

3- Contents

Topic	No. of hours	Lecture	Practical
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	-
Total	90	30	60

4- content-ILOs matrix

	Content	ILOs			
		Knowledge and understanding	Intellectual	Professional and practical	General and transferable
1.	Biological Oxidations	a4,	b1, b2,b3	c1, c2 , c3	d1, d2,
2.	Oxidative Phosphorelation	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3,d4,
3.	High energy bonds	a1, a2, a3,	b1, b2,b3	c1, c2 , c3	d1, d2, d3,d4,
4.	Absorption of carbohydrates	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3,d4
5.	Aerobic oxidation of carbohydrates	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4

6.	Anaerobic oxidation of carbonyl	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
7.	Glycogenolysis and Glycogenesis	a1, a2, a3,	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4,
8.	Gluconeogenesis	a1, a2, a3,	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
9.	Blood sugar level	a1, a2, a3,	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
10.	Glucosuria	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
11.	Absorption of lipids	a1, a2, a3,	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
12.	Transport of lipids and role of lipoproteins	a1, a6	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4,
13.	Oxidation of Fatty acids	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4,
14.	Biosynthesis of Fatty acids	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4,
15.	Depot fat biosynthesis	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
16.	Obesity	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4
17.	Fatty liver	a1, a2, a3	b1, b2,b3	c1, c2 , c3	d1, d2, d3, d4,

5- Assessment-ILOS matrix

Assessment	ILOs			
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable
Mid – Term exam	a2, a3, a4	b1, b2		
Practical exam	a1	b1, b2,b3,	c1, c2 , c3	
Oral exam	a1, a2, a3	b1, b2,b3		
Final term exam	a2, a3, a4,	b1, b2,b3,	c1, c2 , c3	
Assignments and research	a4	b1		d1, d2, d3,d4,

6– 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

7- List of References

7.1- Course Notes

A concise guid of Metabolism

7.2- 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., Puplication: 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, Connexitcut, Loss Atlos, California.

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

7.3- 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.

7.4- Periodicals, Web Sites, ... etc

Journal of Biochemistry

American Journal of Biochemical Association.

American Journal of Veterinary Research.

8- 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**

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