REV-01
MSZ/81/86

2023/06

SET C

M.Sc. ZOOLOGY
SECOND SEMESTER
ECOLOGY & ANIMAL BEHAVIOUR
MSZ-201
[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. World's total land area is:
   a. 113,076 million hectares
   b. 33,076 million hectares
   c. 13,076 million hectares
   d. None of these

2. Which of the following factors influence the primary productivity?
   a. Nutrients
   b. Climate
   c. Both a & b
   d. None of these

3. The flow of energy in an ecosystem is:
   a. One way
   b. Reverse way
   c. Both a & b
   d. None of these

4. The Grazing food chain starts with:
   a. Omnivores
   b. Herbivores
   c. Carnivores
   d. None of these

5. Gross primary productivity and Net primary productivity can be related as:
   a. GPP = NPP +R
   b. GPP = NPP-R
   c. NPP = GPP +R
   d. None of these

6. Which of the animal undergoes the longest migrations?
   a. Arctic tern
   b. Sardine shoals
   c. Zebra
   d. None of these

7. The honey bees and social insects are clearest examples of:
   a. Altruism
   b. Kin selection
   c. Courtship
   d. None of these

8. Territorial behaviour is costly in:
   a. Energy
   b. Predation
   c. Competition
   d. All of these

9. An aggregation of males that are each seeking to attract a mate are called:
   a. Harems
   b. Leks
   c. Dens
   d. None of these

10. Polygyny is a strategy used by males to increase their:
    a. Physical fitness
    b. For reproductive success
    c. For healthy offspring
    d. All of the above

11. Which of the following age pyramid can be used to describe an exponentially growing population?
    a. Broad based
    b. Bell shaped
    c. Inverted
    d. Urn shaped

12. An S-shaped population growth pattern can be represented by which of the following pyramids?
    a. Broad based
    b. Bell shaped
    c. Inverted
    d. Urn shaped

13. A highly convex curve in survivorship can be represented by which animal?
    a. Elephant
    b. Fish
    c. Oyster
    d. Butterfly

14. A tectonic lake is an example of which of the following types of succession?
    a. Allogenic
    b. Secondary
    c. Climatic
    d. Retrograssive

15. The terminal final community in the process of ecological succession is known as:
    a. Environmental complex
    b. Serel community
    c. Climax community
    d. Developmental community

16. Which among these is not a criterion for instincts in animal behaviour?
    a. Unlearned
    b. Adaptive
    c. Characteristic of species
    d. None of these

17. Learning behaviour should not result from:
    a. Fatigue
    b. Behaviour change
    c. Parents
    d. All of these

18. Which among these is not a characteristic of the community?
    a. Species association
    b. Recessive behaviour
    c. Biotic stability
    d. Abundance of any species

19. Which among these is a false statement for character displacement?
    a. Structures communities
    b. Brings down population for competition
    c. Generates phenotypic diversity
    d. None of these

20. Who among these people was not involved in Optimal Foraging Theory?
    a. Robert MacArthur
    b. Eric Pianka
    c. Niko Tinbergen
    d. JME Nilen

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Descriptive

Time : 2 hr. 30 mins. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1.	Define population. Write the different types of age distribution in a population with the examples of pyramids.	3+7=10
2.	What is ecological succession? Why did Odum preferred to call this process as Ecosystem development?	2+8=10
3.	Write a descriptive note on the various prospects and details of competition theory.	10
4.	What is Optimal Foraging Theory? Mention in detail about the theory with few examples and quantitative predictions.	3+7=10
5.	What is energy flow? Enumerate the different principles of energy flow in an ecosystem. Brief details about the different models of energy flow in the ecosystem.	2+8=10
6.	Write short notes: a) Food chain b) Food web c) Desert ecosystem d) Forest ecosystem	2.5×4=10
7.	What is courtship? How do animals demonstrate courtship behavior? Give examples.	10
8.	Write an account of kin selection, altruism, migration and territoriality behavior in animals.	10

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