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**Department of Chemistry - PTA Questions**

**Module I Natural resources**

**PART-A**

1. Forests help to keep the environment clean. Justify. (OR) Mention the ecological benefits of forest resources.

2. Name the process that removes the top layer of soil and Mention any two causes. (or) What is meant by soil erosion? Mention any two causes and effects of soil erosion.

3. Define the term “mulching” and mention how it is useful to the society.

4. What is meant by wind breakers? Give two examples for wind breakers.

5. Mention the problem aroused due to mono shifting cultivation followed by over utilization of ground water and list out its ill effects (OR) Define the term desertification and land degradation. Mention any two ill effects of it.

6. List out any four upstream and four downstream problems occurred during dam’s construction.

7. Define the term nutrition, undernutrition and malnutrition and list out the effects.

(OR)

Match the following

Nutrition - mental retardation, measles, diarrhoea

Malnutrition - 2500 calories per day

Under nutrition - blindness

8. What is meant by overgrazing? Mention any two ill effects of it.

9.Write a note on salinity and waterlogging. (4+4 marks)

10. Distinguish between renewable and non-renewable energy resources. How are renewable energy resources being superior to non-renewable energy resources?

11 Mention any two disadvantages of harvesting wind energy.

12. Name the places in India where the nuclear power plant constructed.

13. Distinguish between nuclear power and coal power.

**Part B**

1. What is meant by deforestation? Explain the causes effects and remedial measures of deforestation.

2.Give a brief account on the following

(1) Blue baby syndrome (2) Micronutrient imbalance (3) Eutrophication

(4) Super pests (5) Biomagnification.

(OR) Our society prefers organic farming rather than non-organic farming vegetables. Explain the reason behind it with its adverse effects of non-organic forming.

Discuss the effects of overutilization of pesticides and fertilizers or Discuss the effects of modern agriculture.

3. Define the term “soil erosion”. Discuss its causes, effects and preventive methods of soil erosion. (OR). Name the process that removes the top layer of soil and Discuss its causes, effects and preventive methods

4. Discuss the effects of overutilization of ground water. **(OR)** Due to increase of ground water usage by the modern society, so many problems aroused. List out and describe it in a detailed manner.

5. Solar energy is abundant in nature. Explain how it is harnessed using any three different devices with its principle and working.

Why are alternate energy sources required? How is energy harnessed from the following?

1. Ocean energy 2. Tidal Energy 3. Wind energy

6. Narmada Bachao Andolan' raised issues of how constructions of big dams create environmental problems. List out and discuss any four upstream and downstream problems occurred during dam’s construction and also explain the effects of dam’s construction on tribal people.

7. Tabulate any five minerals with its major world reserves and its uses. Discuss the environmental damage caused by the mining activity

**ECOSYSTEM -Part A**

1. Give any two characteristics of any ecosystem like desert, estuarine

2. Define the term “biome”.

3. Mention any two significance food chain and food web.

4. Distinguish between food chain and food web

**Biodiversity- Part- A**

1. What are the significances of biodiversity?
2. What is meant by “Red data book”? Give its significance.
3. Name the two hot spots of biodiversity?
4. What are the criteria for recognizing hot spots of biodiversity?
5. What is meant by endangered species, endemic species and invasion species? Give two examples each.
6. What is meant by habitat fragmentation?
7. How is biodiversity classified?
8. Define the term species diversity, ecosystem diversity and genetic diversity. (OR) Identify the types of bio diversity involved in the following
9. Burma teak, Indian Teak, Malaysian teak
10. Apple, Mango, banana
11. River, Lake, Ocean
12. List out the important sites for the conservation of endemic species. Mention the major endemic species in India.
13. List out any two direct and indirect values of biodiversity.

**(OR)** Identify the values of biodiversity from the following

1. Holy Plants and animals
2. Pleasant music of wild birds, colour of peacock
3. Plant species that may cure cancer
4. Cotton, silk, ivory
5. List out the factors affecting endangered species.
6. Define Endemic species and give an example.

**PART B**

1.Define ecological succession. Explain the various stages involved in ecological succession. Find out the pioneer community and climax community for the following ecological succession

**Exposed rocks Lichen Mosses Grasses Pine tree**

**2.** Identify the ecosystem from the following components and discuss the characteristic features, structure and functions of it. (any ecosystem will be given)

(i) Goat, snake, cow, tiger, grass, grasshopper, eagle, cat, rat and bacteria

(ii)Algae, sunlight, O2, hydrilla, small fishes, game fish, bacteria, Cilictes, insects

(iii) sea weeds, NaCl, K, sunlight, moiluscs,fish, cod, mackerel

3. Discuss the flow of energy in an ecosystem based on the laws of thermodynamics. (OR)

State and apply the thermodynamics laws for the following systems and explain in a detailed manner

1. Solar energy to Chemical energy

(ii) Hunting of animals

4. Now a day, there is a decline in the biodiversity. Discuss the reason behind the various types of threats faced by biodiversity. **(OR)** Explain the factors that give threats to biodiversity.

5.Explain various types of ecological pyramids with a neat diagram.

6. Discuss the three types of biodiversity.

7.Classify and explain the values of biodiversity.

8.Write a note on endangered and endemic species of India.

9.Bengal tigers have been entered as endangered species. Name and explain the strategy to conserve it **(OR)** Explain the strategies adopted to conserve biodiversity (*ex*-situ and *in*-situ).