**ENVIRONMENT & ECOLOGY**

**EXAMINATION (April – May - 2011)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. Form part (b), (c), (d) only two parts should be solved; each part is of seven marks.**

**Q. 1 (a)** which of the following conceptual sphere of environment is having least storage capacity of matter**: 2**

(i) Atmosphere

(ii) Lithosphere

(iii) Hydrosphere

(iv) Biosphere

**(b**) Give schematic representation of the structure of an ecosystem.  **7**

**©** What are advantages and limitations of Environment Impact Assessment? **7**

**(d)** Describe the energy flow and nutrient through an ecosystem.  **7**

**Q. 2 (a)** Which of the following air pollution control devices is suitable for removing the finest dust from air: **2**

(i) Setting chamber

(ii) Cyclone separator

(iii) Fabric filter

(iv) Electrostatic precipitator

**(b)** Explain term lapse rate and temperature inversion. What are their consequences in the atmosphere? **7**

**©** Describe the pollutant emissions from thermal power plant and transportation sources , how are they controlled ?  **7**

**(d)** What is photochemical smog cycle? What is its effect? How PAN is formed during photochemical smog cycle? **7**

**Q. 3. (a)** What is maximum allowable concentration of fluoride in drinking water? **2**

(i) 1 PPM

(ii) 1.25 PPM

(iii) 2.5 PPM

(iv) 1.75 PPM

**(b)** Classify and explain the various biological treatment methods for sewage.  **7**

**©** Explain BOD and COD. How are they determined in waste water? What is significance of DO in rivers?  **7**

(d) Write informative notes on any two of following**: 7**

(i) Eutrophication

(ii) Blue – baby disease

(iii) Thermal water pollution

**Q. 4. (a)** Which of the following strategies should be given first preference as far as the management of plastic waste is concerned? 2

(i) Recycle

(ii) Reuse

(iii) Reduce

(iv) All of above

**(b)** Describe the thermal process used in solid waste treatment. Discuss the merit and demerits of this process.  **7**

**©** What are hazardous wastes and how are they classified?  **7**

**(d)** Write short notes on any two of the following: **7**

1. Environmental problem involved in sanitary land filling?
2. Sound absorbent and sound insulator
3. Noise exposure index.

**Q. 5 (a)** Biodiesels are  **2**

(i) Glycerol

(ii) Di- esters

1. Ethanol
2. N- butenol and iso – butanol

**(b)** How biotechnology minimizes pollution generated by pesticide industry and paper and pulp industries?  **7**

**©** What are biofuels? How are they classified? Describe how they are prepared from

Biomass? **7**

**(d)** Write short notes on any two of the following:  **7**

(i) Bio – Surfactants

(ii) Bio – Fertilizers

(iii) Bio – Sensors

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (Nov – Dec. - 2011)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. Form part (b), (c), (d) only two parts should be solved; each part is of seven marks.**

**Q.1 (a) the** term ecosystem was first coined by 2

(i) Clark

(ii) Smith

(iii) tansley

(iv) odum

(b) Discuss briefly the social causes of environmental degradation. 7

© What is EIA? How EIA perform its work?

(d) Write short notes on (any two): 7

(i) Food chain

(ii) Forest Ecosystem

(iii) Ecological pyramids

Q.2 (a) which of the following plume pattern is most dangerous from pollution point of view: 2

1. Looping
2. Fanning
3. Fumigating
4. Neutral

(b) Explain structure of atmosphere with the help of a neat diagram. 7

© What are the major gases responsible for causing green house effect? What are the possible consequences of uncontrolled global warming?

(d) Write short notes on (any two):

(i) Acid Rain

(ii) Primary pollutants

(iii) Lapse Rate

Q. 3. (a) Activated sludge process is: 2

(i) An aerobic attached growth treatment system.

(ii) An aerobic suspended growth biological treatment system.

(iii) An anaerobic attached growth biological treatment system.

1. An anaerobic suspended growth treatment system.

(b) Explain the following stages in sewage treatment with diagram: 7

(i) Screening

(ii) Sedimentation

(iii) Tricking filter method

© What is COD? How COD is measured in polluted water? State the significance of COD. 7

(d) Write short notes on (any two) : 7

(i) Water pollutants ‘

(ii) Eutrophication

(iii) BOD

Q.4. (a) when the solid waste consists of large amounts of organic matter and if the moisture content is high. Which of the method of treatment will be idea: 2?

