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**SUBJECT CODE NO: - FF-6662**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**M.Sc. (Sem-III) (Zoology)**  
**Examination January-2023**  
**C - 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**

Q1 Attempt the following multiple choice questions.

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1. True replication of DNA is due to \_\_\_\_\_
  - a. Phosphate backbone
  - b. Hydrogen bonding
  - c. Complementary base pairing rule
  - d. None
2. Which enzyme is used to join hicks in the DNA strand \_\_\_\_\_
  - a. Thymine
  - b. Guanine
  - c. Cytosine
  - d. Adenine
3. Who proposed the chromosomal theory of inheritance?
  - a. Sultan
  - b. Beveri
  - c. Correns
  - d. Both a and b
4. Which of the following is used in DNA replication studies?
  - a. Neurospora crassa
  - b. Drophiia melanogaster
  - c. Escherichia coli
  - d. Pneumococcus
5. Detection of which domain of ARS could give the least replication rate in eukaryotes \_\_\_\_\_
  - a. A domain
  - b. B1 domain
  - c. B2 domain
  - d. B3 domain

- 6 How many types of excision repair system are known\_\_\_?  
a. 1                      b. 2                      c. 3                      d. 4
- 7 Recombination is responsible for crossing over during meiosis of eukaryotic cells \_\_\_\_\_  
a. True                  b. False                  c. a and b both true                  d. a and b both false
- 8 The meiotic division takes place in \_\_\_\_\_  
a. Meristematic cells  
b. Conductive cells  
c. Reproductive cells  
d. Vegetative cells
- 9 Which of the following cipher is created by shuffling the letters of a word\_\_\_\_?  
a. Substitution cipher  
b. Transposition cipher  
c. Monoalphabetic cipher  
d. Polyalphabetic cipher
- 10 Which of the following is an example of asymmetric encryption technique\_\_\_\_?  
a. One –time pad  
b. One-time password  
c. DSA  
d. Blowfish

### Part B

- Q2 Describe the History of DNA discovery? 12
- Q3 Describe the structure and functions of DNA? 12
- Q4 Describe the Watson and crick double stranded DNA helix? 12
- Q5 Write a note on Naturation and denaturation? 12
- Q6 Describe the DNA metabolism? 12
- Q7 Describe transposition and target primed reverse transcription? 12
- Q8 Write short note on (any two) 12  
a. Nucleic acid  
b. Meiotic recombination  
c. Telomere