

**B.Sc. 1st Semester (Honours) Examination, 2022 (CBCS)**

**Subject : Zoology**

**Course : CC-II**

**(Ecology)**

**Time: 2 Hours**

**Full Marks: 40**

*The figures in the margin indicate full marks.  
Candidates are required to give their answers in their  
own words as far as practicable.*

1. Answer *any five* questions of the following: 2×5=10
  - (a) Distinguish between detritus and grazing food chain.
  - (b) Define fecundity with example.
  - (c) What is 'edge effect'? How does it differ from 'ecotone'?
  - (d) Distinguish between realized natality and potential natality.
  - (e) Name one national park and one biosphere reserve located in West Bengal.
  - (f) Define Schedule I animal with example.
  - (g) Differentiate between static life table and cohort life table.
  - (h) Differentiate between Beta and Gamma diversity.
  
2. Answer *any two* questions of the following: 5×2=10
  - (a) Elucidate the different phases of 'S' shaped population growth. What do you mean by carrying capacity? 4+1
  - (b) Discuss the objectives of Project Tiger in India. Distinguish between 'r' and 'K' selected species. 2+3
  - (c) What is survivorship curve? Explain different forms of survivorship curve. 1+4
  - (d) Explain Liebig's law of minimum. Differentiate between food chain and food web. 3+2
  
3. Answer *any two* questions of the following: 10×2=20
  - (a) What is Biogeochemical cycle? Explain nitrogen cycle with schematic diagram. What is species richness? 2+6+2
  - (b) Mention the important features of a Climax Community. Describe the facilitation and inhibition model of species replacement in ecological succession. Briefly describe the process of ecological succession. 2+3+5
  - (c) How is species diversity measured by Shannon diversity index? Give an example for your answer. How does interspecific competition influence the logistic population growth according to Lotka-Volterra model? 5+5
  - (d) Distinguish between *ex-situ* and *in-situ* conservation. Give an idea of different categories of threatened taxa as prescribed by the IUCN. What do you mean by endemism and pandemism. 4+4+2