

Q. 2 A) Define natality and explain its types using suitable examples. **(10 M)**

OR

A) Describe Sigmoid and J-shaped growth pattern.

B) Write short notes on **any two**. **(10 M)**

- a) Population distribution patterns
- b) Define mortality. Add a note on its types.
- c) Fecundity
- d) Describe the diagonal and stair-step survivorship curves with examples.

Q. 3 A) What are ecological pyramids? Describe its different types **(10 M)**

OR

A) Define negative interactions. Explain predation and its significance.

B) Write short notes on **any two**. **(10 M)**

- a) Mutualism.
- b) Sulphur cycle.
- c) Abiotic components of lotic ecosystem.
- d) Explain antibiosis with examples.

Q. 4) Answer **any two** of the following. **(20M)**

- a) Explain 'Basmati Rice Patent'. Add a note on effects of biopiracy.
- b) Explain 'Project Tiger' and its significance.
- c) What is ecotourism? Give the advantages and disadvantages of ecotourism.
- d) Describe in detail the Jim Corbett National Park.

Q. 5) Write short notes on **any four**. **(20M)**

- a) Uses of life-table
- b) Lentic ecosystem
- c) Haldi Patent
- d) Food chains
- e) Threatened species
- f) Sex ratio