

Roll No.

MSCZO-12 (M.Sc. ZOOLOGY)

First Year Examination-2014

ZO-502

Cell and Molecular Biology

Time Allowed : Three Hours

Maximum Marks : 60

Note : This paper is of sixty (60) marks divided into three (03) sections. Learners are required to attempt the questions contained in these sections according to the detailed instructions given therein.

Section - A

(Long Answer Type Questions)

Note : Section 'A' contains four (04) long-answer-type questions of fifteen (15) marks each. Learners are required to answer any two (02) questions only. (2×15=30)

1. Explain the structure and function of Endoplasmic reticulum ?
2. Describe the Eukaryotic cell cycles.
3. Describe briefly the different classes of intracellular receptors and their role in cell to cell signaling.
4. Describes the process of DNA replication.

Section - B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short-answer-type questions of five (05) marks each. Learners are required to answer any four (04) questions only. (4×5=20)

1. Give the function of Golgi Complex ?
2. Make a suitable note on lampbrush chromosomes.
3. Write a short note on E-RNA.
4. Describe the process of translation in prokaryotes ?
5. Briefly discuss on the gene regulation in Eukaryotes.
6. Write a short note on transduction.
7. Transposons.
8. Describe the protooncogenes ?

Section - C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective-type questions of one (01) mark each. All the questions of this section are compulsory. (10×1=10)

Note : Choose right alternative.

1. The first person who used the term cell is :
(a) Robert Hook (b) Robert Brown
(c) Nirenberg (d) Miller
2. Cell organelle separation is carried out by :
(a) Differential centrifugation
(b) Sonication
(c) Fluorescent method
(d) None of these
3. At the end of one round of Citric Acid cycle, what is regenerated.
(a) Oxaloacetate (b) Malate
(c) Fumarate (d) Succinate
4. The space between inner membrane of mitochondria is known as :
(a) Porin (b) Matrix
(c) Cristae (d) None of these
5. The optimum pH at which Lysosomal enzymes are active :
(a) 5.0 (b) 5.5
(c) 4.5 (d) 6.0

6. C value paradox is :
- (a) Characteristic amount of RNA present in the genome of any species
 - (b) Characteristic amount of DNA present in the genome of any species
 - (c) Both a & b
 - (d) None of these
7. DNA forms the :
- (a) Outer core of nucleosome
 - (b) Inner core of nucleosome
 - (c) Both outer and inner core of nucleosomes
 - (d) None of these
8. Cdk or CDK stand for :
- (a) Cyclin dependent kinases
 - (b) Catalytic dependent kinases
 - (c) Complex dependent kinases
 - (d) None of these
9. Z-DNA have :
- (a) 10 base pair per turn of helix
 - (b) 12 base pair per turn of helix
 - (c) 14 base pair per turn of helix
 - (d) None of these
10. Which enzyme repair gaps in DNA ?
- (a) Helicases
 - (b) Topoisomerases
 - (c) Ligases
 - (d) Gyases