



B.TECH DEGREE EXAMINATIONS: MAY 2018

(Regulation 2015)

Fourth Semester

BIOTECHNOLOGY

U15EST006: Basic Concepts in Environmental Science

COURSE OUTCOMES

CO1: Analyze the impact of engineering solutions in a global and societal context

CO2: Discuss contemporary issues that results in environmental degradation and would attempt to provide solutions to overcome those problems using Environmental Biotechnology

CO3: Highlight the importance of ecosystem and biodiversity

CO4: Ability to consider issues of environment and sustainable development in his personal and professional undertakings

CO5: Paraphrase the importance of conservation of resources.

CO6: Play an important role in transferring a healthy environment for future generations

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match the List I with List II and choose the correct answer using the codes given below. CO3 [K₂]

List I		List II	
A. Herbivores		i. Fungi	
B. Decomposers		ii. Hawks	
C. Secondary carnivores		iii. Plants	
D. Producer		iv. Herbs	

- | | A | B | C | D |
|----|-----|----|-----|----|
| a) | ii | i | iii | iv |
| b) | iii | iv | ii | i |
| c) | ii | iv | iii | i |
| d) | iii | i | ii | iv |

2. Which of the following is not a correct option for managing hazardous waste? CO2 [K₄]
- a) Reducing the production of waste while increasing the amount generated b) Dumping at sea.
- c) Reducing the hazard of the waste d) Long-term storage or disposal
3. Consider the following statements regarding ecosystems CO5 [K₂]
1. Energy flow in an ecosystem is always cyclic
 2. Cutting of trees in a forest reduces global warming
 3. Fossil fuels are renewable resources
 4. Salinity is highest during summer and lowest in winter
- Which of the above statements are correct?
- a) 1,3 b) 1,4
- c) 1,2 d) 2,3
4. Radio activity measured by CO2 [K₃]
- a) Geiger-Muller counter b) Calorimeter
- c) Polarimeter d) Colorimeter
5. Assertion (A): Tropical rain forests are disappearing fast from developing countries such as India. CO3 [K₃]
- Reason (R): No value is attached to these forest because these are poor in biodiversity
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
- c) A is true but R is false d) A is false but R is true
6. Tendency of pollutants to become concentrated in successive trophic levels in known as CO4 [K₂]
- a) Bioremediation b) Biorhythm
- c) Bio magnification. d) Bio piracy
7. Arrange the following in a meaningful sequence CO1 [K₂]
- (1) Death
 - (2) Population
 - (3) Unemployment
 - (4) Poverty
- a) 2-3-4-1 b) 1-3-2-4
- c) 3-4-2-1 d) 4-1-3-2

8. Disease caused by eating fish inhabiting mercury contaminated water is CO3 [K₂]
- a) Bright's disease b) Mina Mata disease
 c) Hiroshima episode d) Osteosclerosis
9. Assertion (A): India has crossed its one billion mark in population size recently CO6 [K₄]
 Reason (R): A large percentage of India population is in the productive age group
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
 c) A is true but R is false d) A is false but R is true
10. GIS is CO6 [K₂]
- a) Geographical Information System b) Geographical Information Source
 c) Geological Information System d) Genetically Information System

PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

11. Define Environmental science. CO1 [K₂]
12. Specify the impact of modern agriculture techniques. CO1 [K₃]
13. Define the term biodiversity hotspots. CO2 [K₃]
14. List the drawbacks of over utilization of ground water. CO2 [K₄]
15. Differentiate food chain and food web. CO3 [K₄]
16. What are the methods to be adopted to conserve biodiversity? CO3 [K₄]
17. List the sources of thermal pollution. CO4 [K₂]
18. Define sustainable development. CO4 [K₁]
19. State any two methods to conserve mineral resources. CO5 [K₂]
20. What are the major objectives of family welfare programmes? CO6 [K₃]

Answer any FIVE Questions:-

PART C (5 x 14 = 70 Marks)

(Answer not more than 300 words)

Q.No. 21 is Compulsory

21. Discuss in detail on the atmospheric pollution due to various contaminants and suggest suitable methods to control it. CO1 [K₄]

22. i) Describe the various threats to biodiversity. (7) CO3 [K₂]
ii) Illustrate the structure and function of forest eco system. (7) CO3 [K₂]
23. i) Discuss in detail on solid waste management. (7) CO2 [K₃]
ii) Write in detail about the benefits & problems of construction of dams in forest area. (7) CO1 [K₂]
24. i) Elaborate the causes, effects and conservation forest resources. (7) CO5 [K₂]
ii) Explain the renewable energy resources available to meet the growing energy needs of India. (7) CO5 [K₃]
25. i) Describe the rain water harvesting process. (7) CO4 [K₄]
ii) Earth temperature increases day-by-day. Discuss the causes and consequences. (7) CO4 [K₄]
26. i) Discuss the structure and functions of grass land ecosystem. (7) CO3 [K₃]
ii) Write a note on ecological pyramids. (7) CO3 [K₃]
27. Describe the role of Information Technology in Environment and human health. CO6 [K₄]
