Answer all the questions:

Group A

1. a) State why a population fails to exhibit exponential growth for an indefinite period of time.

   b) With the help of suitable graphical representation, describe different phases of logistic growth.

   c) A population with an initial size [N(0)] of 200 is growing at a rate (λ) of 0.9. What will be its size [N(t)] after 20 years? (1+2+2)

2. a) What are the outcomes of competition?

   b) Explain, with suitable graphical models the outcome of competition between two strong competitors. (1+4)

3. a) What is succession?

   b) Give a brief account of general process of succession. (1+4)

4. a) State how a water body gets eutrophicated. How does it affect our environment?

   b) State how you can control eutrophication. [(1+2)+2]

Group B

5. Write down a short note on **any two** of the following: [2.5+2.5]

   a) Keystone species

   b) Tiger project

   c) IUCN threatened categories

6. a) What is Gamma Diversity?

   b) Describe the biodiversity hotspots of India. (1+4)

7. a) Mnetion the structure of a biosphere reserve.

   b) How can we avoid man-elephant conflict? (3+2)

Group C

8. a) Differentiate between biomagnification and bioaccumulation.

   b) What are the basic factors for ecotoxicology?

   c) Define the term Xenobiotics. (2+2+1)

9. a) "Y-shaped Model of energy flow was found practically advantageous than that of the Single Channel Model" – Explain with reasons.

    b) How the Inverted Pyramid of Number is formed?   (3+2)

10. a) Why the NEP (Net Ecosystem Production) is considered equally significant while calculating the energy production in an ecosystem?

    b) Why 'Chlorophyll Method' is used for measuring production in an aquatic system?   (2+3)

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