

**Class: XI****Time Allowed: 20 minutes**
MODEL PAPER EXAMINATION 2026
SUBJECT: HEMATOLOGY & BLOOD BANKING
SECTION "A"
Marks: 16

Note: Attempt **ALL** questions from this section. Each question carries **ONE** mark.

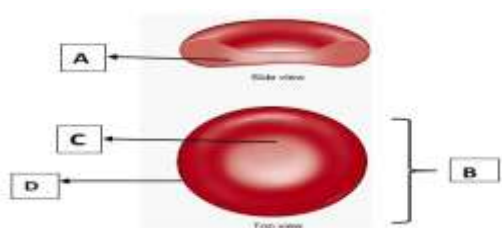
1. Which of the following wbc's have round shape nucleus?
 A. Eosinophils B. basophils C. Lymphocytes D. Monocytes
2. What is the purpose of cross matching in blood transfusions?
 A. To determine blood type B. To identify infectious agents C. To prevent hemolysis reactions D. To assess platelet function
3. Which types of white blood cells increase in allergic reaction?
 A. Monocytes B. Basophils C. Eosinophil D. Neutrophils
4. What is the main precursor molecule for hemoglobin synthesis?
 A. Bilirubin B. Heme C. Porphyrin D. Globin
5. Platelets are typically stored at what temperature to maintain their viability?
 A. 2-8°C B. 37°C C. -20°C D. 18-24°C
6. Which blood component is primarily transfused during a standard blood transfusion?
 A. Red blood cells B. platelets C. plasma D. white blood cells
7. A person with blood type A Rh-positive can receive blood from donors with blood types:
 A. A Rh-positive and O Rh-negative B. A Rh-negative and B Rh-positive
 C. AB Rh-positive and O Rh-positive D. B Rh-positive and AB Rh-negative
8. Which of the following WBCs have orange red granules?
 A. Lymphocytes B. Eosinophils C. Basophils D. Neutrophils
9. At which stage of Rbcs, nucleus is out from the cell?
 A. Proerythroblast stage B. Reticulocytes C. Polychromatic stage D. Orthochromatic stage
10. Which definition is most accurate for anemia?
 A. Low hb level B. decrease red blood cells with low hemoglobin
 C. Decrease red blood cell D. low plasma volume
11. What is the primary component of red marrow responsible for blood cell formation?
 A. Osteocytes B. adipocytes C. Hematopoietic cells D. collagen fibers
12. Microcytic anemia is caused by?
 A. Folic acid deficiency B. Alcohol C. Blood loss D. Iron deficiency
13. Which Plasmodium species is responsible for the most severe form of malaria in humans?
 A. Plasmodium vivax B. Plasmodium falciparum C. Plasmodium ovale D. Plasmodium malariae
14. What distinguishes reticulocytes from mature red blood cells when viewed under a microscope?
 A. Size B. Bluish tinge color C. Presence of ribosomal RNA D. All of the above
15. In complete blood count, portion of Red blood cells in whole blood is known as?
 A. Packed cell volume B. Plasma C. Buffy coat D. Platelets
16. What is the normal range of total white blood cell count in adults?
 A. 4,000 to 10,000 cells/mm³ B. 20,000 to 25,000 cells/mm³ C. 10,000 to 15,000 cells/mm³ D. 15,000 to 20,000 cells/mm³

Practical Based Assessment (PBA)
Marks: 16

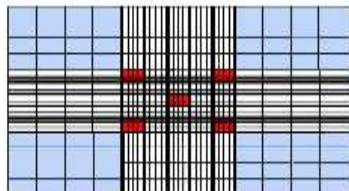
18. Neubauer chamber central region contain which alphabetic shape?
 A. H shape B shape C. Y shape D. W shape
19. Polychromatic defines increase of which cells in blood?
 A. Rbcs B. Wbcs C. Platelets D. Reticulocytes
20. In blood film, blood smear should be made in which of the following shape?
 A. Round shape B. Oval shape C. Thumb shape D. Hexagonal shape
21. Which of the following wbc's has heart shape nucleus?
 A. Eosinophils B. Neutrophils C. Basophils D. Monocytes
22. Which of the following blood cells, are derive from Megakaryocytes?
 A. Platelets B. White blood cells C. RBCs D. Plasma cells
23. Platelets are seen in microscope as?
 A. Star shape B. Moon shape C. Dumbel shape D. Rod shape

24. Label the Rbcs

- A. Shape B. Size C. Contain D. Color



25. In neubar chamber, Wbcs are count in which of the following boxes?



- A. Corner boxes W1, W2, W3, W4 B. Center box C. Middle box D. Side boxes

END OF SECTION A

Class: XI**MODEL PAPER EXAMINATION 2026**

Time: 2 hours 40 minutes **SUBJECT: H&B BANKING SECTION “B” AND SECTION “C”**

Total Marks 68

Q2: SECTION “B” SHORT ANSWER QUESTIONS

36 Marks

Note: Answer any **NINE** questions from this section. All questions carry equal marks.

- (i) How can bone marrow be examined through aspiration method?
- (ii) Why is Rh factor important? What is its significance?
- (iii) Explain the relationship of hematology with other branches of pathology.
- (iv) What are the causes of microcytic hypochromic anemia?
- (v) How is human blood collected aseptically?
- (vi) What is the difference between Rh-positive and Rh-negative?
- (vii) Write the composition of hemoglobin.
- (viii) What is the mechanism of vasoconstriction in hemostasis?
- (ix) How do people get infected with Leishmania parasites?
- (x) Write any three symptoms of anemia.
- (xi) How are ABO blood types determined?
- (xii) List down any four characteristics of Red Blood Cells.
- (xiii) What is the clinical significance of osmotic fragility test?

SECTION “C” DETAILED ANSWER QUESTIONS

32 Marks

Note: Answer any **TWO** questions from this section. All questions carry equal marks.

- Q3: a. Define Anemia and elucidate the classification of Anemia.
b. Draw and define the shapes of Rbcs target, Sickle, Spherocytes, Acanthocytes, Schizocytes?
- Q4: a. What are the complications of blood transfusion?
b. Why do Rbcs have blue color in precursor cell that later change to red color?
- Q5: a. Describe the life cycle of Plasmodium.
b. Why is blood storage important?

END OF PAPER