

Paper II: Technical Subject
Section (A) - 45 Marks

1. **Basic physiology of Haemopoetic system**
2. **Erythrocyte**
 - 2.1 Clinical manifestations & classification of erythrocyte disorders
 - 2.2 Aplastic Anaemia
 - 2.3 Pure red cell aplasia
 - 2.4 Anemia of chronic disease
 - 2.5 Paroxysmal Nocturnal hemoglobinuria (PNH)
 - 2.6 Iron deficiency anemia and iron overload
 - 2.7 Disorders of iron metabolism
 - 2.8 Thalassemias
 - 2.9 Sickle cell anemia
 - 2.10 Anemia of chronic disease, renal disease, endocrine disease,
 - 2.11 Megaloblastic anemias
 - 2.12 Haemolytic anemias
 - 2.12.1 Hereditary spherocytosis
 - 2.12.2 Hereditary elliptocytosis and related disorders
 - 2.12.3 Hereditary stomatocytosis
 - 2.12.4 Paroxysmal nocturnal hemoglobinuria
 - 2.12.5 Enzymatic defects
 - 2.12.6 Hemolytic anemias resulting from extracellular factors- immune haemolytic anemias, resulting from physical injury to RBCs, resulting from chemical & physical agents, resulting from infections & microorganisms etc
 - 2.13 Haemoglobinopathies
 - 2.13.1 Sickle cell disease/Sickle cell trait
 - 2.13.2 Hereditary methemoglobinemia
 - 2.13.3 Thalassemia syndromes
 - 2.14 Porphyria: Hematological aspects
 - 2.15 Polycythaemia (erythrocytosis)
3. **Pancytopenias**
 - 3.1 Inherited Bone marrow failure syndromes with pancytopenia
 - 3.2 Acquired pancytopenias
 - 3.3 Marrow infiltration disorders
4. **Disorders of different components of white blood cells**
 - 4.1 Neutrophil: Classification & clinical manifestations of neutrophil disorders, Neutropenia, Neutrophilia, Leukemoid reaction, Disorders of neutrophil function
 - 4.2 Eosinophil: Eosinophilia, Hypereosinophilic syndrome, Eosinophilic granulomatosis and polyangiitis, Other disorders of eosinophils
 - 4.3 Basophil: Basophilia, Other disorders of basophils and mast cells
 - 4.4 Lymphocyte: Classification & manifestations of lymphocyte & monocyte disorders, Lymphopenias, Lymphocytosis, Immunodeficiency disorders, Hematological aspects of HIV infection, Mononucleosis syndromes

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- 4.5 Monocyte: Classification & clinical manifestations of disorders of monocytes and macrophages, Monocytosis & monocytopenia, Inflammatory & malignant histiocytosis
5. **Splenomegaly, Hyposplenism, Hypersplenism, Splenic trauma and Splenectomy**
6. **Hematopoietic Cell Transplantation**
 - 6.1 Autologous Stem cell transplant
 - 6.2 Allogeneic Stem cell transplant
7. **Transfusion medicine**
 - 7.1 Red blood cell transfusions and erythropoietin therapy
 - 7.2 Platelet transfusions
 - 7.3 Neutrophil (granulocyte) transfusions
 - 7.4 Plasma transfusions
 - 7.5 Risks of blood transfusions

Section (B) - 55 Marks

8. **Hemorrhagic and thrombotic diseases**
 - 8.1 Classification & clinical manifestations of disorders of hemostasis
 - 8.2 Clinical and laboratory evaluation of hemostasis
 - 8.3 Hereditary clotting factor deficiencies (bleeding disorders)
 - 8.3.1 Factor VIII or Factor IX deficiency
 - 8.3.2 Factor XI deficiency
 - 8.3.3 Factor VII deficiency
 - 8.3.4 Factor X deficiency
 - 8.3.5 Prothrombin (Factor II) deficiency
 - 8.3.6 Factor V deficiency
 - 8.3.7 Combined deficiency of Factor V and VIII
 - 8.3.8 Fibrinogen (Factor I) deficiency
 - 8.3.9 Factor XIII deficiency
 - 8.4 von Willebrand disease
 - 8.5 Thrombotic disorders: DVT, Pulmonary & other thromboembolisms
 - 8.6 Essential thrombocythemia & thrombocytosis
 - 8.7 Acquired inhibitors of coagulation
 - 8.8 Disseminated intravascular coagulation
 - 8.9 Antiphospholipid syndrome
 - 8.10 Platelet and blood vessel disorders
 - 8.10.1 Autoimmune thrombocytopenic purpura
 - 8.10.2 Drug induced thrombocytopenia
 - 8.10.3 Nonimmune platelet destruction
 - 8.10.4 Thrombotic thrombocytopenic purpura
 - 8.10.5 Platelet function disorders
 - 8.10.6 Congenital and acquired disorders of platelet function
9. **Malignant Lymphoid diseases**
 - 9.1 Classification of malignant lymphoid disorders

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- 9.2 Acute lymphoblastic leukemia (ALL)
 - 9.3 Hodgkin's Lymphoma
 - 9.4 Chronic Lymphoblastic Lymphoma
 - 9.5 Marginal Zone Lymphoma
 - 9.6 Follicular Lymphoma
 - 9.7 Mantle Cell Lymphoma
 - 9.8 DLBCL
 - 9.9 Burkitt's lymphoma
 - 9.10 Primary CNS lymphoma
 - 9.11 T cell and NK cell lymphoma
 - 9.12 MGUS
 - 9.13 Multiple myeloma
 - 9.14 Light chain amyloidosis
 - 9.15 Waldenstrom macroglobulinemia
 - 9.16 Large granular lymphocytic leukemia
 - 9.17 Hairy cell leukemia
 - 9.18 Other malignant diseases: Amyloidosis, Heavy chain diseases
10. **Malignant myeloid diseases**
- 10.1 Classification & clinical manifestations of clonal myeloid disorders
 - 10.2 Polycythemia Vera
 - 10.3 Essential Thrombosis
 - 10.4 Primary myelofibrosis
 - 10.5 Myelodysplastic Syndrome
 - 10.6 Chronic myeloid Leukemia
 - 10.7 Acute Myeloid Leukemia
11. **Therapeutic principles in hematology**
- 11.1 Pharmacology & toxicity of antineoplastic drugs
 - 11.2 Treatment of infections in immunocompromised host
 - 11.3 Principles of antithrombotic therapy
 - 11.4 Principles of immune cell therapy
 - 11.5 Principles of vaccine therapy
 - 11.6 Principles of therapeutic apheresis
 - 11.7 Pain management
12. **Hematological diseases during pregnancy**
13. **Hematological diseases during elderly**