

Register Number:

Date:

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27**

**M.Sc. MICROBIOLOGY - II SEMESTER**

**SEMESTER EXAMINATION- APRIL 2019**

**MB 8218-IMMUNOLOGY**

**Time: 2 1/2 hours Max Marks: 70**

This paper contains **1** printed page and **4** parts

1. **Answer any Five of the following 5X3=15**
2. Define hematopoiesis. Name any two hematopoietic growth factors.
3. Comment on Mast cells.
4. Define isotype switching with an example.
5. Define transplantation, xenograft and homograft.
6. Comment on B cell super antigens.
7. How are antibodies helpful to destroy extracellular pathogens?
8. Mention the properties of cytokines.
9. **Answer any Five of the following 5X5=25**
10. Differentiate innate and acquired immunity.
11. Write a flow chart of major steps in B cell activation and their proliferation.
12. Comment on secondary humoral immune response and how do they differ from primary responses?
13. Write a short note on the three phases of graft rejection.
14. Discuss the principle and procedure of agglutination test.
15. Define self-tolerance and mention its features.
16. Explain the events in an inflammatory response.
17. **Answer any Two of the following 2X10=10**
18. Explain the principle and production of Mab.
19. Define and classify vaccines. Add a note on DNA vaccines.
20. Give an overview of secondary lymphoid organs.
21. **Answer the following 1X10=10**
22. A female infant had received her primary immunisation series at 6, 10 and 14 weeks of age, consisting of trivalent oral polio vaccine, hepatitis B vaccine, Haemophilus vaccine and DPT. No prior adverse reactions had been noted. No childhood or other illnesses noted. When she was18 months old she was given a booster dose of DPT in her right thigh, a booster dose of conjugated Haemophilus vaccine in the left thigh and trivalent oral polio vaccine. Within 6 hours there was a marked right thigh swelling with redness and tenderness, pain and she was unable to walk. There was no swelling noted in the left thigh. There was no generalized oedema. Explain the reasons for these reactions.

**MB-8218-B-19**