

S.S. JAIN SUBODH P.G. COLLEGE, JAIPUR

VALUE-ADDED COURSE

COURSE TITLE: HAEMATOLOGY AND BLOOD BANKING

NODAL DEPARTMENT: ZOOLOGY

COURSE CODE: 23VAC_6307T

MARKING SCHEME

Tutorial (Hours)	Time Allowed ESE (Hrs)	Course Credits	Total Marks	End Semester Exam (Max. Marks)	Assignment	Minimum Marks
30	2	2	50	35	15	20

COURSE OBJECTIVES:

1. To impart foundational knowledge of haematology, including the study of blood, blood-forming organs, and blood disorders, enabling students to understand the physiological and pathological aspects of blood.
2. To equip students with practical skills in blood banking procedures, including blood collection, processing, testing, and storage, ensuring they are capable of performing safe and effective blood transfusions.

COURSE CONTENTS:

Haematology and Haemoglobinometry: Introduction to haematology and Laboratory Organization, Lab safety and instrumentation, Composition and functions of blood, Collection & preservation of blood for various haematological investigations, Physiological variations in Hb, PCV, TLC and platelet, Haemoglobinometry, various methods of estimation of Hb, errors involved and standardization of instrument for adaptation for Hb estimation. Blood group, ABO and Rhesus blood group system, Haemoglobin its synthesis function and degradation, Haemoglobin pigments and their measurements.

(15 Hours)

Blood Banking: Phlebotomy room equipment, their principles, and use, emergency medicines, Pre and post donation screening counselling, Bleeding of the donor, post donation care. Screening of blood units for mandatory tests. Preservation of donated blood, blood preservation solutions, Blood Banking: Blood Components Selection of donor or component separation. Selection of blood bags for component preparation Blood component preparation, Principles and manufacturing of different plasma derivatives. Component Testing. Transportation and storage of blood components Metabolic changes in blood components during storage, release of cytokine during storage. Inventory management and maintenance of blood stock. Irradiated blood components. Blood substitutes

(15 Hours)

COURSE OUTCOMES:

On successful completion of the course the students will be able to:

1. Students will be able to identify and describe various blood components, their functions, and the common haematological disorders, demonstrating a comprehensive understanding of blood physiology and pathology.
2. Students will be proficient in performing essential blood banking techniques, including blood typing, cross-matching, and screening for transfusion-transmissible infections, ensuring they can contribute effectively to clinical laboratory operations.


(Prof. K. B. Sharma)

Principal


Head of the Department