

Total No. of Printed Pages:03

SUBJECT CODE NO: - Y-2041
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y (Sem-V)
Examination March / April – 2023
Botany Paper- XV/ (Cell Biology & Molecular Biology)

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Draw neat and well labelled diagrams wherever necessary.

Q1 Describe structure and function of nuclear

20

OR

Write in detail structure and function of mANA and RNA.

Q2 What is chromosomal aberration? Add note on euploidy and aneuploidy

20

OR

Write short note on (any four)

- a) Cell wall
- b) Lysosome
- c) Cell cycle
- d) Nucleotide
- e) Nucleosome
- f) Lampbrush chromosome

Q3 Multiple choice question

10

- 1) The fluid mosaic model of plasma membrane was proposed by _____
 - a) Singer and Nicolson
 - b) Davson and Danielli
 - c) Singer and Davson
 - d) Gorter and Grendel

- 2) Secondary lysosomes are produced by fusion of _____
 - a) Phagosome and pinosome
 - b) Phagosome and primary lysosome
 - c) Phagosome and Golgi apparatus
 - d) Pinosome and Golgi apparatus
- 3) The size of the nucleus depends on _____
 - a) The size of the cytoplasm
 - b) The size of the organism
 - c) The chromosome number of the cell
 - d) All of these
- 4) Which of the following enzymes is useful in unwinding of DNA during replication?
 - a) DNA polymerase
 - b) Helicase
 - c) DNA ligase
 - d) Endonuclease
- 5) In meiosis, crossing over takes place in which of the following phases?
 - a) Leptotene
 - b) Pachytene
 - c) Zygotene
 - d) Diplotene
- 6) Nuclear DNA replicates in which of the following phases of the cell cycle?
 - a) G1 phase
 - b) G2 phase
 - c) M phase
 - d) S phase

- 7) In plant cell DNA is present in _____
- a) Nuclear only
 - b) Nuclear, mitochondria and chloroplast
 - c) Nuclear and lysosome
 - d) Nuclear and vacuole
- 8) Which of the following is condition of trisomy in human?
- a) $2n + 2$
 - b) $2n-2$
 - c) $2n+1$
 - d) $2n$
- 9) Cri du chat is caused due to _____ in chromosome
- a) Deletion
 - b) Duplication
 - c) Translocation
 - d) All of the above
- 10) Polytene chromosome was first reported by _____
- a) Robert Brown
 - b) Mendel
 - c) Linber
 - d) E.G Balbiani