SET A

M.Sc. ZOOLOGY
THIRD SEMESTER [SPECIAL REPEAT]
IMMUNOLOGY AND HAEMATOLOGY
MSZ-301

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

(Objective)

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. Select the correct relative concentration of plasma proteins.
   a. Albumin> Fibrinogen> Globulin
   b. Albumin > Globulin> Fibrinogen
   c. Globulin > Albumin> Fibrinogen
   d. Fibrinogen > Globulin>Globulin

2. Find out the correct extrinsic cause of Hemolysis.
   a. Infection by Mycoplasma pneumonae
   b. Hypersplenism
   c. Acquired hemolyticanemia
   d. All of these

3. In which form erythropoietin regulate hemopoiesis?
   a. IL-7
   b. G-CSF
   c. GM-CSF
   d. None

4. Level of which blood parameters are found similar in neonates and adult?
   a. Platelet count
   b. Hemoglobulin concentration
   c. Site of hemopoesis
   d. Fibrinogen and Von Willibrand factor

5. Petechiae is a bleeding disorder caused by:
   a. Vascular wall abnormalities
   b. Platelet abnormalities
   c. Coagulation abnormalities
   d. None of these

6. The antigenic determinants on the basis of which immunoglobulin are grouped into different classes are located in:
   a. Light chain
   b. Heavy chain
   c. J chain
   d. All of the above

7. The antibody which is most efficient in agglutination reaction is:
   a. IgG
   b. IgM
   c. IgA
   d. IgE

8. Excess of antibody inhibits agglutination which is a phenomenon called:
   a. Prozone effect
   b. Acoustic effect
   c. Post zone effect
   d. None of the above

9. The maximum rate of precipitation occurs in the:
   a. Zone of antigen excess
   b. The zone of equivalence
   c. The zone of antibody excess
   d. None of the above

10. In agglutination reactions antibodies react with:
    a. Soluble antigens
    b. Positively charged antigens
    c. Particulate antigens
    d. All of the above

11. Activated form of Monocyte is called:
    a. Neutrophil
    b. Eosinophil
    c. Basophil
    d. Macrophage

12. Innate immunity develops in individuals:
    a. During lifetime
    b. After vaccination
    c. After birth
    d. After formation of memory cells

13. MHC Class I molecule can recognizes only:
    a. T helper cells
    b. T cytotoxic cells
    c. T memory cells
    d. T suppressor cells

14. Which one of the following organs filters antigens from interstitial tissue fluid & lymph?
    a. Spleen
    b. Thymus
    c. Lymph node
    d. Bone marrow

15. India's first genetically engineered vaccine is:
    a. Hepatitis- A
    b. Hepatitis- B
    c. Diphtheria
    d. Tetanus

16. The site of synthesis of globin that combines with heme molecules:
    a. Mitochondria
    b. Ribosomes
    c. Golgi bodies
    d. Bone marrow

17. The insoluble form in which small quantities of iron are stored is called:
    a. Hemosiderin
    b. Apotrasferin
    c. Apoferritin
    d. Cytochrome

18. When red blood cells grow very large they are called:
    a. Reticulocyte
    b. CFV-E
    c. Erythroblasts
    d. Megaloblasts

19. Which of these factors made a blood cell clot after it is formed?
    a. Local antocoid factors
    b. Thromboxane A_2
    c. ADP
    d. Fibroblasts

20. Which one of the following sounds is the Phase 1 of Korotkoff sounds?
    a. Sunshing sound
    b. Muffled sound
    c. A sharp tapping
    d. Silence

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Descriptive

Time : 2 hr. 30 mins. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1. Mention the types of 'Antigen Presenting Cells'. Write their mechanism of action. 2+8=10
2. Discuss briefly about T cell receptor with special emphasis on TCR complex and the molecules involved therein. 10
3. Write how tissue macrophages are formed. Mention the characteristics of macrophages. Give details about types of reticulo endothelial cells and their functions. 1+8+1=10
4. Elucidate in detail with neat and labelled sketches the structure and function of an antibody. 10
5. What do you know about blood coagulation? Explain the mechanism of blood coagulation. 2+8=10
6. Define antigen. Describe the factors affecting antigenicity of an antigen. 2+8=10
7. Why blood typing/blood matching is necessary before blood transfusion? Explain the collection of blood for transfusion, its storage and changes that occur during storage. 2+3+2+3=10
8. What is blood indices? Calculate the value of MCV, MCH, MHCH and CI of a blood sample considering total count of RBC as 4 million, hemoglobin content as 8gm/100 ml and PCV as 30%. Comment upon possible disease suffered by the person of the blood sample. 2+2+6=10

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