Registration Number:

Date & session:

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

**M.Sc (MICROBIOLOGY) – II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

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

**MB 8221: IMMUNOLOGY**

**Time: 2 hours Max Marks: 50**

**This question paper contains 1 printed page and four parts**

**I. Answer any Five of the following 5X3=15**

1. What are the components of the innate system?

2. Define and mention the events of apoptosis.

3. Comment on Di George’s Syndrome.

4. Why is HAT medium used in the selection of hybridomas?

5. Mention complement deficiencies

6. How is RAST performed?

7. Are only foreign peptides able to associate with MHC molecules? Give reasons

 for your answer.

1. **Answer any Two of the following 2X5=10**

8. How do extracellular bacteria evade immune responses?

9. What methods of passive immunotherapy are used in tumor patients?

 10. When multiple antigens are administered, what is the effect of the immune response?

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

11. An immunology student has isolated protein X which he believes is a new isotype of human immunoglobulin. What structural features would protein X have in order to be classified as an immunoglobulin?

12. How intracellular events leads to mast cell degranulation?

13. What factors must be kept in mind in developing a successful vaccine? Add a note on the promising strategies for finding newer vaccine candidates.

1. **Answer the following 1X5=5**

14. Why does the human body need more than its skin to function as a barrier to

 Infecting pathogens?