(i) Incineration

(ii) Palletizing

(iii) Recycle

1. Compositing

(b) Define solid waste? Explain any one method of disposal technique for the control of solid waste and also discuss the significance of solid waste management. 7

© Define Noise pollution. How noise is measured? Suggest preventive measures to control Noise pollution?

(d) Write short notes on (any two): 7

(i) Sources of soil pollution

(ii) Harmful effects of noise pollution

(iii) Hazardous waste

Q. 5. (a) Which micro – organic used for the production of ethanol: 2

(i) Zymomonas mobilis

(ii) Lactobacillus acetobutylicum

(iii) Clostridium acetobutylicum.

(iv) Eremothecium ashbyii.

(b) Define “Biotechnology “. Give the current status of biotechnology in environmental protection. 7

© Discuss the role of Biotechnology in food and allied industries and pesticide industry. 7

(d) Write short notes on (any two)

(i) Biofuels

(ii) Biochips

(iii) Biofertilizers

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (April – May - 2012)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. Form part (b), (c), (d) only two parts should be solved; each part is of seven marks.**

Q.1 (a) Define ecosystem. 2

(b) (i) Describe the flow of energy in an ecosystem using a neat flowchart . 3

(ii) Explain food chain with type’s example. 4

© Enumerate various causes of environment degradation. 7

(d) Write notes on (any two):

(i) Nitrogen cycle.

(ii) Ecological pyramid

(iii) Forest ecosystem

Q. 2. (a) Write the names of two primary pollutants & their sources. 2

(b) What is global warming? Which gases are responsible for it? Explain causes,

Effects of global warming. 7

© What are participates? Enumerate the harmful effects & control methods (any Two) 7

1. Lapse rate
2. ALR
3. ELR
4. Temperature inversion

Q. 3 . (a) Write two harmful effects of water pollution. 2

(b) What are water pollutants? Give their classification. Explain any two water pollutant. 7

© Draw a typical layout of domestic waste water treatment. Name the various units

& their function. 7

(d) (i) Write different between BOD & COD .

(ii) Write short note on Eutrophication. 7

Q.4. (a) Define decibel (dB) 2

(b) What is MSW? Explain any two with advantages & shortcomings. 7

© Define noise pollution. Explain various sources & effects of noise pollution. 7

(d) What is the main objective of SWM? Enumerate the basic functional units. What is the role of recycling in waste management? 7

Q.5. (a) Define the energy crops. 2

(b) What is biotechnology? Show the role of biotechnology in Environment

Pollution control. 7

© (i) discuss the role of biofertilizers In modern days.

(ii) Describe the biofuels

(d) Write notes on (any two ) :

(i) Biosensors

(ii) Biosurfactants

(iii) Biofertilizers

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (Nov- Dec - 2012)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. Form part (b), (c), (d) only two parts should be solved; each part is of seven marks.**

Q.1 . (a) (i) Identify the possible link “A” in the following food chain 1

Plant --- Insect ---- Frog ---- “A” ---- Eagle

1. Cobra
2. Parrot
3. Rabbit
4. Wolf

(ii) Which one of the following is not a functional unit of an Ecosystem ------------- 1?

1. Productivity
2. Stratification
3. Energy flow
4. Decomposition

(b) What is Ecological Pyramid? Describe different Kinds of ecological pyramids. **7**

© What is EIA? Draw flow chart on EIA methodology.  **7**

1. Write short notes on (any two) : **7**
2. Environmental Degradation
3. Forest Ecosystem
4. Food Web

**Unit – II**

Q.2 (a) (i) the ozone layer in the atmosphere acts as an efficient filter for ---------------- 1

(a) X – rays

(b) UV-A rays

© UV- B rays

1. Infrared rays

(II) According to central pollution control board which particulate size in diameters (in micrometers) of the air pollutants is responsible for greatest harm to human health ------------ **1**

1. 5.2 – 2.5
2. 2.5 or less
3. 1.5 or less
4. 1.0 or less

(b) What is acid rain? How acid rain affect our environment. Architecture and human health. **7**

