

Hall Ticket No

Question Paper Code: **AHSB07**



# INSTITUTE OF AERONAUTICAL ENGINEERING

**(Autonomous)**

**Dundigal, Hyderabad - 500 043**

## MODEL QUESTION PAPER-II

**B.Tech IV Semester End Examinations, May - 2020**

**Regulations: R18**

# ENVIRONMENTAL SCIENCE

(Common to AE / CSE / IT / ECE / EEE / ME / CE)

**Time: 3 hours****Max. Marks: 70**

Answer ONE Question from each Module

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

## MODULE- I

1.
  - a) Explicit the ecological pyramids. Justify why some of these pyramids are upright while others are inverted in different ecosystem. **[7M]**
  - b) Distinguish between grazing food chain and detritus food chain with suitable examples. **[7M]**
2.
  - a) Summarize biogeochemical cycles. Elucidate about phosphorous cycle with the help of a diagram. **[7M]**
  - b) Explicit the significance of food chains and food webs with relevant examples. **[7M]**

## MODULE – II

- |    |    |   |             |
|----|----|---|-------------|
| 3. | a) | Classify natural resources. Elucidate about the different methods of conserving water resource.             | <b>[7M]</b> |
|    | b) | Describe in detail the major environmental and social impacts of mineral extraction.                        | <b>[7M]</b> |
| 4. | a) | Enumerate the advantages and disadvantages associated with dams.  | <b>[7M]</b> |
|    | b) | Compare renewable and non renewable energy sources and List out the advantages of renewable energy sources. | <b>[7M]</b> |

## MODULE – III

- |    |    |   |      |
|----|----|---|------|
| 5. | a) | Summarize consumptive use value, productive use value, social value, ethical value, aesthetic value and optional value of biodiversity. | [7M] |
|    | b) | Elucidate about the flora and fauna found in Indo-Burma, western Ghats and eastern Himalayas regions of India.                          | [7M] |
| 6. | a) | Narrate in-situ and ex-situ conservation of biodiversity with examples.   | [7M] |
|    | b) | Explicit the factors that lead to biodiversity loss. Elucidate about the human impact on biological diversity.                          | [7M] |

#### **MODULE – IV**

7. a) Illustrate the major sources of surface water pollution and ground water pollution. [7M]  
Describe the methods to control water pollution.
- b) Elucidate about the management of e-waste to prevent environmental pollution. [7M]
8. a) Elucidate about the Kyoto protocol. Describe the remedial measures for climate change. [7M]
- b) Explicit the difference of opinion between north block and south block countries during earth summit, 1992. [7M]

#### **MODULE – V**

9. a) Enlist the objectives, principles, key elements and importance of environmental impact assessment. [7M]
- b) Explicit the hazardous waste. List out the rules to manage and handle them. [7M]
10. a) Describe the importance of environmental education. Explicit the value-based environmental education. [7M]
- b) Describe the concept of green building. Elucidate about the overall impact of green building on environment. [7M]



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## COURSE OBJECTIVES

The course should enable the students to:

I	Analyze the interrelationship between living organism and environment.
II	Understand the importance of environment by assessing its impact on the human world.
III	Enrich the knowledge on themes of biodiversity, natural resources, pollution control and waste management.
IV	Understand the constitutional protection given for environment.

## COURSE OUTCOMES (COs):

CO 1	Discover knowledge in ecological perspective and value of environment.
CO 2	Understand the significance of various natural resources and its management.
CO 3	Demonstrate a comprehensive understanding of the world's biodiversity and the importance of its conservation.
CO 4	Categorize different types of pollutions and their control measures. Discover effective methods of waste management. Analyze global environmental problems and come out with best possible solutions.
CO 5	Understand environmental laws and sustainable development.

## COURSE LEARNING OUTCOMES (CLOs):

CLO 1	Summarize about environment and its importance and Discuss environment and importance of ecosystems.
CLO 2	Provides the information regarding ecosystem and applicability. Acquire knowledge of how all the animals are competing with their food requirements and also understand the various trophic levels in the food chain.
CLO 3	Describe the flow of energy through the various components of ecosystem. Examine the importance a of nutrients and flow of nutrients in ecosystem.
CLO 4	Summarize about the toxicity of heavy metals on the biotic and a biotic components.
CLO 5	Distinguish about different types of natural resources and their applicability and illustrate the utility of renewable resources efficiency.
CLO 6	Describe the impact of over utilization of underground and surface water. Discuss the disaster manage mental plans.
CLO 7	Describe the benefits and property of dams. Illustrate the uses of mineral resources.
CLO 8	Enumerate the applications of the solar energy and wind energy in modern days.
CLO 9	Illustrate the definition and importance of biodiversity. Acquire the genetic diversity, species and ecosystem diversity.
CLO 10	Describe the ecological values and consumptive use of ecosystem. Recall India is mega diversity nation. Discuss the hot spot center in and around.
CLO 11	Analyze the information regarding different causes for loss of biodiversity. Analyze various reasons for conflict of species. Illustrate different methods to protect the biodiversity. Correlate national biodiversity act.

CLO 12	Explain the meaning of environmental pollution and classification. Analyze the important pollutants in air pollutants.
CLO 13	Enumerate the sources types and effects of water pollution. Correlate the sources types and effects of soil pollution. Analyze the noise quality and permissible levels
CLO 14	Describe the various methods commonly employed for the disposal of solid waste.
CLO 15	Identify To understand the recent trends in e- waste management practices.
CLO 16	Understand concept of climate change and impacts.
CLO 17	Summarize the remedial measures of ozone depletion.
CLO 18	Evolve strategies to environmental issues. Describe the role of government and legal aspects in environmental protection
CLO 19	Discuss the silent features of the hazardous waste management rules. Understand the importance of EIA for developmental activities
CLO 20	State the aim and objectives of sustainable development. Enumerate population and its explosion.
CLO 21	State the aim and objectives of sustainable development. Acquire knowledge of environmental education. Summarize the environmental ethics and objectives of green buildings.

**Signature of Course Coordinator**

**HOD, AE**