

[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.

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- 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, profundal]
- 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

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- | I | II |
|------------------------------------|---------------------------|
| a) Stair- step curve | i) Termite – Trichonympha |
| b) Thomas Malthus | ii) Indian pangolin |
| c) Mutualism | iii) Rusty – spotted cat |
| d) <i>Maniscrassi caudal</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 1st 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 ecototourism?
- 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**

- a) Define natality. Add a note on its type.
- b) Explain population growth dynamics by intrinsic and extrinsic mechanism.
- c) Explain age structure; add a note on age pyramid.
- d) 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**

- a) Food web
- b) Fresh water habitat
- c) Pyramid of Energy
- d) Abiotic components.

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

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

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

- a) Stair step survivorship curve.
- b) Uses of Life table.
- c) Obligate and facultative parasites
- d) Commensalism.
- e) Ecotourism.
- f) Coral reef