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3 (Sem 6) ZOO M 2

2015

ZOOLOGY

(Major)

Theory Paper : M-6.2

Full Marks – 60

Time – Three hours

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

1. Choose the correct answer : . 1×7=7

(a) The phrase “nothing in biology makes sense  
except in the light of evolution” was  
coined by


(i) Darwin

(ii) Dobzhansky

(iii) Mayr

(iv) Simpson

[Turn over



- (b) Birds originated from the dinosaurian group of
- (i) Prosauropods
  - (ii) Sauropods
  - (iii) Ornithopods
  - (iv) Theropods
- (c) The heterotrophic hypothesis of the origin of life was first proposed by
- (i) Urey and Miller
  - (ii) Butlerow
  - (iii) Opann
  - (iv) Oro
- (d) Make the correct pairs :

I	II
A. First jawed vertebrates	I. Carboniferous
B. First reptiles	II. Late Triassic
C. First birds	III. Late Jurassic
D. First mammals	IV. Late Silurian

- (i) A-I, B-II, C-III, D-IV
  - (ii) A-III, B-I, C-IV, D-II
  - (iii) A-II, B-III, C-IV, D-I
  - (iv) A-IV, B-I, C-III, D-II
- (e) 'Soft inheritance' was a characteristic of the
- (i) Germplasm theory
  - (ii) Lamarckism
  - (iii) Neo-Darwinism
  - (iv) All the above
- (f) In prebiotic chemistry, the polymerization of HCN leads to the formation of
- (a) Ribose sugars
  - (b) Amino acids
  - (c) Purines
  - (d) Pyrimidines
- (g) When small groups of individuals break off from the larger group and form a new species, this is known as
- (i) Allopatric speciation
  - (ii) Peripatric speciation

(iii) Parapatric speciation

(iv) Sympatric speciation

2. Explain briefly the following terms :  $2 \times 4 = 8$

- (a) Mega-evolution
- (b) Batesian mimicry
- (c) Hybrid inviability
- (d) Adaptive radiation

3. Write short notes on any *three* :  $5 \times 3 = 15$

- (a) Sympatric speciation
- (b) Neo-Darwinism
- (c) Prebiotic origin of organic molecules
- (d) Radiocarbon dating
- (e) Lamarckism.

4. What are fossils ? Describe the different ways in which fossils are formed.  $2 + 8 = 10$

Or

Discuss the evolution of modern man, Homo sapiens, sapiens with reference to either the multiregional continuity model or the out-of-Africa replacement model.

5. What is microevolution ? Discuss the different processes involved in microevolution. 2+8=10

Or

Discuss the embryological and biochemical evidences for evolution. 5+5=10

6. Describe the aquatic and volant adaptations in mammals. 5+5=10

Or

Write about the effect of different barriers on the geographical distribution of animals. 10