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

**M.Sc MICROBIOLOGY - II SEMESTER**

**SEMESTER EXAMINATION- APRIL 2018**

**MB 8216- Immunology**

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

**This question paper has 2 printed pages and 4 parts**

**I. Answer any Five of the following 5 x 3 =15**

1. Name three cell adhesion molecules that aids in an inflammatory response.
2. How does phagocytosis increase a thousand-fold?
3. Define affinity and avidity of an antibody.

4. Mention three characteristic features of a maternal antibody.

5. What is pleiotropy and synergism with respect to cytokines?

6. Define and classify autoimmunity giving an example for each.

7. Name the vaccine administered at birth, 9 months and 10 years?

**II. Answer any Five of the following 5 x 5 =25**

8. How does nutrition affect immunity?

9. What is hematopoiesis? Mention the growth factors and genes that regulate its process.

10. Draw a neat labelled diagram and explain FACS.

11. Explain the principle involved in the selection of hybridomas.

12. Write a note on Compliment deficiencies.

13. What is molecular mimicry? Explain with an example.

14. Describe the mechanism by which interferon mediates antitumor activity.

**III. Answer any Two of the following 2x10=20**

15. Tabulate the structure and function of Granulocytes.

16. Explain the mechanism of antigen recognition and activation of B cells.

17. Draw a labelled diagram and describe the mechanism of Mast cell degranulation.

**IV. Answer the following 1 x10=10**

18 **a.** You are a pediatrician treating a child who needs a kidney transplant.The child

 does not have an identical twin, but both parents and several siblings will donate

 a kidney f the MHC with the patient is good.

 1. What is the best possible MHC match that could be derived in this situation? **1**

 2. In which relative might you find it? Why? **1**

 3. Describe the test you would perform to find the best matched kidney. **6**

 **b.** What would happen if you administered **two bacterial vaccines in a mixed**

 **form** eg (typhoid and cholera vaccines) in an animal, and in another when

 Diptheria and tetanus **toxoids** were given together with one in excess? **2**

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