

11 No. of Printed Pages—5

3 SEM TDC ZOO M 1 (N/O)

ZOO 2-301, (301)⁶

2015 Geo 2-301,

(November) Phy 2-302, (301)⁶

Chem = 303 (301)⁶

ZOOLOGY

(Major)

4 copy (M)

3 4 (6)

Course : 301

Full Marks : 48

Pass Marks : 19 (Backlog) / 14 (2014 onwards)

Time : 2 hours

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

(New Course)

**(Chordate Diversity and Comparative
Anatomy)**

(a) Fill in the blanks :

1×5=5

(i) Chordates have _____ tubular nerve
cord.

(ii) Ultrasonic sounds are used by
_____ to detect prey.

(iii) Poison glands in snakes are the modification of _____ glands.

(iv) Mammary glands are _____ derivatives.

(v) Osteichthyes is _____ fish.

(b) Write short notes on (any two) : $4 \times 2 = 8$

(i) Cranial nerves in Amphibia and mammal

(ii) Affinities of Protochordates with Chordates

(iii) Structure of gill of fish

(iv) Parental care in Amphibia

(v) Migration of birds

2. Write the general characters of Cephalochordata and its affinity to invertebrate. $4+3=7$

Or

Justify the term Hemichordata. Where they usually live? Distinguish between Protochordata and Vertebrata. $2+1+4=7$

3. Classify Osteichthyes up to order with examples. 7

Or

Differentiate between Osteichthyes and Chondrichthyes. What are the importance of ammocoete larva in evolutionary studies?

2+5=7

4. Discuss metamorphosis in Amphibia. 7

Or

Write about the poisonous snakes of India. How will you identify a poisonous snake?

4+3=7

5. Write a note on dentition in mammals. 7

Or

How do birds migrate? How they navigate their way?

$3\frac{1}{2}+3\frac{1}{2}=7$

6. Compare the structure of pelvic girdles between Amphibia and bird. 7

Or

Compare the epidermis of fish and mammals.

(Old Course)

(Biochemistry)

1. (a) Fill up the blanks : 1×6=6

(i) The chemical form of energy is _____.

(ii) The glycogen is _____ type of carbohydrate.

(iii) In glycolysis _____ numbers of substrate level ATP molecules are released.

(iv) A solution with high concentration of hydroxyl ion is _____.

(v) Tocopherols are _____ soluble vitamin.

(vi) The diameter of a DNA helix is _____ A°.

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

(i) Nucleotide and Nucleoside

(ii) Entropy and Enthalpy

(iii) Saturated fatty acid and Unsaturated fatty acid

2. (a) Classify carbohydrates with suitable examples. 6
- (b) Show the free energy change in biochemical system. 6

Or

- (c) Define pH and buffer. Explain how a buffer solution resists change in pH. 2+4=6
- (d) Discuss the classification of protein on the basis of structure. 6
3. (a) Write about the different steps of Krebs' cycle. 6
- (b) Describe the enzyme inhibition. 6

Or

- (c) Explain the electron transport system. 6
- (d) Write about the mechanism of enzyme action. 6

4. Write short notes on any *three* of the following : 3×3=9

- (a) Cloverleaf model of tRNA
- (b) Purine
- (c) Function of vitamin C
- (d) Coenzyme
