**22BTP210**

**PSG COLLEGE OF ARTS & SCIENCE**
(AUTONOMOUS)

**MSc DEGREE EXAMINATION MAY 2023**
(Second Semester)

Branch – **BIOTECHNOLOGY**

**IMMUNOTECHNOLOGY**

Time: Three Hours Maximum: 50 Marks

**SECTION-A (5 Marks)**
Answer **ALL** questions
**ALL** questions carry **EQUAL** marks (5 x 1 = 5)

1 Any molecule that induces or elicits an immune response are ----------
(i) antigens (ii) antibodies
(iii) epitope (iv) immunogens

2 Which of the following cells is not an antigen-presenting cell?
(i) Macrophages (ii) Polymorphonuclear neutrophils
(iii) Dendritic cells (iv) B cells

3 Which of the following acts as a co-receptor for B-cell activation____?
(i) CD28 (ii) CD19
(iii) IL-2 (iv) IgA

4 The major molecules responsible for rejection of transplant is_____
(i) antibodies (ii) B cells
(iii) T cells (iv) MHC molecule

5 The process of weakening a pathogen is called ----------
(i) vaccination (ii) immunization
(iii) attenuation (iv) virulence reduction

**SECTION - B (15 Marks)**
Answer **ALL** Questions
**ALL** Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Give an account on leucocyte and endothelial interaction.
OR
b Write a note on cell-associated pattern recognition receptors.

7 a Discuss on the structure of antigen and immunogenecity.
OR
b Summarize the generation of antibody diversity.

8 a Define ADCC. Add short notes on ADCC.
OR
b Write short notes on B-cell effector mechanism.

9 a Discuss the roles of cytokines in cellular function.
OR
b Explain the type III hypersensitivity reaction.

10 a Give an account on ELISPOT assay.
OR
b Write a note on the immunodetection of antigens in cells.

**Cont...**

## SECTION -C (30 Marks)

Answer **ALL** questions
**ALL** questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Discuss on the types of immunity.

OR

b Describe the types of immune response.

12 a Explain the methodology involved in separation of immune cells by flow cytometry.

OR

b Discuss on the methods involved in preparation of fungal pathogen.

13 a What is MHC molecule? Explain its structure and role in immune response.

OR

b Discuss T cell receptor rearrangement.

14 a Write a detailed note on compliment activation.

OR

b Write notes on the characteristic features of any two autoimmune diseases.

15 a Discuss in detail about cancer immunotherapy.

OR

b Explain about the production and applications of monoclonal antibodies.

Z-Z-Z END