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Question Paper Code: **AHSB07**



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER-I

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) Elucidate about energy flow pattern in different types of ecosystem. Interpret the energy flow as we move up the tropical levels. **[7M]**
 b) Explicit the main components of ecosystem and describe the functions of each component. **[7M]**
2. a) Narrate the role of producers, consumers and decomposers in an ecosystem with practical example. **[7M]**
 b) Summarize biogeochemical cycles. Elucidate about phosphorous cycle with the help of a diagram. **[7M]**

MODULE – II

3. a) Explore how water becomes a renewable resource. Describe the effects of over exploitation of water resources. **[7M]**
 b) Describe briefly droughts and floods with respect to their occurrence and impacts. **[7M]**
4. a) List out alternate energy sources. Explicit their present status, merits and demerits. **[7M]**
 b) Elucidate about the water logging and soil salinity in land degradation. **[7M]**

MODULE – III

5. a) Distinguish among genetic diversity, species diversity and ecosystem diversity with relevant examples. **[7M]**
 b) Our India is a “mega diversity nation” Justify the statement highlighting the biodiversity greatness of India. **[7M]**
6. a) Describe the hot spots of biodiversity found in India. List out their salient features. **[7M]**
 b) Enlist the major causes of human-wild life conflicts. Illustrate suitable wildlife conservation practices. **[7M]**

MODULE – IV

7. a) Distinguish between primary and secondary air pollutants. Demonstrate various methods to control air pollution. **[7M]**
 b) Enlist the adverse effects of solid waste. Describe the solid waste management. **[7M]**
8. a) Describe the major sources of soil pollution. Elucidate about the effects of soil pollution on soil productivity. **[7M]**
 b) Explicit the difference of opinion between north block and south block countries during earth summit, 1992. **[7M]**

MODULE – V

9. a) Enumerate the salient features of Air (Prevention and Control of Pollution) Act, 1981. **[7M]**
 b) Enumerate the major municipal solid waste management and handling rules. **[7M]**
10. a) Illustrate the salient features of Environmental protection Act, 1986. **[7M]**
 b) Summarize sustainable development. Explicit the threats and measures for Sustainable development. **[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, ECE