

# Home assignment for MBBS/BDS students

## General Physiology

### Questions no

1. Define homeostasis? What is feedback, types with example and definition?
2. Differences between positive and negative feedback?  
Why positive feedback is called vicious cycle, explain with dramatically?
3. Classify body fluid compartment? Differences between ECF and ICF?
4. What is gain?  
What is milieu interieur/internal environment and why so called?
5. Define cell? What are the parts of a cell? Draw and level a cell membrane?
6. What do you mean by fluid mosaic model of cell membrane Enumerate the functions of cell membrane and membrane proteins?
7. Short note: a) Mitochondria b) Lysosome
8. Define intercellular junctions? Types, functions with diagram?
9. Define membrane transport? Classification with example?
10. Definition: a) Active transport
  - b) Passive transport
  - c) Co transport, counter transport
  - d) Diffusion, osmosis
  - e) Simple diffusion, facilitated diffusion
  - f) Exocytosis, endocytosis, phagocytosis, pinocytosis.
11. Criteria of active transport?  
Differences between primary and 2<sup>nd</sup> any active transport?
12. Short note: i) Na<sup>+</sup> pump K<sup>+</sup> ii) Diffusion iii) Osmosis
13. Difference between active transport and facilitated diffusion difference between osmosis and diffusion.
14. What is membrane potential, types, importance of membrane potential.
15. What is RMP (resting membrane potential)? Why RMP is negative?
16. What is action potential? Draw and level action potential elaborate the stages of action potential.
17. What is plateau? Why it's occur?
18. Short note: a) Muscle tenancy b) Neuromuscular junction
19. Write down the steps of muscle contraction and relaxation?

### Blood

1. List the name of plasma protein with their normal value of site of origin. Functions of important plasma protein.
2. Composition of blood.  
Name the blood cell with their normal value and site of origin.  
Properties of blood difference between plasma & serum
3. Steps of Hemopoiesis. Site of erythropoiesis, peculiarities of RBC, factors necessary

- for development of RBC advantage of biconcave shape of RBC.
4. Normal value of Hb, classify Hb, steps of synthesis of Hb, structure of Hb.  
Difference between HbA & HbF.
  5. State the catabolism of RBC. Define jaundice.  
Classify jaundice. Difference between all types of jaundice.  
What is van den Berg reaction. Normal value of bilirubin.
  6. Red cell indices with their normal value. Classify anemia with example.  
Normal routine investigation for anemia.
  7. Define thalassemia. Classify thalassemia. Site of observation of jaundice & anemia clinically. Define ESR & polycythemia.  
Case of increase ESR. What is erythropoietin site of secretion of erythropoietin.
  8. Classify WBC, Absolute & differential count of WBC functions & properties of WBC.
  9. Short note on
    - a) Phagocytosis
    - b) Macrophage
    - c) Lymphocyte
  10. Define immunity.  
Classify immunity with example difference between active & passive immunity.  
Classify immunoglobulin with their function & percentage in blood.  
What is antigen, immunogenic, hapten?
  11. Define hemostasis. Steps of hemostasis. Morphology of platelet, formation of platelet plug. Name the platelet aggregating substance and protorombin actionator.
  12. List the chart of blood clotting factors.  
State the intrinsic pathway of blood coagulation.  
Difference between extrinsic & intrinsic pathway.
  13. Name the anticoagulants with their mechanism of action.  
Classify bleeding disorder.  
Name the screening test for bleeding disorder with their normal value.
  14. Define hemophilia types features & diagnosis of hemophilia.  
Cause of thrombocytopenia. What is erythroblastosis fetalis?  
How does it occur? How can it be prevented?
  15. Name the major blood groups.  
List the details about ABO blood grouping system & Rh blood grouping system.  
What is cross matching? What measures to taken for safe blood transfusion.
  16. What are the indication of blood transfusion?  
Hazards of mismatched blood transfusion. Complication of blood transfusion.
  17. Normal daily requirements of iron. How iron is metabolized in our body?  
Case of nextorphilic Leukocytosis, lymphocytosis & leucopenia.
  18. List the name of vit k dependent clotting factors.  
Steps of blood coagulation & fibrinolysis. Functions of platelet & RBC.