Hematology & Immunology – MCQs

1. The direct Coombs (direct antiglobulin) test primarily detects:

A. Free antibodies circulating in the patient’s serum

B. Immune complexes in plasma

C. Complement proteins or antibodies bound to red blood cells

D. Antibodies bound to platelets

E. Autoantibodies bound to leukocytes

Answer: C

2. Cold agglutinin disease is most commonly mediated by:

A. IgG antibodies reacting at 37 °C

B. IgA antibodies reacting at mucosal surfaces

C. IgM antibodies reacting optimally at low temperatures

D. IgE antibodies involved in allergic reactions

E. IgG antibodies reacting only in the spleen

Answer: C

3. A positive indirect Coombs test indicates:

A. Antibodies already bound to the patient’s red blood cells

B. Complement fixation on erythrocytes

C. Hemolysis occurring in the spleen

D. Antibodies present in the patient’s serum

E. Red blood cell membrane defects

Answer: D

4. Paroxysmal nocturnal hemoglobinuria is caused by:

A. Defective hemoglobin synthesis

B. Autoantibodies against red blood cells

C. Increased splenic sequestration of erythrocytes

D. Deficiency of complement-regulating surface proteins

E. Iron deficiency anemia

Answer: D

5. Warm autoimmune hemolytic anemia is most commonly associated with:

A. IgM antibodies

B. IgE antibodies

C. IgG antibodies

D. IgA antibodies

E. Immune complexes only

Answer: C

6. The most common cause of hemolytic disease of the newborn is:

A. Rh incompatibility

B. ABO incompatibility

C. Kell antigen incompatibility

D. Duffy antigen incompatibility

E. MNS antigen incompatibility

Answer: B

7. The indirect Coombs test is mainly used to:

A. Detect antibodies bound to fetal red blood cells

B. Diagnose hemolytic anemia due to enzyme defects

C. Identify antibodies in maternal or patient serum

D. Measure complement levels

E. Detect platelet antibodies

Answer: C

8. Which immunoglobulin can cross the placenta and cause fetal hemolysis?

A. IgM

B. IgA

C. IgE

D. IgG

E. IgD

Answer: D

9. Rh sensitization in an Rh-negative mother can be prevented by:

A. Corticosteroid therapy

B. Exchange transfusion

C. Anti-D immunoglobulin administration

D. Iron supplementation

E. Plasmapheresis

Answer: C

10. Extravascular hemolysis primarily occurs in the:

A. Bone marrow only

B. Kidneys

C. Lungs

D. Spleen and liver

E. Peripheral circulation

Answer: D