

2017

ZOOLOGY

(Major)

Paper : 6.2

(**Evolution and Adaptation**)

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer : 1×7=7
- (a) Industrial melanism depicts
- (i) geographical isolation
 - (ii) induced mutation
 - (iii) reproductive isolation
 - (iv) natural selection
- (b) First birds appeared on earth during
- (i) Cretaceous
 - (ii) Pliocene
 - (iii) Jurassic
 - (iv) Carboniferous

- (c) Coacervates were formed by
- (i) ionizing radiation
 - (ii) DNA replication
 - (iii) polymerization and aggregation
 - (iv) aggregation
- (d) Theory of abiogenesis was put forward by
- (i) Spallazani
 - (ii) Van Helmont
 - (iii) Oparin
 - (iv) Louis Pasteur
- (e) Praying mantis is a good example of
- (i) Müllerian mimicry
 - (ii) warning colouration
 - (iii) social insects
 - (iv) camouflage
- (f) Which of the following amino acids was not found to be synthesized in Miller's experiment?
- (i) Alanine
 - (ii) Glycine
 - (iii) Glutamic acid
 - (iv) Aspartic acid

(g) Choose the correct order from the following :

- (i) Paleozoic > Mesozoic > Cenozoic
- (ii) Cenozoic > Paleozoic > Archaeozoic
- (iii) Archaeozoic > Cenozoic > Paleozoic
- (iv) Mesozoic > Archaeozoic > Cenozoic

2. Distinguish between the following : 2×4=8

- (a) Active flight and Passive flight
- (b) Allopatric speciation and Parapatric speciation
- (c) Divergent evolution and Convergent evolution
- (d) Syndactyly and Zygodactyly

3. Write short notes on any *three* the following : 5×3=15

- (a) *Pliohippus*
- (b) Aggressive mimicry
- (c) Coacervates
- (d) Biogenetic law
- (e) Mega evolution

4. Explain with examples, various biochemical evidences to support evolution. 10

Or

Discuss the concept of zoogeography. Explain various patterns of animal distribution citing suitable examples. What factors influence the distribution of animals?

3+5+2=10

5. Discuss the evolution of man with special reference to the major evolutionary trends from a pre-hominoid ancestor. 10

Or

What are fossils? Describe different processes leading to the formation of fossils. Comment on its significance. 1+6+3=10

6. Define adaptation. What is the evolutionary significance of adaptation? Discuss various forms of terrestrial adaptations with necessary examples. 1+2+7=10

Or

Discuss various types of colouration. Briefly explain the evolutionary and biological significance of colouration. 6+2+2=10

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