Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

COURSE SPECIFICATION

Biochemistry

4012072-3

Revised November 2015

Course Specification

Institution	Umm Al-Qura University
College/Department	Faculty of Applied Science/Biology Department

A Course Identification and General Information

1. Course title and code:	Biochemistry (4012072)
2. Credit hours	Lectures 3 hrs/week
3. Program(s) in which the course is offered.	Bachelor degree in Biology Program
4. Name of faculty member responsible for the course	Dr. Shady El-Shhawy
5. Level/year at which this course is offered	Third level/Second year students
6. Pre-requisites for this course (if any)	Organic Chemistry
7. Co-requisites for this course (if any)	None
8. Location if not on main campus	

B Objectives

1. Summary of the main learning outcomes for students enrolled in the course.

By the end of this course the students are expected to be able to:

1. Understand the molecular and cellular biochemistry.
2. Develop understanding of the biosynthesis and biochemical role of the specialized tissues of the body.
3. Develop the student's awareness of the biochemical bases of tissue associated diseases.

2. Briefly describe any plans for developing and improving the course that are being implemented.

- Course development plan:
  1. Knowledge present in the prescribed textbooks and reference books has been supplemented with latest information from reliable scientific web sites.
  2. Homework assignments on the selected topics would encourage the students to learn independently and promote active learning.
  3. Biosynthetic pathways can be best learnt by Flow diagrams and computer animation which will be used to enhance active learning.
  4. Powerpoint programs can be developed for better explanation of biosynthesis and biochemical role of the tissues.

C. Course Description

1 Topics to be Covered

Topic	No of Weeks	Contact hours
Introduction to biochemistry: • What is the biochemistry and what study. • Uses of biochemistry. • Changes in energy and electron transfer. • Oxidation and reduction reactions. • Metabolism: definition and its mechanism.	2	6

I) Carbohydrates metabolism: • Digestion and absorption of carbohydrates. • Utilization of carbohydrates: 1. Glycogen metabolism (glycogenesis and glycolysis). 2. Oxidation of glucose: A) Glycolysis; Steps of reactions- calculate the energy yield- control of glycolysis.	2	6
B) Conversion of pyruvate to acetyl-CoA C) citric acid cycle CAC : - Steps of reactions. - Energy calculation from krebs cycle. - Control of Krebs cycle.	1	3
• The importance of Krebs cycle. • The role of oxygen in the Krebs cycle. • Pasteur effect. • Cori cycle	1	3
- Definition and importance of gluconeogenesis. - Definition and importance of pentose phosphate pathway. - Definition and importance of secondary metabolic pathway of glucose.	1	3
II) Lipid metabolism: • Digestion and absorption of fat. • Use of triglyceride in the blood and tissues, fat storage. • Oxidation of fatty acids: - Steps of B-Oxidation and its energy product.	1	3
• Fatty acid biosynthesis: microsomal, mitochondrial synthesis and extra-mitochondroal De Novo synthesis of fatty acids.	1	3
• Cholesterol: structure, importance and source Synthesis and metabolic fate of cholesterol.	1	3
III) Protein metabolism: Digestion and absorption Metabolic utilization of amino acids Source of ammonia, Transamination, Oxidative deamination, Transdeamination, Decarboxylation.	1	3
IV- Nucleic acids metabolism: structure of DNA and RNA and their differences Cellular component for protein synthesis	1	3

2 Course components (total contact hours per semester):			
Lecture:	**Tutorial:**	**Practical/Fieldwork/Internship:**	**Other:**
36 hrs/semester 3 hrs/week	24 hrs/semester 2 hrs/week		

3. Additional private study/learning hours expected for students per week. (This should be an average :for the semester not a specific requirement in each week)

2 hour weekly for the homework

4. **Development of Learning Outcomes in Domains of Learning**

For each of the domains of learning shown below indicate:

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;
- The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

a. Knowledge

(i) Description of the knowledge to be acquired

Student should understand:

1. To enumerate the different reaction of carbohydrates, fats and protein metabolism.
2. To remember the different types of amino acids.
3. To distinguish the difference between aerobic and anaerobic oxidation.
4. To recognize the anabolism and catabolism and nitrogen balance.
5. To know the reactions, importance and regulation of carbohydrate, proteins and lipid metabolism.

(ii) Teaching strategies to be used to develop that knowledge

1. Lectures and student research papers.
2. The using of visual display such as PowerPoint.
3. Homework assignments.
4. Discussions (connecting what they learn in the class and applying this information in laboratory).
5. Handout of lecture notes for each topic.

