

Total No. of Printed Pages—7

4 SEM TDC ZOO M 1 (N/O)

2018

(May)

ZOOLOGY

(Major)

Course : 401



(Cell Biology, Histology and Histochemistry)

(New Course)

Full Marks : 48

Pass Marks : 14

Time : 2 hours

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

Answer Question No. 1 and **any three** from the rest

1. (a) Fill in the blanks : 1×5=5

- (i) Mitochondria are present in cells
which respire ____.

(2)

(ii) Lampbrush chromosomes are found in animal ____.

(iii) ____ can be divided into three periods— G_1 , S and G_2 .

(iv) ____ signalling is a form of signal to induce changes in nearby cells.

(v) The functional unit of kidney is ____.

(b) Write short notes on (any two) : $3\frac{1}{2} \times 2 =$

(i) Malignant cell growth

(ii) Molecular events in different phases of cell cycle

(iii) Regulation of cell cycle

2. Discuss the structure of mitochondrial particle and the respiratory chain. $4+5 =$

(3)

Or

Write in detail about the structure of nuclear envelop and mention any two functions of it.

$7+2=9$

3. What is nucleosome? Show the differences of DNA packaging in prokaryotes and eukaryotes.

$2+7=9$

Or

Write about the molecular organization of chromatin and differentiate between heterochromatin and euchromatin.

$4+5=9$

4. What is second messenger? Discuss the function of cell surface receptors.

$3+6=9$

5. Describe different types of epithelial tissue with diagram.

$7+2=9$

(4)

Or

Write notes on (any *three*) :

3×3=9

- (a) Metachromatic dyes
- (b) Dehydration
- (c) Vital stain
- (d) Objectives of fixation
- (e) Tissue embedding