**©** What is Global Warming? How is it responsible for climate change?  **7**

1. Write short notes on (any two)
2. Lapse Rate
3. Photochemical smog
4. Primary pollutants

**Unit - III**

Q. 3. (a) (i) Eutrophication causes decrease in ----------------  **1**

1. Dissolved hydrogen
2. Dissolved salts
3. Dissolved Oxygen
4. All of these

(ii) Minimata disease is due to pollutant of -----------**-1**

1. Industrial waste mercury into fishing water
2. Oil spill in water
3. Organic into drinking water
4. Arsenic into the atmosphere

(b) Explain BOD & COD. How are they determined in waste water? **7**

© Classify water pollutants. Discuss the sources and effects of these pollutants. **7**

1. Write short notes on (any two) : **7**
2. Eutrophication
3. Tertiary treatment of water
4. Dissolved Oxygen

**Unit - IV**

Q. 4 (a) (i) Sound becomes a hazardous noise pollutant if its level is above -----------**1**

(a) 30 DB

(b) 120 db

© 80 db

1. 150 db

(ii) Most of the trash your family throws away each day ends up getting: **1**

1. Recycle
2. Burned
3. Land filled
4. Eaten

(b) What is SWM? Explain different stages of solid waste management. **7**

© Discuss the effects of noise pollutants? Explain various measures to control noise pollution. **7**

1. Write short notes on (any two)
2. Composting
3. Sources of solid pollution
4. Recycling of solid waste

**Unit --- V**

Q. 5 (a) (i) The most common substants used distilleries for the production of ethanol ------------------ **1**

(a) Corn meal

(b) Soya meal

© Molasses

(d) Ground gram

(ii) Rising of dough is due to -------------**1**

1. Multiplication of yeast
2. Production of CO2
3. Emulsification
4. Hydrolysis of wheat flour starch into sugars

(b) What do you understand by the term biotechnology? Explain the role of biotechnology in the field of : **7**

(i) Agriculture

(ii) Medicine

1. Industries

© Name the pollutants liberated and discuss their remedy through biotechnology of the following industries: **7**

1. Paper and pulp industry ‘
2. Tanneries
3. Write an Information note on the following (any two) **7**
4. Biofertilizer
5. Biosensor
6. Biofuels

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (April - May 2013)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. The answer of this part can be maximum of 3 of 4 lines. Attempt part (b), (c), (d) only two parts should be solved; each part of each question.**

**Unit – 1**

**Q. 1.**  (a) Who has coined the term ecosystem?  **2**

(b) Explain Environmental Impact Assessment. **7**

© Write short note on any two: **7**

1. Forest ecosystem
2. Ecological pyramid
3. Biogeochemical

**(d)**  Explain food chain and food web. **7**

**Unit -- II**

Q. 2. (a) Name of the plants which can absorb CO. **2**

(b) Write short note on any two:  **7**

(i) CO, NOx

(ii) SOx , HC

1. Photochemical smog

© Discuss the mechanisms involved in the formation and depletion of ozone layer. Control measures? **7**

**(d)**  What are the equipment used to control particulates? **7**

**Unit – III**

Q. 3 (a) Define D.O., B.O. D and C.O.D. **2**

(b) Explain Eutrophication and its effects & control measures.  **7**

© Discuss the tertiary treatment of waste water. **7**

(d) Write short notes on any two: **7**

(i) Determination of DO

(ii) Tricking filter

1. Oxygen pond

**UNIT – IV**

Q. 4. (a) What is permissible noise level for industrial, commercial, residential area? **2**

(b) Write short notes on any two:  **7**

(i) Composting

(ii) Incineration

1. Sanitary land fill

© What are the physiological and psychological effects of noise? **7**

(d) How agro chemical causes soil pollution? What are their controlling methods? **7**

**UNIT – V**

Q. 5. (a) What is bio – reactor?  **2**

(b) Write short notes on any two:  **7**

(i) Biochips

(ii) Biosurfactants

1. Tannery industry

© Discuss the role of biotechnology In paper and pulp industry. **7**

(d) Discuss the status of biotechnology in environmental protection. **7**

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (Nov- Dec. 2013)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. The answer of this part can be maximum of 3 of 4 lines. Attempt part (b), (c), (d) only two parts should be solved; each part of each question.**

