

Exam Date &amp; Time: 26-Sep-2020 (02:00 PM - 05:30 PM)

**PSG COLLEGE OF ARTS AND SCIENCE****Note: Writing 3hrs: Checking & Inserting Image : 30mins****MSc DEGREE EXAMINATION MAY 2020  
(Fourth Semester)****Branch - BIOCHEMISTRY  
IMMUNOLOGY [18BCP18]****Marks: 75****Duration: 210 mins.****SECTION A****Answer all the questions.**

- 1) Which one engulfs foreign materials?  
(i) Macrophages  
(ii) Plasma cells  
(iii) Mast cells  
(iv) Lymphocytes (1)
  
- 2) Where both B-cells and T-cells of immune system are produced?  
(i) Spleen  
(ii) Lymph nodes  
(iii) Bone marrow  
(iv) Thymus (1)
  
- 3) How many variable segments are present in an antibody?  
(i) 1  
(ii) 2  
(iii) 3  
(iv) 4 (1)
  
- 4) Which of the following is not used for the precipitation of immune complexes?  
(i) Nephelometry  
(ii) Polyethylene glycol  
(iii) Ammonium sulfate  
(iv) Antibody to immunoglobulin (1)
  
- 5) What is a characteristic of early stages of local inflammation?  
(i) Fever  
(ii) Anaphylactic shock  
(iii) Release of histamine  
(iv) Attack by cytotoxic T cells (1)
  
- 6) Which one of the following mast cells products is not performed and therefore has to be newly synthesized?  
(i) Histamine  
(ii) Prostaglandin D<sub>2</sub> (1)

- (iii) Heparin
- (iv) Eosinophil chemotactic factor (ECF)

- 7) Which type of hypersensitivity cannot be transferred with serum antibody?  
 (i) Type I  
 (ii) Type II  
 (iii) Type III  
 (iv) Type IV (1)
- 8) The majority of the auto immune diseases are \_\_\_\_\_.  
 (i) cell mediated  
 (ii) antibody mediated  
 (iii) macrophage mediated  
 (iv) mast cells mediated (1)
- 9) Which of the following has the maximum transplantation success rate?  
 (i) Autograft  
 (ii) Xenograft  
 (iii) Allograft  
 (iv) Syngenicraft (1)
- 10) Find a unique tumor antigen expressed by B-cell Lymphoma.  
 (i) p53  
 (ii) Endosialin  
 (iii) SM-3  
 (iv) Idiotype (1)

### SECTION B

Answer all the questions.

- 11) Write a note on knockout mice. (7)
- a)  
 [OR] Enlist the difference between T and B cells. (7)  
 b)
- 12) Give an account on idiotype. (7)
- a)  
 [OR] What is IRMA? Describe the procedure and its application. (7)  
 b)
- 13) Discuss in detail about types of ELISA and its applications. (7)
- a)  
 [OR] Explain the role of cytokines in inflammation and in diseases. (7)  
 b)
- 14) Write a short note on DNA based immunization. (7)

- a)  
[OR] Differentiate immediate hypersensitivity from delayed type hypersensitivity. (7)  
b)
- 15) Highlight the significance of tumor immunology. (7)
- a)  
[OR] Write a short note on Bone marrow transplantation. (7)  
b)

### SECTION C

Answer 3 out of 5 questions.

- 16) Write in detail about haematopoiesis. (10)
- 17) Explain the antigen processing and presentation pathway to TH cells. (10)
- 18) Outline the principle and applications of fluorescent antibody technique. (10)
- 19) Elucidate the autoimmune disease in humans. (10)
- 20) Analyze graft vs host reaction in transplantation immunology. (10)

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