

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022  
(Fifth Semester)

BRANCH - MICROBIOLOGY

IMMUNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- 1 The following are true with natural killer (NK) cells, except one
  - (i) They play an important role in antiviral immunity
  - (ii) They play an important role in antitumor immunity
  - (iii) they are dependant on antibody for their activity
  - (iv) Interferons increase NK cell activity.
- 2 Macrophage can also function as
  - (i) NK cells
  - (ii) Antigen presenting cell
  - (iii) Mast cell
  - (iv) Megakaryocyte
- 3 The specificity of an antibody is due to
  - (i) its valence
  - (ii) The heavy chains
  - (iii) The Fc portion of the molecule
  - (iv) The variable portion of the heavy and light chain
- 4 Which of the following immunoglobulin is the most abundant immunoglobulin in newborns?
  - (i) IgA
  - (ii) IgM
  - (iii) IgG
  - (iv) IgD
- 5 Cell-mediated immunity is carried out by..... while humoral immunity is mainly carried out by.....
  - (i) T cells/B cells
  - (ii) Epitopes/Antigens
  - (iii) Antibodies/Phagocytes
  - (iv) Antibodies/Antigens
- 6 Generally antibodies produced against pathogen is
  - (i) Monoclonal
  - (ii) Homogenous
  - (iii) Polyclonal
  - (iv) All of same specificity
- 7 Which of the following is not a killed form of first-generation vaccines?
  - (i) DPT
  - (ii) Influenza vaccine
  - (iii) TAB vaccine
  - (iv) Salk Vaccine
- 8 Agglutination reaction is more sensitive than precipitation for the detection of
  - (i) Antibody
  - (ii) Antigen
  - (iii) Complement
  - (iv) Antigen antibody complex
- 9 Type IV hypersensitivity is also called as
  - (i) Immediate hypersensitivity
  - (ii) delayed hypersensitivity
  - (iii) Cytotoxic hypersensitivity
  - (iv) Immune complex hypersensitivity
- 10 The transfer of tissue between individuals of different species is called
  - (i) Autograft
  - (ii) Allograft
  - (iii) Xenograft
  - (iv) Syngeneic graft

Cont...

**SECTION - B (35 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

- 11 a Differentiate the Acquired and Innate Immunity.  
OR  
b Discuss the role of macrophages in immune response.
- 12 a Define Antigen. Explain the antigenic properties.  
OR  
b What is immunoglobulin? Draw the structure of immunoglobulin and explain its properties.
- 13 a Comment on Monoclonal antibody and its applications.  
OR  
b Discuss the active and passive immunization.
- 14 a Interpret the complement fixation test.  
OR  
b Discuss the agglutination reaction with suitable examples.
- 15 a Give a short note on anaphylactic hypersensitivity.  
OR  
b What is graft rejection? Explain its mechanism in detail.

**SECTION - C (30 Marks)**

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Elaborate the primary and secondary immune responses.
- 17 Write in detail about classical and alternative complement system.
- 18 Give a brief note on precipitation and agglutination reaction with suitable examples.
- 19 Discuss in detail about humoral and cell mediated immunity
- 20 Describe the structure and function of MHC I and MHC II molecules.

END