

5. (a) Give a brief account on regulation of population density. Discuss in detail r-selected and k- selected populations. (3+4=7)
- (b) What are biogeochemical cycles? What roles biogeochemical cycles play in an ecosystem? Discuss carbon cycle in detail with the help of a well labelled outline diagram. (1+2+5=8)

[This question paper contains 4 printed pages.]

**Your Roll No.....**

**Sr. No. of Question Paper : 5585**

**J**

Unique Paper Code : 2162012402

Name of the Paper : Ecology and Conservation

Name of the Course : **B.Sc. (H) Botany**

Semester : IV

Duration : 2 Hours

Maximum Marks : 60

**Instructions for Candidates**

1. Write your Roll. No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all.
3. Question No. 1 is compulsory.
4. All parts of a question should be answered together.

1. (a) Define the following (any six) : (1.5x 6=9)

(a) Pedogenesis

- (b) Carrying capacity
- (c) Photoperiodism
- (d) Water table
- (e) Sacred groves
- (f) Continental drift
- (g) Field capacity
- (h) Phytogeography

(b) Match the following : (1x6=6)

- |                     |                                  |
|---------------------|----------------------------------|
| (i) Ecotone         | (a) Cryopreservation             |
| (ii) Gene banks     | (b) Genetically fixed variations |
| (iii) Ecotypes      | (c) Partially decomposed litter  |
| (iv) Mortality rate | (d) Mangroves                    |
| (v) Duff            | (e) Edge effect                  |
| (vi) Halophytes     | (f) Survivorship curves          |

2. Differentiate between (any five) : (3x5=15)

- (a) Primary productivity and secondary productivity

- (b) Food chain and food web
- (c) Artificial and natural ecosystems
- (d) Heliophytes and sciophytes
- (e) Gravitational water and capillary water
- (f) Palaeoendemics and neo-endemics
- (g) Alluvial and colluvial soil

3. Write short notes on the following (any three) : (5x3=15)

- (a) Theory of tolerance
- (b) Synthetic characters of a community
- (c) In situ and ex situ conservation strategies
- (d) Negative biotic interactions
- (e) Thermal stratification in water bodies

4. (a) What is ecological succession? Explain the general process of succession. (7)

- (b) What is soil profile? Explain the various horizons with the help of a suitable diagram. (8)