

M.Sc. (Sem.-II) Examination  
410

CB : Basic Immunology

May-2017

[Max. Marks : 70

Time : 3 Hours]

**Instructions:**

All Questions are compulsory

Draw neat and labelled diagram wherever necessary

1. (a) Define hemopoiesis and describe lymphocytes in detail. 14  
Or  
(a) Which are secondary lymphoid organs? Describe any of them.
1. (b) Which pathways are involved in complement activation? Describe alternative pathway.  
Or  
(b) How neutrophils kill pathogen? Mention its role in cancer.
2. (a) Write a note on antigens and antibodies. 14  
Or  
(a) Describe Immunoglobulin G and Immunoglobulin A.
2. (b) (i) Write a note on Isotype, Allotypes and Idiotypes.  
(ii) Describe primary and secondary antibody response.  
Or  
(b) (i) Write a note on Light chain genes.  
(ii) Describe Heavy chain genes.
3. (a) Describe Haplotype, Co-Dominance, Polymorphism and Linkage disequilibrium in "MHC inheritance". 14  
Or  
(a) Explain significance of HLA in immune system.
3. (b) Describe different types of T- lymphocytes and their function.  
Or  
(b) Describe Mononuclear phagocytes, its activation and function.
4. (a) What is "Peptide-MHC" interaction in Immune system? Explain. 14  
Or  
(a) Define MHC? Explain any two classes of MHC in detail.
4. (b) Describe B-cell activation response to T- independent antigens.  
Or  
(b) Write a note on NK cell receptors and their functions.

(P.T.O)

E 481-2

5. Multiple Choice Questions

14

(Mark (✓) the correct answer of the multiple choice questions)

1. The typical Immunoglobulin has a molecular mass of \_\_\_\_\_ and is made up of \_\_\_\_\_ polypeptide chain.  
a 150-200 KD, Four                      b 25-50 KD, Four  
c 25-50KD, Four                          d 150-200, Two
2. \_\_\_\_\_ (dimeric) is found in saliva, lung fluid, gastrointestinal secretions, breast milk and vaginal secretions.  
a Secretary IgA                              b Secretary IgG  
c Secretary IgM                              d Secretary IgD
3. Five IgM molecules are joined by \_\_\_\_\_.  
a J chain                                      b Light chain  
c U chain                                      d Heavy chain
4. In adults, average serum concentration of IgG is \_\_\_\_\_.  
a 10 gm/L                                      b 100 gm/L  
c 10 gm/dl                                      d 8 gm/dl
5. Law of MHC restriction relies on \_\_\_\_\_.  
a Cytotoxic lymphocytes                  b B lymphocytes  
c Helper lymphocytes                      d All of above
6. Peptides presented through HLA I are \_\_\_\_\_.  
a Endogenous Proteins                      b Exogenous proteins  
c Cytosolic protein                          d None of above
7. Groove of class I MHC molecule accommodate peptides of \_\_\_\_\_.  
a Approximately 20-25 amino acids      b Approximately 8-10 amino acids  
c Approximately 15-20 amino acids      d None of above
8. Which of the following is known as class I cytokine receptors?  
a Interferon receptors                      b Hematopoietin receptors  
c Chemokine receptors                      d TNF receptors
9.  $\alpha$  interferons (INF) produced by \_\_\_\_\_.  
a Leucocytes                                  b Fibroblasts  
c T-cell    d B- cell
10. 5% of T- cell consists \_\_\_\_\_ chain of TCR.  
a  $\alpha\beta$     b  $\gamma\delta$   
c CD3    d CD8

E481-3

11. \_\_\_\_\_ is the major site for phagocytosis of antibody coated bacteria and destruction of aged RBCs.
- |         |          |
|---------|----------|
| a Liver | b Kidney |
| c Lung  | d Spleen |
12. Which of the following antigen is expressed by Splenic Marginal Zone Lymphoma?
- |        |        |
|--------|--------|
| a CD 3 | b CD20 |
| c TdT  | d CD56 |
13. Histamine is secreted by \_\_\_\_\_.
- |                            |                |
|----------------------------|----------------|
| a Mast cells               | b Basophils    |
| c Mast cells and Basophils | d Granulocytes |
14. Which of the following antigen of Eosinophils bind to vascular cell adhesion molecule?
- |          |         |
|----------|---------|
| a ICAM-1 | b VLA-1 |
| c MAC-1  | d CR4   |
-