

Roll No.

E-783

M. Sc. (Third Semester)

EXAMINATION, Dec.-Jan., 2020-21

ZOOLOGY

Paper Third

(Environmental Physiology and Population Ecology)

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all Sections as directed.

Section—A

1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Choose the correct answer :

1. Who said, “Population is a self regulating system” ?

(a) T. R. Malthus

(b) Ernst Haeckel

(c) F. Clements

(d) W. Edwards

P. T. O.

2. 'Demes' signifies :
 - (a) Local Population
 - (b) Home Range
 - (c) Metapopulation
 - (d) Territory
3. Vital Index denotes :
 - (a) Sex Ratio
 - (b) Birth-Death Ratio
 - (c) Biotic Potential
 - (d) Fertility
4. Who proposed the term 'biotic potential' ?
 - (a) E. P. Odum
 - (b) Blackmann
 - (c) Chapman
 - (d) Mac Arthur
5. Edge effect is related with :
 - (a) Ecotone
 - (b) Genetic Drift
 - (c) Global warming
 - (d) Biomonitoring
6. *Moloch horridus* shows which type of adaptation ?
 - (a) Aquatic
 - (b) Fossorial
 - (c) Colouration
 - (d) Desert

7. Prehensile tail helps in :
- (a) Swimming
 - (b) Grasping
 - (c) Running
 - (d) Fighting
8. Preadaptations are commonly observed in :
- (a) Desert forms
 - (b) Cursorial animals
 - (c) Aquatic animals
 - (d) Volant forms
9. Which one of these is not an ecological term ?
- (a) Plankton
 - (b) Benthos
 - (c) Periphyton
 - (d) Python
10. Animals living underground are called :
- (a) Subterranean
 - (b) Arboreal
 - (c) Scansorial
 - (d) Terrestrial

11. Edaphic factor is related with :

- (a) Marine water
- (b) Soil
- (c) High Altitude
- (d) Thermodynamics

12. Echolocation is a feature of which animal ?

- (a) Eel
- (b) Elephant
- (c) Bat
- (d) Echidna

13. During acclimation an organism alters its :

- (a) Peristalsis
- (b) Proboscis
- (c) Ecdysis
- (d) Homeostasis

14. Which one is a thermoreceptor ?

- (a) Ampulla of Lorenzini
- (b) Organ of Corti
- (c) Foramen of Panizzae
- (d) Membrane of Krause

15. Adaptive mechanism for dormancy during unfavourable environmental conditions :

- (a) Biocoenosis
- (b) Diapause
- (c) Acclimatization
- (d) Poikilothermy

16. Which structure is related with osmostat ?

- (a) Nissl's granule
- (b) Renal pelvis
- (c) Henle's loop
- (d) Pons vermicularis

17. Dripping nose is a phenomenon normally seen amongst :

- (a) Camel
- (b) Crocodiles
- (c) Cows
- (d) Birds

18. Homeothermy is achieved by which formula ?

- (a) $M \pm C \pm R = E \pm C \pm R$
- (b) $M \pm E \pm C = M + C - R$
- (c) $M = E + C + R$
- (d) $M - C - R = E - C - R$

19. During cold weather erection of hair is called :

- (a) Perspiration
- (b) Piloerection
- (c) Panting
- (d) Basking

20. Swadhisthan chakra is located at :

- (a) Neck Region
- (b) Forehead Region
- (c) Lower Abdomen
- (d) Upper Thorax

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt all questions.

1. What is Net Reproductive Rate ?
2. What is Crude density ?
3. What is adaptive radiation ?
4. What is Limnology ?
5. What is Plastic strain ?
6. Name *two* cold blood animals.
7. What is Micturition ?
8. What is Nadishodhan Pranayam ?

Section—C

3 each

(Short Answer Type Questions)**Note :** Attempt all questions.

1. What is population dispersal and population distribution ?
2. Define Ecological Succession.
3. Define Bioluminescence with example.
4. Write the role of swim bladder.
5. Define Acclimation and Acclimatization.
6. Write the role of Hypothalamus.
7. Define Oxygen debt.
8. What do you mean by Yogic practices ?

Section—D

5 each

(Long Answer Type Questions)**Note :** Attempt all questions.

1. Explain various Population Growth forms and equations.

Or

Explain Demographic Transition model.

2. Describe about Deep sea adaptation.

Or

Describe the cursorial adaptation.

3. Explain the basic concepts of environmental stress and mental stress.

Or

Describe the mechanisms to control temperature in homeothermal animals.

4. What are physiological responses to Body Exercise ?

Or

Describe the popularity and universal acceptance of Yoga and Meditation.