2018

ZOOLOGY — HONOURS

Sixth Paper

(Unit – I)

Full Marks – 50

The figures in the margin indicate full marks

Candidates are required to give their answers in their own words as far as practicable

Answer ***Question No.1*** and ***any three*** questions from ***Group – A*** and ***one*** question from ***Group – B***

1. Answer ***five*** questions from the following : 2×5

(a) Are adaptive radiation and dispersal of animals synonymous? Give reasons to explain.

(b) State the role of hallux in avian evolution.

(c) What is 'hot dilute soup'?

(d) Tabulate the Epochs of Tertiary period in mentioning the span.

(e) What do you mean by protenoids?

(f) State the distribution of lung fish.

(g) State important features of characteristic eusociality.

(h) Do you think non-adaptive features might contribute to organic evolution?

(i) What do you mean by instinctive behaviour?

Group – A

(Evolution and Systematics)

Answer ***three*** questions from the following

2. (a) How do intrinsic barriers prevent animals in spreading on earth? Comment on the role of these barriers for speciation. 3+2

(b) Characterise Oriental realm on the basis of its geographical boundary and ecological condition. Add a note on the endemic vertebrate fauna of Indian sub-region. 3+2

3. (a) Why biological species concept is considered as the most acceptable one? 3

(b) State 'RNA world' hypothesis. 3

(c) How could you calculate heterozygocity of a population? 4

4. (a) Explain the role of mutation affecting Hardy-Weinberg equilibrium. How could you estimate the recurrent mutation pressure on the gene frequency of a population? 2+3

(b) How would you calculate the effect of random genetic drift on allele frequency? 5

5. (a) Categorize the avian features of Saurischian and Ornithischian dinosaur. 5

(b) Name the forces which can alter Hardy-Weinberg equilibrium. 3

(c) Distinguish between cryptic and conspicuous coloration. 2

6. Distinguish between : 2½×4

(a) Gene frequency and Genotype frequency

(b) Stabilizing selection and Directional selection

(c) Sympatric and Allopatric speciation

(d) Subspecies and Sibling species.

Group – B

(Animal Behaviour)

Answer ***one*** question from the following

7. (a) What is dance-language hypothesis? Explain the dance phenomenon and its significance with example. 2+4

(b) Discuss parent-offspring conflict in relation to cost-benefit ratio. 4

8. Write notes on : 5×2

(a) Fixed Action Pattern (FAP)

(b) Active and passive avoidance learning.