



### 3- Contents

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Practical</b>
Biological Oxidations	1	1	-
Oxidative Phosphorelation	10	2	8
High energy bonds	9	1	8
Absorption of carbohydrates	10	2	8
Aerobic oxidation of carbohydrates	1	1	-
Anaerobic oxidation of carbohydrates	1	1	-
Glycogenolysis and Glycogenesis	10	2	8
Gluconeogenesis	8	2	6
Blood sugar level	8	2	6
Glucosuria	2	2	-
Absorption of lipids	2	2	-
Transport of lipids and role of lipoproteins	6	2	4
Oxidation of Fatty acids	2	2	-
Biosynthesis of Fatty acids	10	2	8
Depot fat biosynthesis	6	2	4
Obesity	2	2	-
Fatty liver	2	2	-
<b>Total</b>	<b>90</b>	<b>30</b>	<b>60</b>

### 4- Teaching and Learning Methods

Lectures and lab sessions in which the following facilities are used:

- 4.1- Blackboards and chocks
- 4.2- Whiteboards and markers
- 4.3- Over head projector transparent sheets
- 4.4- Demonstration of chemical reactions.

### 5- Student Assessment Methods

- 5.1 Practical exam to assess professional and practical skills.
- 5.2 Oral exam to assess knowledge, transferable and intellectual skills.
- 5.3 Written exam to assess knowledge, understanding and intellectual skills.
- 5.4 Quiz and semester work to assess understanding, practical and transferable skills.

### Assessment Schedule

Assessment 1	Quiz Examination	Week	6
Assessment 2	Written Examination	Week	15
Assessment 3	Oral Examination.	Week.	15
Assessment 4	Practical Examination	Week	13
Assessment 5	Semester Work	Week	13

## Weighting of Assessments

5 %	Quiz Examination
50 %	Written Examination
20 %	Oral Examination.
20 %	Practical Examination
5 %	Semester Work
100%	Total

## 6- List of References

### 6.1- Course Notes

A concise guide of Metabolism

### 6.2- Essential Books (Text Books)

Devlin, T.M.(1993): Textbook of Biochemistry: With Clinical Correlation. 3rd ed. (4th printing). Wiley-Liss: A John Wiley & Sons, Inc., Publication: New York,

Murray, R.K.; Granner, D.K.; Mayes, P.A. and Rodwell, V.W. (1996): Harper's of Biochemistry. 24th ed. Appleton & Lange. Norwalk, Connecticut, Loss Atlos, California.

Zilva, M.; Charles, F. and Myne, N. (1993): Clinical Chemistry in Diagnosis and Treatment. 6th ed. Saunders, Philadelphia, U.S.A.

### 6.3- Recommended Books

Bakry, M.A. (1995): Review of Medical Biochemistry. 3rd ed.

Khalifa, A. (1997): Biochemistry for Medical Students. Fac. of Med., Ain Shams Univ.

Salah, E. (1993): Medical Biochemistry. 2nd ed. Fac. of Med., Ain Shams Univ.

Zahran, M.A. (1994): Lectures on Medical Biochemistry. Alexandria Univ.

### 6.4- Periodicals, Web Sites, ... etc

Journal of Biochemistry

American Journal of Biochemical Association.

American Journal of Veterinary Research.

## 7- Facilities Required for Teaching and Learning

Biochemistry laboratory.

Routine Biochemical kit.

Faculty central laboratory .

Computer and internet lab.

Course Coordinator:                      Prof Dr. Hussien Abd Al-Maksoud

Head of Department:                      Prof Dr. Hussien Abd Al-Maksoud

Date



### 3- Contents

Topic	No. of hours	Lecture	Practical
Blood nitrogen balance	1	1	-
Essential and nonessential amino acids	10	2	8
Catabolism of amino acids	7	1	6
Urea formation	10	2	8
Protein metabolism and kidney functions	2	2	-
Metabolic disturbances of amino acids	2	2	-
Protein biosynthesis	10	2	8
Formation and metabolism of Purines	7	1	6
Formation and metabolism of Pyrimidins	5	1	4
Classification of hormones	2	2	-
Metabolism of steroid hormones	2	2	-
Metabolism of proteic hormones	8	2	6
Role of hormones in metabolism	2	2	-
Chemical compositions of urine	8	2	6
Abnormal urine	6	2	4
Chemistry of milk	6	2	4
Chemistry of blood, CSF, Lymph, Synovial, Pleural, pericardial and s	2	2	-
<b>Total</b>	<b>90</b>	<b>30</b>	<b>60</b>

### 4- Teaching and Learning Methods

Lectures and lab sessions in which one or more of the following facilities are used:

- 4.1- Blackboards and chocks
- 4.2- Whiteboards and markers
- 4.3- Over head projector transparent sheets
- 4.4- Demonstration of chemical reactions .

### 5- Student Assessment Methods

- 5.1 Practical exam to assess professional and practical skills.
- 5.2 Oral exam to assess knowledge and information and intellectual skills.
- 5.3 Written exam to assess knowledge, information and intellectual skills.
- 5.4 Quiz and semester work (demonstration for some tests) to assess understanding, practical and transferable skills.

### Assessment Schedule

Assessment 1	Practical Examination	Week	13
Assessment 2	Oral Examination.	Week.	15
Assessment 3	Written Examination	Week	15
Assessment 4	Quiz Examination	Week	6
Assessment 5	Semester Work	Week	13

## Weighting of Assessments

50 %	Written Examination	
20 %	Oral Examination.	
20 %	Practical Examination	
5 %	Semester Work	
5 %	Quiz Examination	
100%		Total

## 6- List of References

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*Murray, R.K.; Granner, D.K.; Mayes, P.A. and Rodwell, V.W. (1996):* Harper's of Biochemistry. 24th ed. Appleton & Lange. Norwalk, Connecticut, Loss Atlos, California.

*Zilva, M.; Charles, F. and Myne, N. (1993):* Clinical Chemistry in Diagnosis and Treatment. 6th ed. Saunders, Philadelphia, U.S.A.

### 6.3- Recommended Books

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*Khalifa, A. (1997):* Biochemistry for Medical Students. Fac. of Med., Ain Shams Univ.

*Salah, E. (1993):* Medical Biochemistry. 2nd ed. Fac. of Med., Ain Shams Univ.

*Zahrn, M.A. (1994):* Lectures on Medical Biochemistry. Alexandria Univ.

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American Journal of Veterinary Research.

## 7- Facilities Required for Teaching and Learning

Biochemistry laboratory.	○
Routine Biochemical kit.	○
The Faculty central lab.	○
Computer and internet lab.	○

**Course Coordinator: Prof Dr. Hussien Abd Al-Maksoud**

**Head of Department: Prof Dr. Hussien Abd Al-Maksoud**

**Date:**