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SUBJECT CODE NO: - SS-6765
FACULTY OF SCIENCE AND TECHNOLOGY
M.Sc. (Zoology) (Sem-III)
Examination May / June - 2023
Molecular Biology-I ZOO-312

[Time: 3:00 Hours]

[Max. Marks: 80]

Please check whether you have got the right question paper.

N. B

1. Question paper is divided in 'PART-A' and 'PART-B'.
2. 'PART-A' is compulsory.
3. Attempt any FIVE questions from the 'PART-B'.
4. Draw well labelled diagrams wherever necessary.

PART – A

Q.1 Attempt the following multiple-choice questions:

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1. Proteins are made up of which of the following?
 - a) Nucleic acids
 - b) Amino acids
 - c) Nuclease
 - d) None of the mentioned
2. The thread-like structures, which appear inside the nucleus at the time of cell division, are called _____.
 - a) Asters
 - b) Centrioles
 - c) Chromosomes
 - d) Spindle fibers
3. Which of the following is the slowest process among the following?
 - a) Splicing
 - b) Translation
 - c) Transcription
 - d) Replication
4. Synapsis takes place between
 - a) Spindle fiber and centromere
 - b) mRNA and ribosomes
 - c) a female and a male gamete
 - d) Two homologous chromosomes
5. Reverse transcriptase is _____.
 - a) RNA dependent RNA polymerase
 - b) DNA dependent RNA polymerase
 - c) DNA dependent DNA polymerase
 - d) RNA dependent DNA polymerase
6. Which of the following does not take part in gene expression?
 - a) Transcription
 - b) RNA processing
 - c) Replication
 - d) Translation
7. The meiotic division takes place in
 - a) Meristematic cells
 - b) Conductive cells
 - c) Reproductive cells
 - d) Vegetative cells

8. Which of the following processes does not occur in prokaryotes?
a) Transcription b) Splicing c) Translation d) Replication
9. Which of the following is not true about nucleotides?
a) Energy rich molecules b) Monomeric units
c) Ubiquitous substances d) Non enzymatic molecules
10. Which of the following is RNA made up of?
a) Adenine, Cytosine, Guanine, and Uracil
b) Adenine, Guanine, Cytosine, and Thymine
c) Adenine, Guanine, Uracil, and Thymine
d) Adenine, Uracil, Cytosine, and Thymine

PART-B (Attempt any FIVE)

- Q.2** Describe the conservative site-specific recombination. **12**
- Q.3** What is the Scaffold Model of chromosomes. **12**
- Q.4** Write the DNA replication in Archaea **12**
- Q.5** Describe the models of homologous recombination. **12**
- Q.6** Give an account on the chemical cross linking agents in DNA damage. **12**
- Q.7** Explain the Watson & Crick double helix model of DNA. **12**
- Q.8** Write a note on following (any two) **12**
- a) SS DNA proteins.
 - b) RNA world hypothesis.
 - c) The 30 nm fiber in chromosome.