. (Dec 2009)
3. Define immigration and emigration(Dec 2009)
4. What are the objectives of family welfare programmes.(Dec 2009)
5. Mention the ill effects of HIV/AIDS on the environment. (Dec 2008)
6. State the Role of Information Technology in Environment. (Jan 2006)
7. Define population equilibrium, (Jan 2006)
8. Differentiate between HIV andAIDS.(Dec 2007)
9. What are the reasons behind the increased population growth in the less developed nations compared with developed nations. (Dec 2007)
10. What are the major precautions to avoid AIDS? (May 2008)
11. Define doubling time. (Dec 2008)
12. What are the effects of population explosion. (Dec 2009,June 2016)
13. Name any two family welfare programmes adopted in India. (June 2016)
14. Write any two child welfare schemes in TamilNadu.(June 2016)
15. What is population growth.(June 2016)
16. List out the advantages of family welfare programmes.(May 2015)
17. What are the sources of HIV function. (Dec 2014)
18. What are the objectives of value education. (Dec 2014)
19. Define HIV and causes of AIDS.(June 2016)
20. Define EIA (Dec 2016)
21. What are the objectives of Women Welfare system.(Dec 2016)

PART-B

1. What is AIDS? What are the sources and mode of transmission of HIV function.(Dec 2015, Dec 2014,May 2015)
2. Write note Women and Child Welfare and Human rights. (Dec 2015, May 2015)
3. Describe the role of IT in environment and Human health with case studies.(May 2015,Dec 2014, June 2016)
4. What are the objectives of value education? (May 2015), Dec 2016
5. Discuss the various of population among nations.(Dec 2014)
6. Write the methods and strategies of imparting value education. (May 2015)
7. Briefly describe the various schemes launched for women and child welfare in India.(Dec2014)
8. Draw a typical population pyramid of developing country and discuss. (June2016)
9. Explain problem by population explosion(June 2016), Dec 2016
10. Explain the causes , effects and control of HIV/AIDS. (June 2016)
11. Write about the reasons for population explosion in India. What are the measures to be taken to check the population explosion.(June 2016)
12. Explain the role of GIS in environmental management. Dec 2016

13. Discuss the factors influencing human health under current environmental conditions.(Dec 2016)

*****ALL THE BEST *****



ESTD. 2001