



**B.Sc. (Part—I) Semester—II Examination**

**2S—ZOOLOGY**

**(Cell and Developmental Biology)**

Time : Three Hours]

[Maximum Marks : 80

**Note :—** (1) **ALL** questions are compulsory.

(2) Question No. 1 carries 8 marks and remaining six questions carry 12 marks each.

(3) Illustrate your answers with suitable diagrams wherever necessary.

I. (A) Fill in the blanks :

(i) The prokaryotic ribosomes are \_\_\_\_\_.

(ii) Lysosomes are also called as \_\_\_\_\_ bags.

(iii) Division of cytoplasm is known as \_\_\_\_\_.

(iv) Lampbrush chromosomes occurs in \_\_\_\_\_.

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(B) Choose correct alternative from the following :

(v) Ingestion of liquid particles by a cell is called as :

(a) Phagocytosis

(b) Pinocytosis

(c) Lysis

(d) None of the above

(vi) Who discovered ribosome in animal cells ?

(a) Watson

(b) Tatum

(c) Cowdy

(d) Palade

(vii) The tip of a chromosome is called :

(a) Metamere

(b) Chromomere

(c) Micromere

(d) Telomere

(viii) In adult which cell is used as stem cells ?

(a) Bone marrow cells

(b) Embryonic cell

(c) Muscle cell

(d) None of the above

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(C) Answer in **one** sentence :

(ix) What is cell division ?

(x) Who discovered lysosome ?

(xi) What is spermatogenesis ?

(xii) Who discovered Cell ?

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2. Explain the following :

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- (a) Structure of Prokaryotic cell.
- (b) Functions of Plasma membrane.
- (c) Structure of Endoplasmic reticulum.

OR

- (d) Structure of Eukaryotic cell.
- (e) Fluid Mosaic model of plasma membrane.
- (f) Functions of endoplasmic reticulum.

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3. Describe the following :

- (g) Functions of Golgi complex.
- (h) Ultrastructure of Ribosome.
- (i) Structure of Mitochondria.

OR

- (j) Structure of Golgi complex.
- (k) Functions of Ribosomes.
- (l) Functions of Lysosomes.

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4. Describe the structure and functions of nucleolus.

OR

Describe the structure of lampbrush chromosomes and its significance.

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5. Explain the following :

- (m) Significance of Meiosis.
- (n) Spermatogenesis (labelled diagrammatic chart only).
- (o) Metaphase of mitosis.

OR

- (p) Significance of mitosis.
- (q) Structure of mature sperm.
- (r) Mechanism of Fertilization.

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6. Describe the extra embryonic membranes in chick.

OR

Give an account of cleavage and blastulation in frog.

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7. Attempt the following :

- (s) Uses of stem cells.
- (t) Significance of parthenogenesis.
- (u) Choriovitelline placenta.

OR

- (v) Types of stem cells.
- (w) Functions of placenta.
- (x) Type of parthenogenesis.

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