



2019/TDC/EVEN/ZOOHC-202 T/010

TDC (CBCS) Even Semester Exam., 2019

ZOOLOGY

(2nd Semester)

Course No. : ZOOHCC-202 T

(Cell Biology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Answer any *two* of the following questions : 2×2=4

- (a) Distinguish between prokaryotic and eukaryotic cells.
- (b) Why are viruses not true cells?
- (c) Write a short note on mycoplasma.

2. Answer any *one* of the following questions :

- (a) Give a detailed account of cell theory. 6
- (b) Describe general organization of viruses with suitable diagram. 4+2=6



(2)

UNIT—II

3. Answer any *two* of the following questions : $2 \times 2 = 4$

- (a) Distinguish between active transport and passive transport.
- (b) Distinguish between tight junctions and gap junctions.
- (c) Write a short note on facilitated transport.

4. Answer any *one* of the following questions :

- (a) Describe various models of the structure of plasma membrane. 6
- (b) Write about the ultrastructure of endoplasmic reticulum. What are the functions of endoplasmic reticulum? $4 + 2 = 6$

UNIT—III

5. Answer any *two* of the following questions :

- (a) Mitochondria are 'powerhouse' of the cell. Justify the statement. $2 \times 2 = 4$
- (b) Write a short note on peroxisomes.
- (c) What is chemiosmotic hypothesis?

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(Continued)

(3)

6. Answer any *one* of the following questions :

- (a) Describe the ultrastructure of mitochondria with neat labelled diagram. $4 + 2 = 6$
- (b) Give a detailed account of mitochondrial respiratory chain with suitable illustration. 6

UNIT—IV

7. Answer any *two* of the following questions :

- (a) Distinguish between euchromatin and heterochromatin. $2 \times 2 = 4$
- (b) Write a short note on microtubules.
- (c) What is microfilaments?

8. Answer any *one* of the following questions :

- (a) Describe the structure of nucleus with the help of neat labelled diagram. $4 + 2 = 6$
- (b) Describe the structure and functions of nucleolus. $3 + 3 = 6$

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(Turn Over)



(4)

UNIT—V

9. Answer any *two* of the following questions :

2×2=4

(a) Distinguish between mitotic and meiotic cell division.

(b) Explain the significance of meiotic cell division.

(c) Write a short note on regulation of cell cycle.

10. Answer any *one* of the following questions :

(a) What is cell cycle? Give an account of the salient features of various phases of cell cycle.

1+5=6

(b) What is GPCR? Discuss the role of cAMP as second messenger in cell signalling. 1+5=6
