Hall Ticket No | | | | | | | | | | |  Question Paper Code: AHS009

# INSTITUTE OF AERONAUTICAL ENGINEERING

**(Autonomous)**

**Dundigal, Hyderabad - 500 043**

## MODEL QUESTION PAPER

B.Tech II Semester End Examinations, April - 2018

**Regulations: IARE - R16**

**ENVIRONMENTAL STUDIES**

(Common to All Branches )

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

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

### UNIT – I

| | | | |
|---|---|---|---|
| 1. | a) | Write a note on biomagnifications. Explain about biomagnifications of DDT in a food chain. | **[7M]** |
| | b) | List the main components of ecosystem and briefly describe the functions of each. | **[7M]** |
| 2. | a) | Explain the role of producers, consumers and decomposers in an ecosystem with practical example. | **[7M]** |
| | b) | List the biogeochemical cycles. Explain about carbon and nitrogen cycles with the help of a diagram. | **[7M]** |

### UNIT – II

| | | | |
|---|---|---|---|
| 3. | a) | Explain how water becomes a renewable resource. What are the effects of over exploitation of water resources? | **[7M]** |
| | b) | Discuss briefly droughts and floods with respect to their occurrence and impacts. | **[7M]** |
| 4. | a) | List out alternate energy sources. Explain their present status, merits and demerits. | **[7M]** |
| | b) | Explain how serious are water logging and soil salinity in land degradation. | **[7M]** |

### UNIT – III

| | | | |
|---|---|---|---|
| 5. | a) | Define biodiversity. Explain genetic diversity, species diversity and ecosystem diversity. | **[7M]** |
| | b) | Our India is a "Mega diversity Nation". Support the statement highlighting the biodiversity greatness of INDIA. | **[7M]** |
| 6. | a) | Explain hotspots of biodiversity and mention three hotspots found in India. Discuss their salient features. | **[7M]** |
| | b) | What are the major causes of human-wildlife conflicts? Suggest suitable wild life conservation practices. | **[7M]** |

## UNIT – IV

| | | | |
|---|---|---|---|
| 7. | a) | What are primary and secondary air pollutants? Enumerate various methods to control air pollution. | **[7M]** |
| | b) | What adverse effects can solid wastes cause? Discuss how the solid waste can be managed. | **[7M]** |
| 8. | a) | Describe the major sources of soil pollution. How does soil pollution affect soil productivity and what measures can be taken to prevent soil pollution. | **[7M]** |
| | b) | Discuss the difference of opinion between north block and south block countries during earth summit, 1992. | **[7M]** |

## UNIT – V

| | | | |
|---|---|---|---|
| 9. | a) | Discuss the salient features of Air (Prevention and control of pollution) Act, 1981. | **[7M]** |
| | b) | What are the major municipal solid waste management and handling rules? | **[7M]** |
| 10. | a) | Discuss the salient features of environmental protection act, 1986. | **[7M]** |
| | b) | Define sustainable development. What are the threats and measures for sustainable development? | **[7M]** |

# INSTITUTE OF AERONAUTICAL ENGINEERING
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## COURSE OBJECTIVES (COs):
**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 LEARNING OUTCOMES (CLOs):
**Students, who complete the course, will have demonstrated the asking to do the following:**

