



MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC
RESEARCH
PAITAKHT TECHNICAL INSTITUTE
DEPARTMENT OF PATHOLOGICAL ANALYSIS

Course book
HEMATOLOGY

Second Stage: First Course

Lecturer's name:

Academic Year: 2023/2024

Course Book

1. Course name	Haematology
2. Lecturer in charge	
3. Department/ College	Pathological analysis, paytakht private institute
4. Contact	
5. Time (in hours) per week	Theory 2 hours Practical 2 hours
6. Office hours	2 hrs./week
7. Course code	PAD017
8. Teacher's academic profile	Graduated from Biology Department/ collage of science. M.Sc.
9. Keywords	Hematology, erythrocyte ,leukocyte , principle, procedure
10. Course overview: A course on hematology provides an in-depth understanding of the study of blood and blood-related disorders. Hematology is a branch of medical science that focuses on the physiology, pathology, and treatment of blood, as well as the organs and tissues involved in its production and function. Below is an overview of what you might expect to learn in a hematology course:	
11. Course objective: First: Understanding Blood Composition - Second: Hematopoiesis: Study of the process by which blood cells are formed in the bone marrow. - Third: understanding hemoglobin, MCV , MCH,MCHC - Fourth: Hematological Disorders: Comprehensive coverage of blood disorders, such as anemia, leukemia, lymphoma, thrombocytopenia, and various coagulation disorders. This includes their causes, symptoms, diagnostic methods, and treatment options.	
12. Student's obligation The role of students and their obligations throughout the academic year comes from Evaluating them through exams, presence and activity in the Lab.	
13. Forms of teaching Different forms of teaching will be used to reach the objectives of the course: ➤ Course book ➤ Data show and power point. ➤ Scientific videos. ➤ Group discussion's. ➤ Papers for practical work and notes. ➤ Whiteboard. ➤ Seminars	
14. Assessment scheme Evaluation by quiz, asking questions, exam, participation Lecture, group discussion and presentations. Theory: - 20 for each course Mid-Term Exam 15 Quiz and activity 5 Total :20 Practical:-30% for each course Mid-Term Exam: 15% Quiz 5% Activity : 5% Attendance: 5% Final exam 50 marks (Theory 20 marks and Practical 30 marks)	

15. Student learning outcome:

These learning outcomes help students develop a strong foundation in hematology and prepare them for careers in clinical practice, research, laboratory work, or other healthcare roles related to blood disorders and diseases. They also promote a holistic understanding of both the theoretical and practical aspects of hematology, ensuring that graduates are well-prepared to contribute to patient care and advancements in the field.

16. Course Reading List and References:

1- Clinical Hematology Atlas

2-Hematology: Basic Principles and Practice

3-Essential haematology, 2nd edition (2011)

Others references:

1. A Beginner's Guide to Blood Cells, 2nd edition (2004)
2. A Manual of Laboratory and Diagnostic Tests, 9th edition (2015)
3. Text book of Medical Parasitology, 11 th edition
4. Color Atlas of Parasitology, Practical Microscopic and Clinical Diagnosis, Harald Thieml, M.D. McKenzie, Shirlyn B., Clinical Laboratory Hematology, Second Edition, Pearson Education, ISBN 0-13-513732-2.
5. Carr, Jacqueline H., and Bernadette F. Rodak, Clinical Hematology Atlas, Third Edition, Elsevier Saunders, ISBN 978-1-4160-5039-1

((Note: All the above ebooks are provided to the student's representative))

17. The Topics:

**Lecturer's
name**

1st Lecture: introduction to hematology			Darya Sardar
2nd Lecture: blood cells			
3rd Lecture: hemopoisis			
4th Lecture: hemoglobin			
5th Lecture: MCV,MCH,MCHC			
6th Lecture: blood disorders			
7th Lecture: anemia and types of anemias			
8th Lecture: iron deficiency anemia			
9th Lecture: Thallasemia			
10th Lecture: vitamin deficiency anemia			
11th Lecture: haemolytic anemia			
12th Lecture: Aplastic anemia			
13th Lecture: Chronic disease anemia			
14th Lecture: Hemorrhagic Anemias:			
15th Lecture: Final Exam			
18. Practical Topics			Raman Pshtiwan Dhahir
<u>Week</u>	<u>Hour</u>	<u>Topic</u>	
1	2	Lab Safty & Blood collection	
2	2	Blood Group	
3	2	Hemoglobin Estimation	
4	2	PCV(HCT)	
5	2	RBC Counting	
6	2	WBCs Differential	
7	2	Platelets count	
8	2	Bleeding time and clotting time	
9	2	The technique for Blood smear	
10	2	ESR & CRP	
11	2	PT, APTT, (INR), Fibrinogen, Di-Dimer	
12	2	Full Blood Picture (FBP) or (CBC)	
13	2	Hb-electrophoreses test	
14	2	Alpha Thalassemia, Beta Thalassemia	
15	2	The enzyme G6PD may be assessed in sickle cell disease	
	2	Final exam	
19. Examinations:			
Examples of exams:			

Theoretical:

Q1/ choose the correct answer . (25 mark)

1- white blood cell is called

- a. ☒ erythrocyte
- b. Leukocyte
- c. Thrombocyte

Q2/ answer the following questions 25 mark

- a. A- what are the symptoms of Iron deficiency anemia
- b. **Q3/ Answer the following question with true or false ?**
(25 mark)
 - 1. Hemopoietic stem cell gives rise to RBC,WBC and platelets .
 - 2. Hemoglobin consists of four protein chains called **globins**.