

4 SEM TDC ZOO M 1 (N/O)

2017

(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) Choose the correct answer : 1×4=4

(i) Ribosomes are produced in
cytoplasm / nucleolus / nucleus /
residual body.

(ii) The most cytogenetic activity
occurs during interphase /
telophase / prophase / anaphase.

(iii) The mast cells secrete histamine /
hemoglobin / myoglobin / hippuric
acid.

(2)

(iv) Hematoxylin is obtained naturally from cochineal bug / lac insect / logwood tree / Mirabilis plant.

(b) Fill in the blanks :

1×2

(i) Cell receives signals through a class of proteins known as ____.

(ii) In nuclear staining an additional compound is applied to the nucleus which causes adhesion and is termed as ____.

(c) Write short notes on any two of the following :

3×2

(i) Synaptonemal complex

(ii) Apoptosis

(iii) Mordant

(d) Differentiate between any two of the following :

3×2

(i) Smooth and rough endoplasmic reticulum

(ii) Prokaryotic chromosome and eukaryotic chromosome

(iii) Prophase of mitosis and prophase 1 of meiosis.

2. What is fluid mosaic model? Explain various digestive functions of lysosomes.

4+6=10

P7/719

(3)

3. What do you understand by heterochromatin and euchromatin? Write the significance of polytene chromosome. What is nucleosome?
4+4+2=10

4. What is autocrine and paracrine signalling? Explain structure and functions of G-protein-coupled receptors.
3+7=10

5. Define histochemistry based on net charge. Classify different types of dyes and write their properties.
2+8=10

(Old Course)

Full Marks : 48

Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

(A) Cell Biology

(Marks : 32)

Answer Question No. 1 and any two from the rest
1×4=4

1. (a) Fill in the blanks :

(i) Interphase in mitosis can be divided into ____ phases.

(ii) ____ is not membrane-bound organelle of a cell.

(Turn Over)

P7/719