**UNIT – I**

Q. 1. (a) Define Environment. **2**

(b) Write a note on any one of following: **7**

(i) Forest ecosystem

(ii) Energy transfer in an Ecosystem

© Write short notes on any two of the following: **3.5 + 3.5**

1. Characteristic of troposphere
2. Characteristic of marine Ecosystem
3. Characteristic of an ecosystem

(d) Write short notes on any two of the following: **3.5 + 3.5**

**(i)**  Importance of Environmental Impact Assessment

(ii) Main reasons of Environmental Degradation

1. Food web

**UNIT -- 2**

Q. 2. (a) Define Air pollution. **2**

(b) Describe photo chemical smog. **7**

Or

Explain the methods to removes Gaseous pollution.

© Write a note on any one of the following: **7**

1. Formation and depletion Ozone layer in Mesosphere
2. Energy balance in our atmosphere

(d) Write shorts notes on any two of the following: **3.5 + 3.5**

(i) Particulate

(ii) Green house effect

1. Acid rain

**UNIT – 3**

Q. 3. (a) Define Water pollution. 2

(b) What is BOD? What is its importance? How it is determined? **7**

© Explain Aerobic and Anaerobic decomposition of waste water. **7**

1. Eutrophication
2. Types , sources and effect of water pollutants
3. Secondary treatment of waste water.

**UNIT -- 4**

Q. 4. (a) What is Noise pollution? **2**

(b) Explain composting of solid waste disposal. **7**

© What are the various types of land pollutants?  **7**

(d) Write shorts notes on any two of the following: **3.5 + 3.5**

(i) Control of noise pollution

(ii) Importance of recycling of solid waste

1. Unit of noise

**UNIT -- 5**

Q. 5. (a) Define Biotechnology.  **2**

(b) Write a note on prevention of pollution through Biotechnology.  **7**

**©** Write a note on Biochips OR Bioreactors. **7**

**(**d)Write short notes on any two of the following: **3.5 +3.5**

**(i)** Biofertilizers

(ii) Biomass

1. What is Biosensor? Name various types of Biosensors.

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (April – May 2014)**

**Note:** - **All questions are compulsory. In every question part (a) is compulsory. The answer of this part can be maximum of 3 of 4 lines. Attempt part (b), (c), (d) only two parts should be solved; each part of each question.**

**UNIT – 1**

Q.1 (a) define environmental and write the name of the components of environment.  **2**

(b) Write the type of Ecosystem.  **7**

© (i) give the difference between food web and food chain. 3 ½

(ii) Give the difference between primary and secondary pollutants 3 ½

(d) Write short note (any two) **7**

(i) Ecological Pyramid

(ii) Component of Ecosystem

1. Environmental degradation
2. Principles of Ecological

**UNIT---- 2**

Q. 2. (a) Define Ionosphere and write only name of atmosphere structure.  **2**

(b) What is Acid Rain? Explain the dry and wet deposition of acid rain. **7**

© What is Ozone hole. Explain the mechanisms and causes of ozone depletion. **7**

(d) Write short note (any two): **7**

(i) Photochemical smog

(ii) Types of plume

1. Electrostatic precipitators
2. ELR & ALR

**UNIT -- 3**

Q. 3. (a) What is water pollution? Write the name of four sources.  **2**

(b) Describe the activated sludge process .Write the advantages

and disadvantages of this process. **7**

© Explain the method of determination of dissolved oxygen in water

sample giving suitable reaction. **7**

(d) Write short note (any two)

(i) Hydrological cycle

(ii) COD

(iii) Tricking filter

1. Tertiary treatment of water

**UNIT -- 4**

Q. 4. (a) Draw well labeled diagram of soil profile. **2**

(b) What is soil pollution? Discuss the various sources of soil pollution. **7**

© What is noise? Discuss the harmful effects of noise pollution. **7**

(d) Write short notes (any two) : **7**

(I) incineration

(ii) Noise control

(iii) Recycling of solid waste

1. Land filling

**UNIT -- 5**

Q. 5. (a) What is biotechnology? **2**

(b) What is bioremediation? Write the types of bioremediation. **7**

© Write the applications of biotechnology in pesticides Industry. **7**

(d) Write short note (any two) : **7**

(i) Bioreactors

(ii) Biochips

(iii) Biozuels

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (Jan - Feb. - 2015)**

Note: - (i) All questions are compulsory.

