

COURSE TITLE: BIOCHEMISTRY

STUDY HOURS: 60+20

		Marks	
PAPER:	03	Theory: 40	
TERM:	1st	Practical: 10	
		Time: 2:30 Hrs	

The following bio chemistry contents will be taught briefly

COURSE CONTENTS

Study Hours
(Theory +Practical)
6+2

A	Introduction:	
	A.1 Biochemistry	
	A.2 Importance of Biochemistry	
	A.3 PH	
	A.4 Buffer solutions	
	A.5 Indicator	
B	Carbohydrates:	6+2
	B.1 Definition	
	B.2 Classification.	
	B.3 Clinical significance	
	B.4 Caloric value of carbohydrates	
C	Proteins:	6+2
	C.1 Definition	
	C.2 Classifications	
	C.3 Essential aminacids	
	C.4 Clinical significance.	
	C.5 Caloric value of proteins	
D	Lipids:	6+2
	D.1 Definition	
	D.2 Classification	
	D.3 Fatty Acids. (Types, essential F.Acids)	
	D.4 Clinical significance	
	D.5 Caloric value of fats	
E	Enzymes:	6+2
	E.1 Definition	
	E.2 Classification	
	E.3 Diagnostic role of enzymes	
	E.4 Therapeutic value of enzymes.	
F	Vitamins:	6+2
	F.1 Definition	
	F.2 Classification	
	F.3 Water soluble (B, C)	
	F.4 Fat soluble (A, D, K)	

	F.5	Clinical significance	
	F.6	Deficiency disease of vitamins	
G	Nutrition, food & dietetics:		6+2
	G.1	Nutrients	
	G1.1	Macro Nutrients	
	G1.2	Micro Nutrients	
	G.2	Food	
	G2.1	Food calorie	
	G.3	Main food groups	
	G.4	Milk and their clinical properties	
H	Metabolism:		6+2
	H.1	Definitions	
	H.2	Metabolic rate	
	H.3	Basal Metabolic Rate	
	H.4	Factors affecting BMR	
	H.5	Variations of BMR in diseases	
I	BODY FLUIDS AND MINERALS:		6+2
	I.1	Importance	
	I.2	Body fluid compartments	
	I.3	Extra cellular fluid	
	I.4	Plasma	
	I.5	Interstitial fluid	
	I.6	Intra-cellular fluid	
	I.7	Trans-cellular fluid	
	I.8	Composition of body fluid compartments	
	I.9	Diffusion	
	I.10	Osmosis	
	I.11	Osmotic pressure	
	I.12	Sodium	
	I.13	Potassium	
	I.14	Calcium	
J	ACID BASE BALANCE:		6+2
	J.1	Definition	
	J.2	Regulatory processes	
	J.3	Chemical buffer system	
	J.4	Respiratory regulation	
	J.5	Renal regulation	
	J.6	Acid-base disorders (introduction)	

Recommended book: Essential of Medical Chemistry by Mushtaq Ahmad
 Biochemistry for Para Medical / Nurses by Dr. Khalid

Mehmood

Reference book:

Lippincott, s Illustrated Reviews Biochemistry
Harper's Biochemistry