

2015
ZOOLOGY
Paper : 101

ECOLOGY & ENVIRONMENTAL BIOLOGY

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1) Answer the following multiple choice questions (any eight)

1 x 8=8

- i) Micro consumers are popularly known as
 - a) Primary consumers
 - b) Secondary Consumers
 - c) Tertiary consumers
 - d) Decomposers
- ii) In Nitrogen cycle, the Nitrogen absorbed by the plants are reduced to
 - a) Ammonium b) Ammonia c) Nitrogen
 - d) Nitrous oxide
- iii) CFCs in human life are widely used as
 - a) Propellants b) Heater c) Coolants d) Conductor
- iv) The population of individuals of only one species is

termed as

- a) Polyspecific population
 - b) Monospecific population
 - c) Community
 - d) None of these
- v) What does $\frac{dN_1}{dt} = r_1 N_1$ indicates?
- Dt
- a) Population growth of species 1 in presence of Competing species
 - b) Logistic population growth of species
 - c) Population growth of species 1 in presence of predator species
 - d) Exponential population growth of species 1
- vi) The Biological Diversity act was implemented on the year
- a) 1980 b) 1986 c) 2002 d) 1972
- vii) Which among these is the least pollutant?
- a) Nitrogen Dioxide
 - b) Carbon monoxide
 - c) Sulfur Dioxide
 - d) None of the above
- viii) Specialist species have narrow niches generalist species have broad niches
- a) True
 - b) False
 - c) Both are false
 - d) Both are true

(2)

P.T.O.

- ix) Rainforest is the example of
 - a) Primary community
 - b) Secondary Community
 - c) Climax community
 - d) None of these
- x) Which among these density independent factors?
 - a) Predator
 - b) Disease
 - c) Habitat
 - d) Weather

2. Answer the following short type questions (any five)

$2 \times 5 = 10$

- i) What do you mean by ecological Homeostasis?
- ii) Define species richness.
- iii) What do you mean by exponential growth of a population?
- iv) What is difference between primary and secondary consumer?
- v) What do you mean by biological clock?
- vi) What do you mean stability of community?

3. Answer the following (any four)

$5 \times 4 = 20$

- i) Describe Sulfur cycle with suitable diagram.
- ii) What are the differences between Frequency and dominance in a community?
- iii) Describe the density dependent and independent factors of a population.

(3)

P.T.O.

iv) Describe the different regulating factors of biological clock.

v) Describe secondary succession.

4. Answer the following long type question (any two)

$$9 \times 2 = 18$$

i) What do you mean by environmental degradation? Describe the effects of oil and paper mill waste on environment.

ii) What do you mean by global warming? What are various biological consequences that take place due to ozone depletion?

iii) What do you mean by ecological niche and niche overlap? What are the differences between habitat and the ecological niche?

5. Answer the following very long type question (any two)

$$12 \times 2 = 24$$

i) What are the abiotic and biotic components of an ecosystem? What are the salient features of terrestrial ecosystem?

ii) What are the various environmental issues relating to Diversity? Describe the principles and management of Biodiversity conservation.

iii) Describe Air pollution. Describe the various sources of air pollution and measure for its control.