

Syllabus template

Semester: IV				
Course : Microbiology				
Paper Title: CLINICAL BIOCHEMISTRY				
Paper code: S2MB230421P			Credits: 4	
Hours/week : 4 hours/week				
Category: Core/MDC/SEC/VAC : SEC			SEC	
Theory / Practical / Composite : PRACTICAL			PRACTICAL	
No of Modules : No modules				
<p>Course Overview: Lipid Profile Test: including Estimation of triglycerides, Estimation of serum cholesterol (Total) , Estimation of serum HDL/LDL, Liver Function Test including Estimation of total protein and albumin, globulin, Estimation of aminotransferases/transaminases (SGOT and SGPT), Estimation of serum alkaline phosphatase, Estimation of bilirubin, Estimation of serum amylase Blood Sugar tests:, Estimation of blood glucose, Demonstration of glycosylated haemoglobin, Study of basic ideas on clinical markers of diabetes, insulin resistance (Theory) Kidney and Pancreatic Function test including Estimation of blood urea, Estimation of serum creatinine, Estimation of serum amylase, Estimation of serum calcium Advanced Laboratory Tests including the Study of important cancer markers e.g, PSA, PAP, Alpha-fetoprotein, Bladder Tumor Antigen, CA27.29, CA19-9, CA-125, Chromogranin A, Calcitonin, CEA etc., Study of clinically important hormones, Study of immune markers (inflammatory molecules)</p>				
Course Outcome:				
1. Understand and explain the concept of clinical biochemistry through hands on training				
2. Evaluate the concepts of the about various parameter testing as well as advanced laboratory testing				
3. Remember the techniques for identify the lipid profile, liver function, kidney function tests				
4. Analyse the different serum biometabolite tests as creatinine, bilirubin.				
Prerequisites: <i>Basic knowledge about any prior course</i>				
SYLLABUS				
UNIT/Module	CONTENT	HOURS or NUMBER OF CLASSES	CO Mapping	COGNITIVE LEVEL
1	Lipid Profile Test: • Estimation of triglycerides • Estimation of serum cholesterol (Total) • Estimation of serum HDL/LDL	4	CO1,CO2	K3,K2,K5
2	Liver Function Test: • Estimation of total protein and albumin, globulin • Estimation of aminotransferases/transaminases (SGOT and SGPT) • Estimation of serum alkaline phosphatase •	4	CO1,CO2,CO3	K3,K2,K5,K4

	Estimation of bilirubin • Estimation of serum amylase			
3	Blood Sugar tests: • Estimation of blood glucose • Demonstration of glycosylated haemoglobin • Study of basic ideas on clinical markers of diabetes, insulin resistance (Theory)	4	CO1,CO2	K2,K5
4	Kidney and Pancreatic Function test: • Estimation of blood urea • Estimation of serum creatinine • Estimation of serum amylase • Estimation of serum calcium	4	CO1,CO2,CO4	K3,K2,K5,K4
5	Advanced Laboratory Tests: • Study of important cancer markers e.g, PSA, PAP, Alpha-fetoprotein, Bladder Tumor Antigen, CA27.29, CA19-9, CA-125, Chromogranin A, Calcitonin, CEA etc • Study of clinically important hormones • Study of immune markers (inflammatory molecules) • Demonstration of HIV test	2	CO1,CO2	K2,K5

Text Books

Clinical Biochemistry. Nanda Maheswari. 3rd edition JAYPEE

Clinical Biochemistry and Pharmaceutical Chemistry by Dr Satarupa Thakurta. •

Clinical Biochemistry. Murphy, Srivastava and Deans.

Clinical Biochemistry, an illustrated Color text,by Allan Gaw et al,publisher-Churchill Livingstone..

Suggested readings

1.

2.

3.

Web Resources

1.

2.

3.

4.

Evaluation CA:40 End sem:7 Attendance: 3

Paper Structure for Theory Semester Exam Module :

NA

Course outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive levels
CO1	Understand and explain the concept of clinical biochemistry through hands on training	K2
CO2	Evaluate the concepts of the about various parameter testing as well as advanced laboratory testing	K5
CO3	Remember the techniques for identify the lipid profile, liver function, kidney function tests	K1
CO4	Analyse the different serum biometabolite tests as creatinine, bilirubin.	K4