**ST. JOSEPH’S UNIVERSITY, BENGALURU -27**

Registration Number:

Date & session:

**M.Sc. (ZOOLOGY) – II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May/ June 2024)**

**ZO8322 – MOLECULAR BIOLOGY AND IMMUNOLOGY**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains two printed pages and four parts**

**Note: Draw diagrams wherever necessary**

**Part – A**

**I. Answer the following questions. 5X1=5**

1. The \_\_\_\_\_\_\_\_\_\_\_\_ sequence in eukaryotic cells facilitates the identification of the

start codon.

1. Presence of \_\_\_\_\_\_\_\_\_\_\_\_marker can be used to separate helper T cells from cytotoxic T cells.
2. \_\_\_\_\_\_\_\_\_\_\_ are the cytokines released in response to viral infection.
3. The process by which particulate antigens are rendered more susceptible to phagocytosis is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. What are Isoaccepting tRNA’s?

**Part - B**

**II. Answer the following questions. 5X2=10**

1. Define siRNA.
2. Mention the types of Cytokine receptors.
3. List out the post transcriptional modifications of eukaryotic pre-mRNA.
4. What are Haptens?
5. Mention any two-histone modification involved in the regulation of chromatin

structure.

**Part - C**

**III. Answer any Three of the following questions. 3X5=15**

1. Enumerate the classical pathway of the complement system.
2. Describe the role of Toll-like receptor signalling in protecting the human host from viral infection.
3. Explain the types of chemically induced DNA Damage with an example each.
4. Write a note on types of hypersensitivity.

**15.** Describe the Rho independent termination of prokaryotic transcription.

**Part – D**

**IV. Answer any Two of the following questions. 2X10=20**

**16.** Elucidate the mechanism of RNA splicing with a neat labelled diagram.

**17.** Illustrate and explain the mechanism of T-cell proliferation.

**18.** Explain the process of ubiquitination in protein degradation.

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