Mansoura University
Faculty of Medicine

Log Book

Biochemistry Department

2015 - 2016

ختم القسم

إيصال تسليم Log Book

اسم الطالب : .....

الفرقة : .....

رقم الجلوس : .....

تاريخ التسليم : .....

توقيع المستلم : .....

Name: .....

Serial Number: .....

Section Number: .....

Section Day & Time:.....

Teaching Group: .....

Telephone Number: *Home*: .....
Mobile: .....

e-mail Address: .....

Home Address: .....

section Supervisors: .....

2011 /2012

Head of the Department ***Vice Dean for Education &Student Affairs***

Preface

Dear student

Welcome to department of medical biochemistry at the beginning of your 2nd year of medical education, Workers in health science - particularly physician- have two major concern: understanding and maintenance of life and understanding and effective treatment of disease. Biochemistry impacts enormously on both of these fundamental concerns of medicine. Our mission is to enhance your understanding of all the chemical process associated with living cells in both health and disease.

This Log Book was specially provided for you to record all the activities performed during practical classes , it is the formal way for faculty to know and evaluate the student's attitude, achievement and progress and as a document for your attendance. Therefore, overall usage of the book is important to be completed by each student.

Lastly I wish you a fruitful & enjoyable study of medical biochemistry during this year.

Curriculum Contents &Assessment

Intended learning outcomes:

- **Knowledge :**

By the end of the course ,student should be able to

1- the metabolic pathways of carbohydrates , lipids, proteins, nucleotides and their micro-molecules and their interrelation.
2- lllustrate the steps and regulatory mechanisms of these pathways.
3- Point out the related metabolic disorders and their clinical prints on biochemical and molecular basis.
4- Describe micronutrients, their biochemical, clinical and laboratory importance and deficiency manifestations of each.
5- Describe the components of some body fluids; blood ,urine ,Semen , CSF and sweat.
6- Explain different mechanisms of hormonal action.
7- Understand biochemical thermodynamics and biological oxidation process and know its application.
8- Understand how foreign materials be handled at the cellular level.
9- Identify biochemical process in different cellular organelles and their modification.
10- Gain knowledge about different globular protein especially heme and its metabolism.

- **Intellectual Skills ;**

By the end of the course ,student should be able to :

1- Interpret symptoms, signs and biochemical laboratory findings of some metabolic disorders.
2- Interpret urine report outcome.
3- Point out the clinical significance of determination of plasma levels of glucose, total proteins, albumin, creatinine and uric acid and some enzymes.
4- Diagnose the type of abnormality of pathological glucose tolerance curve.
5- Point-out the etiology of metabolic disturbance in a given case study report.

- **Professional and Practical Skills :**

By the end of the course ,student should be able to:

1- Identify the physical and chemical characters of normal urine under different physiological conditions.
2- Perform chemical tests to detect abnormal constituents of urine.
3- Estimate serum levels of glucose, total proteins, albumin, creatinine and uric acid by Calorimetric methods.
4- Assess glucose tolerance by glucose tolerance test.
5- Demonstrate plasma protein separation by electrophoresis

- **General and Transferable Skills :**

By the end of the course ,student should be able to :

1- Catch the spirit of team work and be able to work in group with statistical increase in self directed learning attitude .
2- Manage time effectively and use informational technologies during learning.

Topics:

1- ***Biological oxidation, and Bioenergetics***

2- ***Metabolism of xenobiotics***

3- ***Tricarboxylic acid cycle*** :steps, regulation, and importance.

4- ***Metabolism of carbohydrates***: Dietary carbohydrates, digestion and absorption, pathways of glucose oxidation, glycogen metabolism, gluconeogenesis, special metabolism of fructose, galactose and aminosugars, pathological aspects of carbohydrates metabolism and their clinical importance with special emphasis on diabetes mellitus and biochemistry of insulin and other disorders of carbohydrates metabolism and their clinical importance .

5- ***Metabolism of lipid***: Dietary lipids, digestion and absorption, metabolism of triacylglycerol, fatty acid metabolism, metabolism of: eicosanoids, conjugated lipids, cholesterol, ketone bodies, classification and disorders of plasma lipoproteins. Pathological aspects of lipid metabolism and their clinical implication.

6- ***Metabolism of proteins***: Dietary proteins, digestion and absorption, general aspect of protein metabolism, metabolism of ammonia, metabolism of individual amino acids with related errors of metabolism, pathological aspects of protein and amino acid metabolism and their clinical implications.

7- ***metabolism of Heme***: Synthesis of porphyrins and heme, catabolism, hyperbilirubinemia and porphyrias.

8- ***metabolism of purines and pyrimidines***:Digestion and absorption, of nucleic acids, biosynthesis and catabolism of purines and pyrimidines with the related errors of metabolism (including gout) and synthetic base analogues and their clinical use.

