

SKILL BASED SUBJECT III

BIOCHEMISTRY, HISTOPATHOLOGY & CYTOLOGY

Semester	Subject code	Category	Lecture		Theory		Practical		Credit
			Total hrs	Hrs/week	Total hrs	Hrs / week	Total hrs	Hrs/week	
V		Skill based	30	2	30	2	0	0	2

COURSE OBJECTIVES

To enable the students to understand the concepts of Laboratory techniques in diagnosis

COURSE OUTCOMES

On the successful completion of the course, students will be able to develop strong and potential skills to work in laboratories.

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	To apply appropriate biochemical laboratory techniques and methodologies in accordance with current laboratory safety protocols	K3
CO2	To characterize the bacterial pathogenesis, transmission, diagnosis and its susceptibility.	K2
CO3	To understand the functions of liver and kidney	K2
CO4	To understand the salient features of Histopathology.	K2
CO5	To understand the salient features of cytology.	K3

MAPPING WITH PROGRAMME OUTCOMES:

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

S- Strong;**M- Medium;****L-Low****Unit I: Biochemical Estimation****6 hrs**

Estimation of Chloride, Serum Calcium, Sodium, Potassium, Urinary Calcium, Urinary Protein, Chyle etc., and its clinical significance

Unit II: Biochemical Estimation**6 hrs**

Detection of Bile pigments – bilirubin, Urobilin, Cocobilinogen. Detection of blood urea, blood cholesterol, serum creatinine.

Unit III: Organ Function tests**6 hrs**

Liver functions test. Renal function test, Estimation of blood sugar. Glucose tolerance test.

Unit IV: Histopathological Examinations**6 hrs**

Method of examination of Tissues, Fixation, Tissue processing, Sectioning Staining decalcification of tissues.

Unit V: Cytology**6 hrs**

Cytology – Collection of specimens, Staining. Study of normal and abnormal cells.

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

TEACHING METHODOLOGY:

- ❖ Lectures
- ❖ Power point presentation
- ❖ Charts
- ❖ Models
- ❖ Group discussion
- ❖ Group assignments

TEXT BOOKS:

S.No	Authors	Title	Publishers	Year Of Publication
1.	Kanai L. Mukherjee	Medical Laboratory Technology	Tata McGraw-Hill	2017

REFERENCE BOOKS:

S.No	Authors	Title	Publishers	Year Of Publication
1.	H. Varley	Practical Clinical Biochemistry	CBS Publishers	2006
2	Ranjna Chawla	Practical Clinical Biochemistry	Jaypee Brothers Medical Publishers	2014
3	N.Blau	Physician's Guide to the Laboratory Diagnosis of Metabolic Diseases	Springer	2012
4	David L.Williams	Scientific Foundations of Biochemistry in Clinical Practice	Butterworth-Heinemann	2014
5	Robert H.	Clinical studies	Oxford University	2006

	Glew	in Medical Biochemistry	Press	
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WEB REFERENCE:

<https://www.khanacademy.org/science/health-and-medicine/human-anatomy-and-physiology>

<https://www.slideshare.net/dryuktisharma/chapter-1-introduction-to-anatomy-and-physiology>

https://en.wikipedia.org/wiki/List_of_systems_of_the_human_body

<https://study.com/academy/lesson/what-are-the-organ-systems-of-the-human-body.html>

https://en.wikipedia.org/wiki/Medical_laboratory

SYLLABUS DESIGNER:

1. Dr. A.Vidhya HOD & Assistant Professor