

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. All questions are **compulsory**.
  2. All questions Carry **equal marks**.
  3. Draw neat and labelled diagrams wherever necessary

Q.1 A) Fill in the blanks by choosing the correct option given in the bracket.

05

- a) \_\_\_\_\_ migration is seen in Eels for breeding.  
[Anadromous, catadromous, longitudinal]
- b) Each species has a specific position within the \_\_\_\_\_ denoted by niche.  
[population, community, ecosystem]
- c) Light Penetrates to the bottom of \_\_\_\_\_ zone.  
[littoral, limnetic, profundus]
- d) The bottom layer which is colder and non-circulating is called \_\_\_\_\_.  
[epilimnion, hypolimnion, thermocline]
- e) Azadirachtin is found in various parts of \_\_\_\_\_ tree.  
[Neem, Mango, Jamun]

B) Match the columns I and II and rewrite

05

- | I                                  | II                        |
|------------------------------------|---------------------------|
| a) Stair- step curve               | i) Termite – Trichonympha |
| b) Thomas Malthus                  | ii) Indian pangolin       |
| c) Mutualism                       | iii) Rusty – spotted cat  |
| d) <i>Manis crassicaudata</i>      | iv) Butterflies           |
| e) <i>Prionailurus rubiginosus</i> | v) Census                 |

C) State whether True or False:-

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- a) Competition is a positive interaction.
- b) Garhwal comprises of seven districts.
- c) Project tiger was 1<sup>st</sup> launched in Tadoba National Park.
- d) The concept of life table was first formulated by Raymond Pearl
- e) Autotrophs are also known as consumers.

D) Answer in one sentence only.

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- a) Define population density.
- b) What is ecological natality?
- c) Give full form of UNDP.
- d) What is ecotourism?
- e) Define project tiger.

P.T.O

**Q.2 A)** With suitable examples explain S- shaped population growth pattern

**10**

**OR**

**A)** Describe mechanism of human census and its significance.

**10**

**Q.2 B)** Answer the following. **(any two)**

**10**

- Define natality. Add a note on its type.
- Explain population growth dynamics by intrinsic and extrinsic mechanism.
- Explain age structure; add a note on age pyramid.
- Define population dispersal. Give an account of population distribution pattern.

**Q.3 A)** What is parasitism? Describe different types of parasites.

**10**

**OR**

**A)** What is a biogeochemical cycle? Explain the nitrogen cycle.

**10**

**Q.3 B)** Write short notes on:- **(any two)**

**10**

- Food web
- Fresh water habitat
- Pyramid of Energy
- Abiotic components.

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

**20**

- Explain critically endangered, endangered and vulnerable species with suitable example.
- Describe Tadoba Natona Park with two representative animal species.
- What is biopiracy? Describe its categories and threats.
- Describe ecotourism in India with emphasis on Konkan ecotourism.

**Q.5** Write short notes on:- **(any four)**

**20**

- Stair step survivorship curve.
- Uses of Life table.
- Obligate and facultative parasites
- Commensalism.
- Ecotourism.
- Coral reef