

Roll No.....

Total No. of Sections : 03

Total No. of Printed Pages : 04

Code No. : 01/405(A)

First Semester Examination, Dec. 2017

M.Sc ZOOLOGY

Paper - IV

CELL AND MOLECULAR BIOLOGY

Time : 3 Hrs.

Max.Marks : 80

Note : Section 'A' consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

Section - 'A'

Answer the following very short-answer-type questions in one or two sentences : (2x10=20)

- Q.1 Write two important differences between prokaryotic cell and Eukaryotic.
- Q.2 What is mitochondrial genome?
- Q.3 What is Nucleotide? Write components of it?
- Q.4 Define Heterochromatin.
- Q.5 What is Calmodulin?
- Q.6 Define Pinocytosis?
- Q.7 Draw schematic diagram of lipid molecule of Plasma membrane.
- Q.8 Give two examples of symporter
- Q.9 Define resting membrane potential.
- Q.10 What is carcinoma?

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Section - 'B'

Answer the following short-answer-type questions with word limit 200-250 : (5x4=20)

Q.1 Draw a well labelled diagram of Eukaryotic cell.

OR

Write functions of Golgi body.

Q.2 What is smooth endoplasmic reticulum? Enumerate its function.

OR

Describe structure of polytene chromosomes.

Q.3 Define diffusion and explain it.

OR

Discuss IP_3 as second messenger.

Q.4 What is tumor suppressor gene? Explain.

OR

Describe synaptic transmission of nerve impulse.

Section - 'C'

Answer the following long-answer-type questions with word limit 400-450 : (10x4=40)

Q.1 Discuss evolution of Eukaryotic cell.

OR

Describe structure and types of ribosomes.

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Q.2 Describe structure of microtubule.

OR

Explain Watson & Crick model of DNA and describe chemical structure of it.

Q.3 Give an account on active transport of substances across the membrane.

OR

Describe membrane receptors for extracellular matrix.

Q.4 What is signal transduction? Discuss cAMP mediated Protein kinase activation.

OR

Discuss biology of Aging.

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