(ii) Choices given wherever required.

(iii) Part (a) of each question is compulsory. It is of 2 marks, do any two form (b),(c) and (d) ,it is of 7 marks each.

**UNIT – 1**

1. (a) Define BIOME. **2**

(b) Write notes on any two of the following: **7**

(i) Pyramids

(ii) Environmental segments

(iii) Ecology and its types

© Explain any two of the following :

1. Nitrogen cycle
2. Environmental degradation
3. Environmental impact assessment

(d) Elucidate on grassland ecosystem.  **7**

**UNIT --- 2**

1. (a) Write the name of components responsible for formation of PAN.  **2**

(b) Explain in detail with example different segments of atmosphere. **7**

**©** What is plum? Explain its type with example.  **7**

(d) Explain in detail different techniques used to control gaseous pollution. **7**

**UNIT --- 3**

1. (a) What do you mean by methemoglobinemia? 2

(b) What are trace elements? Give any three elements sources and its effects with disease which are causes.  **7**

**©** Explain the types of water pollutants. **7**

(d) Elucidate on preliminary methods of waste water treatment. **7**

**UNIT -- 4**

1. (a) Define garbage and rubbish.  **2**

(b) What do you mean by Composting? Explain its types. **7**

© Throw light on different effects causes due to noise pollution**. 7**

(d) Discuss in detail about origin and effects of industrial and hazardous waste.  **7**

**UNIT – 5**

5 (a) what is Mycorrhiza? **2**

(b) Explain in detail bioremediation method with flow diagram. **7**

© How does biotechnology help in environmental protection?  **7**

**(d)** Throw light on pollution prevention in food and allied industry through biotechnology. **7**

**ENVIRONMENT & ECOLOGY**

**EXAMINATION (April - May. - 2015)**

Note: - (i) All questions are compulsory.

(ii) Choices given wherever required.

1. Part (a) of each question is compulsory. It is of 2 marks, do any two form (b),(c) and (d) ,it is of 7 marks each.

**UNIT – 1**

1. (A) what is biome? **2**

(b) Explain in brief the environment impact assessment on the following point:  **7**

**(i)** Definition

(ii) Objective

1. Methodology of EIA

© What are ecological pyramids? Explain In brief any one of the ecological pyramids.  **7**

(d) Explain the energy flow in an ecosystem. Also write the different between food chain and food web. **7**

**UNIT – 2**

**2. (a)**  What is acid rain . ? **2**

**(b)**  What is Ozone hole? Explain the causes and effect of Ozone hole formation over Antarctica 7

© State the different between smog and photochemical smog. Explain the condition faviouring the formation of photochemical smog and write the chemical equation.  **7**

(d) Explain the composition of atmosphere with reference to various spheres. Which sphere play important role in environmental pollution? **7**

**UNIT - 3**

2. (a) What is meant by hydrosphere ? **2**

(b) What are common primary treatment techniques for sewage? Explain the activated sludge process for sewage with flow diagram and also write its advantages and disadvantages . **7**

**©** Define Eutrophication. Discuss the types its effects and control. **7**

(d)Write notes on: (any two) 7

(i) Different between COD and BOD

(ii) Trickling of dissolved oxygen in river water. (Method only)

**UNIT - 4**

1. (a) What is soil pollution?  **2**

(b) Mention the various types of disposal method of solid waste. Explain the composting method of solid waste disposal. **7**

**©** What is noise pollution? Discuss its effects at physiological and psychological level, Mention the units of measurement of noise intensity level. **7**

**(**d**)**  Give an information note on recycling and reuse of solid waste. **7**

**UNIT – 5**

1. (a) State the advantage of Biosensor. **2**

**(**b**)**  What are the advantages of biological computer Explain bio – chip on following points. **7**

**©** discuss the pollution liberated from leather industry and their biotechnological remediation. **7**

**(**d**)**  What is biotechnology? Explain with example how biotechnological processes play an important role in environmental protection?  **7**