3 SEM TDC ZOO M 1 (N/O)

2 0 1 8

(November)

ZOOLOGY

(Major)

Course : 301

The figures in the margin indicate full marks
for the questions

(New Course)

(Chordate Diversity and Comparative
Anatomy)

Full Marks : 48

Pass Marks : 14

Time : 2 hours

1. Fill in the blanks :   1×5=5

    (a) Balanoglossus   belongs   to   the
        class _____ .

    (b) Lungfishes are grouped under the
        order _____ .

    (c) Jacobson's organs are present in the
        species belong to the class _____ .

    (d) Egg-laying   mammals   are   under
        sub-class _____ .

    (e) Mammary glands are modified _____
        glands.

2. Write short notes on any *two* of the
    following :   4½×2=9

    (a) Eco-location in bats

(b) Dentition in mammals

(c) Flight adaptation in birds

(d) Perching mechanism in birds

3. Write the general characters of Cephalo-chordata and its affinity to invertebrates. 5+3=8

Or

Discuss the significance of larval forms of protochordates in the phylogenetic studies of chordates. 8

4. What are the causes of fish migration? Briefly describe the types of fish migration. What is the significance of fish migration?

2+5+1=8

Or

Why are accessory respiratory organs not found in all types of fishes? Write about the functions of swim bladder. 2+6=8

5. Classify the living amphibians up to order with at least two characters and an example. 9

Or

Discuss the anatomical peculiarities of Sphenodon and its affinities. 5+4=9

6. Give a comparative account of the pelvic girdles of reptiles and birds. 9

Or

Compare the integument of fish and reptiles. 9

(Continued)

(3)

1. (a) Fill in the blanks with appropriate words : 1×5=5

    (i) The pH of pure water is _____.

    (ii) Krebs' cycle occurs in the _____ of a cell.

    (iii) The enzymes of the class _____ perform oxidation reduction reactions.

    (iv) A total of _____ ATPs are produced during glycolysis.

    (v) Deficiency of vitamin _____ causes scurvy.

  (b) Distinguish between the following : 3×3=9

    (i) Acid and Base

    (ii) Water-soluble vitamin and Fat-soluble vitamin

    (iii) Saturated fatty acid and Unsaturated fatty acid

2. What is free energy? Classify carbohydrates with examples. $\qquad$ 3+8=11

Or

Explain the first law of thermodynamics. How are the different laws of thermodynamics applicable in biochemistry?

3+8=11

3. Describe the double helical structure of DNA. What are the different forms of DNA?

7+4=11

Or

Explain the process of glycolysis. Mention the ATP budget of aerobic respiration. 7+4=11

4. Write short notes on the following (any *three*) : 4×3=12

(a) β-oxidation

(b) Amino acid

(c) Enzyme inhibition

(d) RNA

(e) Cytochrome

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