



Reg. no.:

Date: 04-12-2020

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
B.Sc. ZOOLOGY - V SEMESTER
SEMESTER EXAMINATION: NOVEMBER/DECEMBER 2020
ZO 5118- CELL BIOLOGY, MOLECULAR BIOLOGY AND IMMUNOLOGY

Time- 2 1/2 hrs

Max Marks-70

This paper contains 2 printed pages and four parts
Note: Draw neat labelled diagrams wherever necessary
Indicate the question numbers clearly.

PART A

Fill in the blanks:

7X1 = 7

1. The presence of _____ in the cell membrane is essential for cell recognition.
2. In G-banding, the chromosomes are stained with _____.
3. NOR stands for _____.
4. _____ phase of the cell life cycle is not part of interphase.
5. The _____ form of DNA was proposed by Watson and Crick.
6. _____ is an initiation codon which codes for methionine.
7. The acquired immune system is based upon the _____.

PART B

Answer the following:

4x2 = 8

8. What are chromosomal aberrations? Name the two types.
9. Explain any two differences between Necrosis and Apoptosis.
10. If the percentage of Guanine is 23.5 in a double stranded DNA, what is the percentage of other three nitrogenous bases in the DNA?
11. Why is the pentose sugar in DNA called deoxyribose.

PART C

Answer any FIVE of the following:

5X5 = 25

12. With a neat labelled diagram and list the functions of the mitochondria.
13. Describe the structure of the polytene chromosome in *Drosophila melanogaster* with a neat labelled diagram.
14. What is translocation? Briefly explain its types.
15. Explain the regulation of apoptosis in *Caenorhabditis elegans*.
16. Draw and label t-RNA.
17. Draw the structure of IgG antibody.
18. Explain the semi-conservative model of DNA replication.