Register Number:
Date: 30-11-2020

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
B.Sc. Biotechnology – V SEMESTER
SEMESTER EXAMINATION: NOVEMBER 2020
BT5118 – IMMUNOLOGY

Time – 2 ½ hours **Max Marks – 70**

This paper contains one page and THREE parts

Section A – Answer ANY TEN **(10 x 2 = 20)**

1. State the function of primary follicles.
2. Name the components of C3 convertase of alternate pathway.
3. Define double negative state in T cells.
4. State the pre-requisites for degranulation of basophils.
5. Define anergy.
6. What is the function of tapasin?
7. State the structure and function of immunoproteasome.
8. What is zone of equivalence?
9. Differentiate between specificity and sensitivity of antibodies.
10. What are sequestered antigens? Give an example.
11. What is class switch recombination?
12. What is allelic exclusion?

Section B – Answer ANY FIVE **(5 x 6 = 30)**

13. Describe the different strategies followed by peripheral tolerance.
14. Describe the structure and function of a Peyer's patch in detail and with the help of a diagram.
15. Write short notes on the following:
    a. Systemic Lupus Erythematosus
    b. Graves' Disease
    c. Hashimoto's Thyroiditis
16. Describe with the help of a schematic diagram the antigen processing for the endogenous pathway.
17. Explain with a neat labelled diagram Tonegawa's experiment in proof of 2-gene hypothesis.
18. Differentiate between a B cell epitope and an αβ T cell epitope.
19. Describe Single Radial Immuno Diffusion.

Section C – Answer ANY TWO **(2 x 10 = 20)**

20. a. Write in detail the process of B cell development and activation, with the help of suitable diagrams. Why is B cell also known as an antigen presenting cell? (8 + 2)

    OR

    b. Describe in detail the complement pathway(s) that does not depend on antibody interaction.

21. a. Explain with the help of neat labelled diagrams the generation of humoral immune response against TD antigens.

    OR

    b. Give the general structure of prototypical IgG with a neat labelled diagram. Add a note on IgA.