

(7 pages)

Reg. No. :

Code No. : 8559

Sub. Code : HZOM 22

M.Sc. DEGREE EXAMINATION, APRIL 2013.

Second Semester

Zoology

ENVIRONMENTAL BIOLOGY

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer.

1. The amount of living material in different trophic levels or in a component population is known as _____.

(a) Functional kingdom
(b) Standing crop
(c) Ecological pyramid
(d) Ecological niche

2. Which of the following may be upright or inverted depending on the nature of the food chain in the particular ecosystem?

(a) Pyramid and numbers
(b) Pyramid and energy
(c) Pyramid and biomass
(d) Both (a) and (c)

3. The population of individuals of only one species is called _____.

(a) Polyspecific population
(b) Monospecific population
(c) Community
(d) None of these

4. Group of individuals of any kind of organism is called _____.

(a) Community (b) Mixed population
(c) Population (d) Habitat niche

5. Susceptible to extinction is due to _____.

(a) High trophic level (b) Large body level
(c) Small population (d) All the above

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6. Animals and plants are best protected in _____.

- (a) Sanctuaries (b) Zoos
(c) National parks (d) Botanical gardens

7. Pollutants like PAN and O₃ cause _____.

- (a) Respiratory distress
(b) Irritation of eye
(c) Irritation of nose and throat
(d) All the above

8. Which of the following is the source of air pollution?

- (a) Industrial chimney wastes
(b) Automobiles
(c) Thermal power station
(d) All the above

9. PAN stands for _____.

- (a) Prime Added Nature
(b) Peroxy Acetyl Nitrate
(c) Principal of Advanced Nations
(d) Presume Additional Noise

10. The term "Hot spot" for high diversity ecological region was coined by _____.

- (a) Odum (b) Stanley
(c) Myers (d) IUCN

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Write short notes on biogeochemical cycles.

Or

- (b) What are life's support systems, and why may they be considered an artificial classification scheme?

12. (a) Write an account on term "Human rights in India".

Or

- (b) Enumerate on child education rules and regulations controls strategies.

13. (a) Write a short notes on human impact on biological diversity.

Or

- (b) What are some characteristics of a species that is more prone to speciate to become extinct?



14. (a) Differentiate between degradable and non-degradable pollutants.

Or

- (b) List out the major recommendations of the National forest policy in India.

15. (a) Write an essay on how can mineral resources be conserved?

Or

- (b) Write short notes on energy resources.

PART C — (5 × 8 = 40 marks)

Answer ALL the questions, choosing either (a) or (b).

16. (a) How might nutrient cycling be affected by stressed ecosystems? Give an example of this effect.

Or

- (b) Illustrate, using a diagram, one method used to represent energy flow through an ecosystem. Explain the relevance of the second law of thermodynamics to your diagram.

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17. (a) Enumerate the effects of an increasing population on the environment.

Or

- (b) Describe the Human Rights and value of education in AIDS, women and child welfare.

18. (a) What is meant by biodiversity? Explain the reasons for loss of biodiversity.

Or

- (b) List out the Wild life sanctuaries, national parks and biosphere reserve and protection laws in Indian biodiversity.

19. (a) Identify and describe the water-related environmental problems associated with fracking and describe the environmental drawbacks, not related to water use, of using the fracking process to extract natural gas from shale.

Or

- (b) Write an account on type of pollution with suitable example.

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20. (a) Natural gas is considered to be a better fossil fuel for the environment than coal is. Discuss environmental benefits of using natural gas as a fuel compared to using coal.

Or

- (b) Describe the ecological benefits provided by intact forest ecosystems and explain the ecological and economic importance of forest ecosystem.
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