| | |
|---|---|
| CAHS009.01 | Understand and realize the importance of multi-disciplinary nature of the environment in day to day life |
| CAHS009.02 | Describe various types of ecosystems its components and inter-relationship between man and environment. |
| CAHS009.03 | Examine how pollutants move through various levels in an ecosystem in our daily life. |
| CAHS009.04 | Explain the pathways of relevant chemical elements through the components of the biosphere in real world applications. |
| CAHS009.05 | Understand the relevance and importance of the natural resources in the sustenance of life on earth and living standard. |
| CAHS009.06 | Develop an understanding of the natural resources problems and ethical issues facing humans and the environment. |
| CAHS009.07 | Correlate the exploitation and utilization of conventional and non-conventional resources. |
| CAHS009.08 | Demonstrate the level of chemical usage in agricultural development and its impact in our daily life. |
| CAHS009.09 | Understand the concept of growing energy needs in the world in terms of consumption of energy. |
| CAHS009.10 | Establish knowledge and existence of endemic, extinct, endangered and threatened species, types and values of biodiversity. |
| CAHS009.11 | Describe our country as mega biodiversity nation in terms of hotspots. |
| CAHS009.12 | Explain on threats and innovative methods for conservation of biodiversity. |
| CAHS009.13 | Establish a foundation on different pollutants and pollutions in the environment. |
| CAHS009.14 | Ability to use methods, and strategies to investigate and interpret the pollution problems. |
| CAHS009.15 | Use innovative methods to control the level of water pollution in our day to day life. |
| CAHS009.16 | Acquire Knowledge on global effects and how to interpret with global environmental problem in our daily life. |
| CAHS009.17 | Acquire knowledge and skills about health and safety protocols when working with polluted environment in day to day life. |
| CAHS009.18 | Describe the role of government and legal aspects in environmental protection. |
| CAHS009.19 | Knowledge of proper decontamination techniques for solid waste management. |
| CAHS009.20 | Understand the importance of EIA for developmental activities to have minimum negative impacts on people. |

| | |
|---|---|
| CAHS009.21 | Prepare entry level for future generations to meet sustainable development. |

**MAPPING OF SEMESTER END EXAMINATION (SEE) TO COURSE LEARNING OUTCOMES (CLOs):**

| SEE Question No. | | Course Learning Outcomes (CLOs) | | Blooms Taxonomy Level |
|---|---|---|---|---|
| 1 | a | CAHS009.03 | Examine how pollutants move through various levels in an ecosystem in our daily life. | Understand |
| | b | CAHS009.01 | Understand and realize the importance of multi-disciplinary nature of the environment in day to day life | Understand |
| 2 | a | CAHS009.01 | Understand and realize the importance of multi-disciplinary nature of the environment in day to day life | Understand |
| | b | CAHS009.04 | Explain the pathways of relevant chemical elements through the components of the biosphere in real world applications. | Understand |
| 3 | a | CAHS009.07 | Correlate the exploitation and utilization of conventional and non-conventional resources. | Understand |
| | b | CAHS009.06 | Develop an understanding of the natural resources problems and ethical issues facing humans and the environment | Understand |
| 4 | a | CAHS009.07 | Correlate the exploitation and utilization of conventional and non-conventional resources. | Understand |
| | b | CAHS009.01 | Develop an understanding of the natural resources problems and ethical issues facing humans and the environment | Understand |
| 5 | a | CAHS009.10 | Establish knowledge and existence of endemic, extinct, endangered and threatened species ,types and values of biodiversity. | Understand |
| | b | CAHS009.11 | Describe our country as mega biodiversity nation in terms of hotspots. | Understand |
| 6 | a | CAHS009.11 | Describe our country as mega biodiversity nation in terms of hotspots. | Understand |
| | b | CAHS009.12 | Explain on threats and innovative methods for conservation of biodiversity. | Understand |
| 7 | a | CAHS009.13 | Establish a foundation on different pollutants and pollutions in the environment. | Understand |
| | b | CAHS009.19 | Knowledge of proper decontamination techniques for solid waste management. | Understand |
| 8 | a | CAHS009.14 | Ability to use methods, and strategies to investigate and interpret the pollution problems. | Understand |
| | b | CAHS009.17 | Acquire knowledge and skills about health and safety protocols when working with polluted environment in day to day life. | Understand |
| 9 | a | CAHS009.18 | Describe the role of government and legal aspects in environmental protection. | Remember |
| | b | CAHS009.19 | Knowledge of proper decontamination techniques for solid waste management. | Understand |
| 10 | a | CAHS009.18 | Describe the role of government and legal aspects in environmental protection. | Remember |
| | b | CAHS009.21 | Prepare entry level for future generations to meet sustainable development. | Understand |

**Signature of Course Coordinator** **HOD, FRESHMAN ENGINEERING**