Total No. of printed pages = 4

3 (Sem-1) ZOO M2 (BU)

2018

ZOOLOGY

(Major)

Paper : 1.2

(Principles of Ecology)

Full Marks – 60

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer question Nos. 1 to 4 and any *two* from the rest.

1. Answer the following questions as directed : 1×7=7

(a) The carrying capacity of a population is determined by its

(i) population growth rate

(ii) birth rate

(iii) death rate

(iv) limited resources.

(Choose the correct answer.)

[Turn over

(b) Density - dependent factors utilize a population near its

(i) Niche

(ii) Carrying capacity

(iii) Habitat

(iv) Range

(Choose the correct answer.)

(c) A sequence of species through which the organic molecules in a community pass is called

(i) Pyramid of energy

(ii) Food chain

(iii) Food energy

(iv) Nutrient cycle

(Choose the correct answer.)

(d) All the populations in a given area are defined as biotic community. (State true / false)

(e) Animals living in the bottom of the aquatic system is called plankton. (State true / false)

(f) The transition zone of two communities is called

(i) Ecotone (ii) Niche

(iii) Habitat (iv) Biosphere

(Choose the correct answer.)

(g) Pink headed duck is an extinct / endangered species. (State true / false)

2. Answer the following questions (any *three*) : 2×3=6

(a) Law of tolerance

(b) Autecology.

(c) Life table

(d) Shannon index

3. Answer the following questions (any *four*) : 3×4=12

(a) Man-made ecosystem

(b) Significance of food chain

(c) Gibb's free energy

(d) Survivorship curve

(e) Polyclimax theory

4. Answer the following questions (any *three*) : 3×5=15

(a) What are the different types of ecological pyramids ? State its significance. 3+2=5

(b) Ecotone and edge effect. 5

(c) What is ecological succession ? Explain the phenomenon in a pond. 2+3=5

(d) Principles of Wildlife management. 5

5. What is biogeo-chemical cycle ? Explain Nitrogen cycle and state its significance. 2+6+2=10

6. What is energetics ? Explain laws of thermodynamics. Explain Y-shaped energy flow through food chain with diagram. 2+5+3=10

7. What is K-selected population ? How the density dependent factors regulate the population. 2+8=10

8. What is Gause' Principle ? Explain his principle by laboratory experiments. 3+7=10