9- ***Metabolic integration***: Metabolic changes, adaptation and regulation during starve-feed cycle, aerobic and anaerobic exercises, diabetes mellitus pregnancy and lactation. Special metabolism of ethyl alcohol and its pathological sequelae.

10- ***Minerals***: Major elements (Ca-P-Mg-Na-K-Cl-S)and trace elements (Fe-Cu-Zn-Mn-Co-Cr-I)

11- ***Mechanism of hormonal action***

12-***Body fluids***: Blood, urine, CSF, and sweat.

Practical classes:

1- Urine report.

2- ***Colorimetric measurement of*** : plasma glucose, total proteins, albumin, cholesterol ,creatinine and uric acid.

3- ***Variations in glucose tolerance curve:*** under different clinical condition **.**

4- ***Case report studies*** applying the out-comes of previous parameters.

5- ***Haemolysis and haemoglobin derivatives***

6- ***Separation of plasma proteins by electrophoresis.***

Self learning activity:

2nd year medical students will be divided into 10 sections. Every section will be divided into 10 subgroups. Each one will be responsible for preparation and presentation of an essay in one of preset topic on recent issues related to applied Biochemistry and finally evaluated by staff members of the department

Teaching & time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	3 times/ week; one hour each between 8.00 a.m and 2.00 p.m according to the current time table	3 x 25 weeks	75
Practical	2 hour every week according to the current time table	2 x 24 weeks	48
S. L. activity	1 hour every 2 weeks according to the current time table	1 x 12 weeks	12
Total			135

Student Assessment:

Term Examinations

	Marks
• *November*	5
• *January*	20

Final Examination

• *written*	75
• *Oral Examination*	15
• *Practical Examination*	25

Other types of assessment

• *Student logbook*	5
• *Student presentation*	5

Total : 150 marks

- ***The minimum passing score is 90 marks provided at least 30 marks are obtained in the final written examination.***

- ***Passing grades are :***

Excellent	≥ 85%,
Very good	75-<85%,
Good	65-<75%
Fair	60 -< 65%

- ***The minimum acceptable practical (and tutorial) attendance is 75%; in order to attend for the final practical examination.***

- ***The practical marks(20 marks) are divided as the following:-***
  a- Ten marks for practical lab exam
  b- Ten marks: practical sheet exam .

Logbook Activities

A. Practical lessons

B. Clinical cases

C. Virtual Lab

D. Activities of self learning

- ***Student presentation preparation***
- ***Essay writing***

E. Other Activities in the field of Medical Biochemistry:

- ***Seminar attendance***
- ***Workshops and training courses attendance***
- ***Conferences attendance***
- ***Others***

. Quizzes

A. Practical Lessons

Attendance of Practical lessons:

week	Date	Activity		Signature
		Title	Result	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

week	Date	Activity		Signature
		Title	Result	
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

B. Clinical Cases

Case No.	Date	Answer	Signature
1			
2			
3			
4			
5			

Case No.	Date	Answer	Signature
6			
7			
8			
9			
10			

D. Self learning activities

1- Student Presentation Preparation

Title: ……

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Items:

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Summary:

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Presentation date: ……

Supervisors:

Name				
Signature:				

Evaluation:

2- Essay writing

Title: ……

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Students sharing:

1-..... 2- .....

3-..... 4- .....

5-..... 6- .....

Abstract of the essay:

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Presentation date: .....

Supervisors:

Name				
Signature:				

Evaluation:

C. Virtual Lab

Date	Subject	Supervisor

E. Other Activities in the field of Medical Biochemistry:

1- Seminars attendance:

Date	Subject	Supervisor

2-Workshops and training courses attendance:

Date	Subject	Supervisor

3-Conferences attendance:

Date	Conference	Supervisor

4-Others:

Date	Activity	Supervisor

F.Quizzes

Quizzes Answers

Quiz No	*Date*	*Answer Mark*	*Supervisor*

Attendance Report

A. Attendance Report

(Filled by the department)

- *Number of sections attended:*
- *Number of sections missed:*
- *Total number of sections:*
- *Percentage of attendance (**Number of sections attended/ total number):***

Signature of attendance employee ***Signature of principle supervisor***

B.Final Attendance Report

(Filled by Supervisors)

1- Attendance			
□ **Above 85%**	□ **Above 75%**	□ **Below 75%**	
2- Commitment Level			
□ **Excellent**	□ **Satisfactory**	□ **Poor**	
3- Mid- term Evaluation:			
4- Presentation Evaluation			
□ **Excellent**	□ **Satisfactory**	□ **Poor**	
5- Essay Evaluation			
□ **Excellent**	□ **Satisfactory**	□ **Poor**	
6- General Evaluation			
□ **Excellent**	□ **Good**	□ **Average**	□ **Poor**

Written Conclusive Opinion (Optional)

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