

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Branch: Institutional Elective

Course Code: 19BT7OEEEM

Course: Ecology and Environmental Management

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Date: 22.02.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

- 1 a) Define the Shelford's Law of tolerance. What are the drawbacks of this Law? **04**
- b) Differentiate between (i) Habitat and niche (ii) Generalist and specialist species. **06**
- c) Define ecological succession. Elucidate the process of formation of a climax community **10**

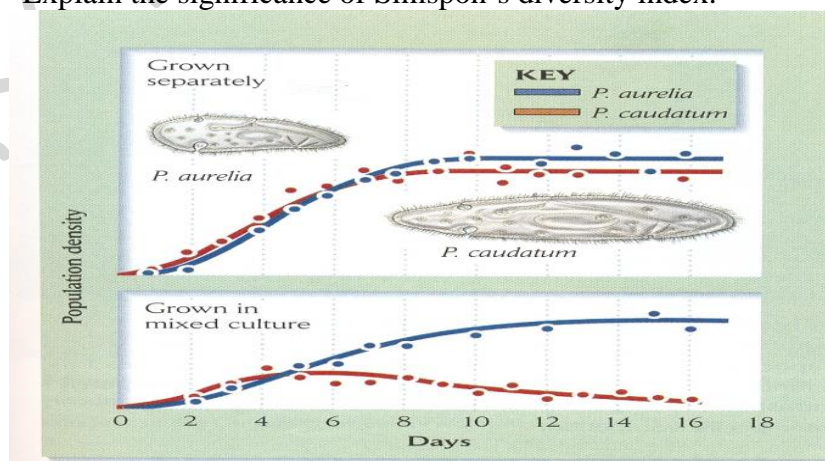
UNIT - II

- 2 a) A community contains the following species: **08**

Species	Number of Individuals
1. Species A	413
2. Species B	196
3. Species C	693
4. Species D	254
5. Species E	320

- i) Calculate the Simpson's diversity index value for this community.
- ii) Explain the significance of Simpson's diversity index.

b)



04

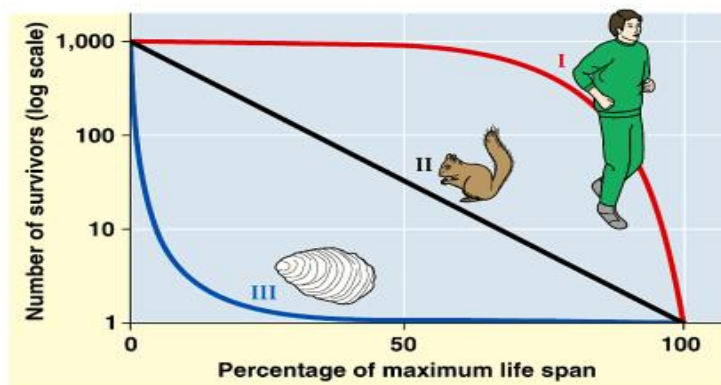
- i) Identify the principle being demonstrated in the above figure.
- ii) What are the salient features of this principle.

- c) Resource partitioning obviates competitive exclusion, allowing the coexistence of several species using the same limiting resource. Justify the statement with a suitable example. **08**

OR

3 a)

04



- (i) Identify the type of curve shown in the above figure.
- (ii) List the salient features of the three types of curves shown.

- b) Explain with the help of suitable diagrams the different patterns of dispersion of population. **08**
- c) Illustrate the Logistic model of population growth. How is growth rate measured? **08**

UNIT - III

- 4 a) What is a phytogeographical region? What are the salient features shown by any specific phytogeographical region. List out the phytogeographical regions of India based on D.Chattarjee's classification. **10**
- b) List the zoogeographical regions of India and give one example of the fauna of each region. **10**

UNIT - IV

- 5 a) "Sustainable use of natural resources is an integral part of any sustainable development program" Justify the given statement with suitable examples. **04**
- b) What are the major causes of man-wildlife conflicts? Discuss the remedial steps that can curb the conflict with suitable examples. **10**
- c) Differentiate between alpha, beta and gamma species richness. **06**

OR

- 6 a) With the help of a schematic diagram explain the bioaccumulation process of organic toxicants. **10**
- b) What is bio-pesticide? List the types of bio-pesticides. **04**
- c) Distinguish between Genetic, Species, and Ecosystem diversity giving suitable examples. **06**

UNIT - V

- 7 a) Explain the impact of industrialization on environment taking "Acid rain" as an example. **10**
- b) What are the principles of Good Ecological Restoration Practice? Explain any four principles with respect to human systems. **10**
