



18050

**BRAINWARE UNIVERSITY****Term End Examination 2025-2026****Programme – M.Sc.(BT)-2024****Course Name – Biodiversity and Ecology****Course Code - MBT30207****( Semester III )**

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**Brainware University**  
398, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125

**Full Marks : 60****Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

**Group-A**

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) World Environment Day is observed every year on:
  - a) 5th June
  - b) 5th May
  - c) 5th July
  - d) 5th April
- (ii) Name one secondary pollutant:
  - a) Smog
  - b) PAN
  - c) Ozone
  - d) All of these
- (iii) Select the correct option for Ozone acts as a protective shield when it resides in
  - a) Mesosphere
  - b) Stratosphere
  - c) Thermosphere
  - d) Troposphere
- (iv) Identify the biome with coniferous trees and low biodiversity.
  - a) Tropical rainforest
  - b) Taiga
  - c) Grassland
  - d) Deciduous forest
- (v) Determine the factor affecting population size that includes births and immigration.
  - a) Mortality
  - b) Natality
  - c) Migration
  - d) Fertility
- (vi) Select the correct parameter that describes the proportion of individuals in different age groups.
  - a) Birth rate
  - b) Density
  - c) Age structure
  - d) Survivorship
- (vii) Analyze the result of overshooting carrying capacity.
  - a) Stable population
  - b) Die-off
  - c) Extinction
  - d) Carrying capacity overshoot
- (viii) Choose the gas that contributes most to global warming.
  - a) Nitrogen
  - b) Carbon dioxide
  - c) Methane
  - d) Ozone
- (ix) Identify the harmful effect of ozone layer depletion.

- a) Skin cancer
- c) Respiratory illness
- (x) Select a Biosphere Reserve in India.
  - a) Nilgiri
  - c) Kanha
- (xi) Select the correct unit for measuring population size.
  - a) Kg
  - c) Per hectare
- (xii) Choose the shape of a logistic growth curve.
  - a) J-shaped
  - c) Z-shaped
- (xiii) Identify the phase where population grows rapidly.
  - a) Lag phase
  - c) Stationary phase
- (xiv) Choose the term for the number of species in a community.
  - a) Richness
  - c) Diversity
- (xv) Select the attribute related to species abundance.
  - a) Evenness
  - c) Density
- b) Bone damage
- d) Vision loss
- b) Sundarbans
- d) Kaziranga
- b) Individuals per unit area
- d) Volume
- b) S-shaped
- d) L-shaped
- b) Exponential phase
- d) Decline phase
- b) Evenness
- d) Habitat
- b) Richness
- d) Succession

#### Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. List any three components of the physical environment. (3)
- 3. Apply the concept of ecosystem function to describe the role of consumers. (3)
- 4. Name any three major drivers of biodiversity loss. (3)
- 5. Evaluate the impact of pollution on local biodiversity. (3)
- 6. Evaluate the role of population density in regulating population growth. (3)

OR

Assess the differences between r-selected and K-selected species using examples. (3)

#### Group-C

(Long Answer Type Questions)

5 x 6=30

- 7. Describe the objectives and advantages of the International Code of Nomenclature in biological classification. (5)
- 8. Compare herbivory and predation based on interaction type, examples, and effects on organisms. (5)
- 9. Differentiate between primary and secondary production with suitable examples. (5)
- 10. Illustrate the major characteristics of terrestrial biomes such as tundra and tropical rainforest. (5)
- 11. Identify and explain major anthropogenic drivers responsible for biodiversity decline. (5)
- 12. Design a study to assess population regulation through density-dependent and density-independent factors. (5)

OR

Evaluate the ecological significance of demes in metapopulation survival. (5)

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