

Sant Hirdaram Girls College, Bhopal
Department of Food & Nutrition & Department of Zoology
Academic Year 2025-26

Course Name: Certificate Course in Hematology

Duration: 1 week

Course Objectives:

- I. To provide fundamental knowledge of blood composition, physiology, and related disorders.
- II. To train students in basic hematological laboratory techniques and their interpretation.
- III. To link nutritional aspects with hematological health and disease.
- IV. To enable learners to understand diagnostic values and nutritional interventions in common hematological disorders.

Content Outline:

❖ **Introduction to Hematology**

- I. Composition & functions of blood
- II. Blood cell formation (hematopoiesis)
- III. Plasma proteins & their significance

❖ **Hematological Laboratory Techniques**

- I. Blood collection & handling
- II. Hemoglobin estimation methods
- III. Hematocrit, ESR, and RBC indices
- IV. Blood grouping and cross-matching basics

❖ **Hemostasis & Coagulation**

- I. Mechanism of clotting
- II. Coagulation tests (PT, aPTT, bleeding/clotting time)

❖ **Nutrition & Hematology**

- I. Role of micronutrients (iron, folate, B12, vitamin K, copper, etc.)
- II. Diet therapy for anemia & clotting disorders
- III. Case discussions: nutritional interventions in hematological conditions

❖ **Expected Outcomes**

- I. By the end of the course, learners will be able to:
- II. Explain the structure, function, and composition of blood and its components.
- III. Perform and interpret basic hematological tests (Hb, ESR, hematocrit, etc.).
- IV. Identify common hematological disorders and link them with nutritional deficiencies.
- V. Develop diet plans for patients with iron deficiency anemia, megaloblastic anemia, and other blood-related disorders.
- VI. Apply hematological knowledge in public health and clinical nutrition settings.