SKILL BASED II

MEDICAL LABORATORY TECHNOLOGY II

Sem	Sub Code	Category	Lecture		Theory		Practical		Credit
			Per week	Per sem.	Per week	Per sem.	Per week	Per sem.	
IV	21SBC4A	Skill Based	2	30	2	30	-	-	2

COURSE OBJECTIVE:

This course will provide the basic knowledge, upgrading skills on Hematology and its general application to Medical Laboratory Sciences.

COURSE OUTCOMES:

On the successful completion of the course, students will be able to –

CO.Number	CO statement	Knowledge level (K1-K4)
CO1	Understand the facts ,composition and the vital role of blood in maintaining the normal functions of the body	**K2**
CO2	Understand the normal and abnormal constituents of urine	**K3**
CO3	Explain the series of tests done on a stool sample to diagnose certain conditions affecting the digestive tract.	**K4**
CO4	Enable students to become familiar with Procedure for blood collection and storage	**K3**
CO5	Provide the knowledge on basic concepts of health and disease conditions relating anemia and its types.	**K2**

*CO – course Outcomes

Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze.

MAPPING WITH PROGRAMME OUTCOMES:

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	M	S	M	S	M
CO2	S	S	M	S	S	S
CO3	M	M	M	S	M	S
CO4	S	M	S	S	M	M
CO5	M	S	S	M	S	S

(S- Strong; M-Medium; L-Low)

Total Hours: 30

UNIT I

Blood **5 Hours**

Introduction to haematology, Functions of blood, Composition of blood. Mechanism of blood clotting, Blood clotting factors, abnormalities in blood clotting. Blood group systems, ABO, Rh and other blood groups.

UNIT II

Urine analysis **5 Hours**

Composition, collection and preservation of urine sample. Normal and abnormal constituents of urine. Physical examination of urine – colour, odour, specific gravity, volume.chemical examination of urine .

UNIT III

Stool analysis **5 Hours**

Collection of stool (feces) sample, composition, physical examination- colour, volume, consistency, odour, mucus, pus, helminths. Chemical examination-occult blood, fat. Test for occult blood-FOBT.

UNIT IV

Collection, Preservation and Storage of Blood **10 Hours**

Donor selection and preparation, Procedure for blood collection, Blood containers, Use of anticoagulant and preservatives, Storage of blood and blood components, changes during storage. Clinical use of whole blood.

UNIT V

Aspects of Anaemia **5 Hours**

Definition of anaemia, clinical features of anaemia, morphological classification of anaemia, causes of anaemia. Megaloblasticanaemia, Megaloblastic Erythropoiesis, Pernicious anaemia.

Practical

1. Blood grouping
2. Separation of serum and plasma from blood

DISTRIBUTION OF MARKS: Theory - 100% and Problems – Nil

TEXT BOOKS:

S.NO	AUTHOR	TITLE	PUBLISHER	YEAR OF PUBLICATION
1.	Ross and Willson	Human Physiology	Elsevier	11th edition (2010)

REFERENCE BOOKS:

S.No	AUTHOR	TITLE	PUBLISHER	YEAR OF PUBLICATION
1	Ramniksood	Medical Laboratory Technology	JAYPEE	2006
2	William. F.Ganong	Review of Medical physiology	MCGraw- Hill Medical	2005
3	Guyton	Human Physiology and Mechanisms of Disease	Saunders Publications	1996
4	Kanai L. Mukherjee, AnuradhaChakravarthy	Medical Laboratory Technology, Procedure Manual for Routine Diagnostic Tests	MCGraw- Hill Medical	2017
5	Quinly E. D.	Immunohematology ,Principle and Practice	Philadelphia	1998

WEB SOURCES:

- https://labtestsonline.org/ understanding/ analytes/ coag_cascade/ coagulation_cascade.html
- https://williams.medicine.wisc.edu/coagulationreview.pdf

SYLLABUS DESIGNER:

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