

Total number of printed pages-4

3 (Sem-6) ZOO M 2

2022

ZOOLOGY

(Major)

Paper : 6·2

(Evolution and Adaptation)

Full Marks : 60

Time : Three hours

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

1. Choose the correct answer : $1 \times 7 = 7$

(a) The spontaneous generation of living organisms was disproved by the experiments of

(i) Darwin

(ii) Redi

(iii) Aristotle

(iv) Wallace

Contd.

(b) In the geological time scale, the Eocene is

- (i) an eon
- (ii) an era
- (iii) a period
- (iv) an epoch

(c) The Mesozoic era is known as the era of

- (i) fishes
- (ii) reptiles
- (iii) birds
- (iv) mammals

(d) A spherical aggregation of colloidal particles in liquid primeval sea suspension is known as

- (i) micelle
- (ii) liposome
- (iii) proteinoid
- (iv) coacervate

(e) Digit reduction during the evolution of the horse has resulted in the *Equus* retaining

- (i) digit I
- (ii) digit II

(iii) digit III

(iv) digit IV

(f) The germ plasm theory was developed by

- (i) Lamarck
- (ii) De Vries
- (iii) Galton
- (iv) Weismann

(g) The 'Taung Child' represents the species

- (i) *Australopithecus afarensis*
- (ii) *Australopithecus africanus*
- (iii) *Homo habilis*
- (iv) *Ardipithecus ramidus*

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

- (a) Living fossils
- (b) Carbonaceous chondrites
- (c) Importance of fossils
- (d) Aposematism

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

- (a) Embryological evidences of evolution
- (b) Microevolution
- (c) Neanderthals

(d) Homoplasy

(e) Allopatric speciation

4. Discuss the 'RNA world' hypothesis of the origin of life on Earth. 10

Or

Describe the Urey-Miller experiment and comment on its significance in the study of the origin of life. 5+5=10

5. Discuss the origin of birds. 10

Or

Discuss the synthetic theory of evolution.

6. Distinguish between Batesian mimicry and Mullerian mimicry. Comment on the role of selection in the evolution of mimicry.

3+3+4=10

Or

What is 'adaptive radiation'? Discuss the adaptive radiation of mammals. 3+7=10