

B.Sc. Part-I Semester-II Examination
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 diagram wherever necessary.

1. (A) Fill in the blanks :-

4×½=2

(i) Cell is the _____ unit of living organisms.

(ii) Nucleus is absent in _____ of mammals.

(iii) The term chromosome was first coined by _____.

(iv) Solid mulberry shaped ball of cells produce during early cleavages is _____.

(B) Choose correct alternative from the following :-

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(v) Cell organelles are embedded in :

(a) Extra cellular fluid

(b) Cytoplasm

(c) Nucleolus

(d) Nucleoplasm

(vi) Polysome is a chain of :

(a) Pinosome

(b) Pogosome

(c) Ribosome

(d) Lysosome

(vii) Pluripotency is the characteristics of :

(a) Muscle cell

(b) Stem cell

(c) Nerve cell

(d) None of these

(viii) Chromosomes are arranged in equatorial plane during :

(a) Prophase

(b) Metaphase

(c) Anaphase

(d) Telophase

(C) Answer in one sentence each :-

(ix) What is Karyokinesis?

(x) Who coined the term mitochondria?

(xi) What is oogenesis?

(xii) Define phagocytosis.

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2. Describe the following :-

(a) Eukaryotic cell

(b) Structure of unit membrane model

(c) Functions of endoplasmic reticulum

OR

(d) Prokaryotic cell

(e) Functions of plasmamembrane.

(f) Structure of endoplasmic reticulum.

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3. Attempt the following :-

- (g) Structure of Lysosome
- (h) Functions of Ribosome
- (i) Functions of Mitochondria

OR

- (j) Ultra structure of Ribosomes
- (k) Functions of Golgi complex
- (l) Functions of Lysosome

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4. Describe the following :-

- (m) Ultra structure of nucleus
- (n) Structure of polytene chromosome
- (o) Functions of chromosome

OR

- (p) Functions of nucleolus
- (q) Structure of lampbrush chromosome
- (r) Functions of nucleus.

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5. Describe mitosis and its significance.

OR

Describe spermatogenesis.

12

6. Attempt the following :-

- (s) Fate map in frog.
- (t) Cleavage in chick
- (u) Blastulation in Frog.

OR

- (v) Primitive streak.
- (w) Structure of Hen's egg.
- (x) Functions of amnion and chorion.

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7. Describe types and uses of stem cells.

OR

Describe the types of parthenogenesis and its significance.

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