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SUBJECT CODE NO:-6504
FACULTY OF SCIENCE AND TECHNOLOGY
M.Sc. Sem. I
Examinations March/April-2022 (To be held in June/July-2022)
Zoology
Biosystematics and Animal Diversity ZOO-101

[Time: 3:45 Hours]

[Max. Marks:80]

N.B Please check whether you have got the right question paper.

1. Question paper is divided in 'PART-A' and 'PART-B'.
2. 'PART-A' is compulsory.
3. Attempt any FIVE questions from the 'PART-B'.
4. Draw well labelled diagrams wherever necessary.

PART-A

Q.1 Attempt the following multiple-choice questions:

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1. Which of the following is INCORRECT regarding the advantages of Molecular data for phylogenetics study?
 - a) They are more numerous than fossil records
 - b) They are easier to obtain as compared to fossil records
 - c) Sampling bias is involved
 - d) More clear-cut and robust phylogenetic trees can be constructed with the molecular data
2. If cladistics were used to build a phylogenetic tree of cats, _____ would be the most appropriate outgroup.
 - a) Tiger b) Leopard c) Domestic cat d) Wolf
3. Phylum Porifera is classified based on.....
 - a) Branching b) Symmetry c) Spicules d) Reproduction
4. Periplaneta belongs to which phylum?
 - a) Mollusca b) Arthropoda c) Annelida d) Echinodermata
5. Adaptive radiation does NOT confirm.....
 - a) Divergent evolution
 - b) Homology
 - c) Convergent evolution
 - d) Evolution of new forms
6. The number of occipital condyles in the skull of most reptiles are:

- a) One b) Two c) Three d) Four
7. Which of the following is NOT the flying adaptation in birds?
 a) Forelimbs modified into wings
 b) Presence of a single functional ovary of left side in female birds
 c) Have bladder for storing urine
 d) Lightness and Rigidity of Endoskeleton
8. Pseudopodia in amoeba is/are.....type.
 a) Lobopodia b) Filopodia c) Axopodia d) All of the above
9. Ernst Mayr postulated
- a) Morphological species concept
 b) Biological species concept
 c) Evolutionary species concept
 d) Lineage species concept
10. Which of the following is the correct statement?
 a) Eutheria refers to egg-laying mammals
 b) Metatheria refers to marsupials
 c) Prototheria refers to placental mammals
 d) All of the above

PART-B (Attempt any FIVE)

- Q.2 What are hierarchical taxa? Explain biological nomenclature in detail. 12
- Q.3 Explain the evolutionary advantages of coelom and metamerism in brief. 12
- Q.4 Describe the structural and functional adaptations of fishes. 12
- Q.5 Give an account on structural and functional modifications for arial life in birds. 12
- Q.6 Write an essay on ethics in taxonomy. 12
- Q.7 Describe in detail the adaptive radiation in mammals. 12
- Q.8 Write note on (Any three) 12
- a) Red Queen Hypothesis
 b) Phylogenetic Trees
 c) Adaptive Radiation in Annelids
 d) Cambrian Explosion