(iii) Methods of assessment of knowledge acquired

1. Homework and Quizzes
6. Midterm and final written exams.
7. Evaluation of reports
8. Group discussions and participation in the lecture.
9. Course work reports

b. Cognitive Skills

(i) Cognitive skills to be developed

By the end of this course, the students should be able to:

1. Understand the importance of carbohydrates, proteins and lipid function and its role in metabolism.
2. Draw the metabolic pathways of carbohydrates, proteins and lipid.
3. To recognize the difference between energy production from lipid and carbohydrate.

(ii) Teaching strategies to be used to develop these cognitive skills

1. Interactive lectures.
2. Seminars.
3. Participation of students in discussions during the lecture.
4. Trying to explain the issues in regular and motivated manner.

(iii) Methods of assessment of students cognitive skills

1. Continuous assessment.
2. Course work reports
3. Evaluation of the topics prepared by students according to the content, arrangement, and covering of the topic.
4. Midterm and final exams
5. Checking the homework assignments

c. Interpersonal Skills and Responsibility

(i) Description of the interpersonal skills and capacity to carry responsibility to be developed

By the end of this course, the students should be able to:

1. The ability to form groups and the distribution of tasks. Ability to work independently to complete the assignment given.
2. Perform self-directed learning.
3. The ability to exchange ideas and accept the opinions of others and perform group discussions.
4. Skill presentation in front of others.

5. Ability to clearly express an opinion and accept the opinions of others.

(ii) Teaching strategies to be used to develop these skills and abilities

1. Hold brain-storming during lectures.
2. Deep discussion with the students by asking some diverse and exciting oral questions during the lecture.
3. Using powerpoint presentation and gland illustration. Writing group reports
4. Solving problems in groups during tutorial
5. Checking the homework assignments in groups during discussion
6. Give students the opportunity to discuss any items with the faculty member.
7. To raise the spirit of cooperation among students.
8. Sharing duties (interactive workshop / joint presentation / report / prepare working papers / bring duties ... etc).
9. Dividing students into groups to cooperate with each other during the experiments.

(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility

1. Oral exams.
2. Evaluation of student essays assignments and search work.
3. Request a share presentation in front of the students through discussions.
4. Students' attendance is recorded during lectures.
5. Assessment of the student reports.
6. Grading homework assignments.

d. Communication, Information Technology and Numerical Skills

(i) Description of the skills to be developed in this domain.

1. Use information and communication technology.
2. Use IT and communication technology in gathering and interpreting information and ideas.
3. The ability to use e-mail to communicate with the instructor and other students.
4. Encourage students to use internet for searching certain electronic journals regarding topics of the course.
5. Scientific writing.
6. Use his/her observations to solve problems.
7. The ability of the students to access useful sites on the Internet, in order to search for specific data and information.
8. Able to calculate and discuss the facts and logical propose methods to solve the difficulties.

(ii) Teaching strategies to be used to develop these skills

1. Oral presentations.
2. Internet search assignments and essays.
3. Incorporating the use and utilization of computer in the course requirements.
4. Request the students to send their home works and research via e-mail.
5. Asking the students to exploit some useful sites in the internet associated with the topics of decision for further learning.

(iii) Methods of assessment of students numerical and communication skills

1. Evaluation of student essays and assignments.
2. Marks given to for good reports and presentations
3. Evaluating during the discussion in lecture and reports. Part of the grad is put for student's written participation.

e. Psychomotor Skills (if applicable)

(i) Description of the psychomotor skills to be developed and the level of performance required

Not applicable

(ii) Teaching strategies to be used to develop these skills

Not applicable

(iii) Methods of assessment of students psychomotor skills

Not applicable

5. Schedule of Assessment Tasks for Students During the Semester

Assessment	Assessment task (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	**Attendance & Activities**	Weekly	10%
2	**Quizzes**	Every 2 weeks	30%
3	Mid-term Exam	Week 5	10%
4	Final Exam	As scheduled by the registrar	50%

D. Student Support

1. Arrangements for availability of faculty for individual student consultations and academic advice. (include amount of time faculty are available each week) **10. Two hours office per week**

E Learning Resources

1. Required Text(s): No textbook is designated. Course materials will be based on a combination of lecture notes, handouts, journal articles and various references. Following is a list of suggested (yet not required) references that you would further read as class topic(s) evolves. Recommended Books: Principles of Biochemistry (Part 2): Prof. Dr. Mohammed Abdullah al-Habashi - Al Dar Al Arabia Publishing and Distribution 2002. (Arabic Version). Foundations of Biochemistry (Part 1): Dr. .Abd El-Moneim Mohammed Al-AAser 1996. (Arabic Version)
2. Essential References Principles of Biochemistry (Second Edition) A. L. Lehninger; D. L. Nelson and M. M. Cox (1993). (English Version)
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)
4-.Electronic Materials, Web Sites etc http://www.coursera.org http://www.edx.org
5- Other learning material such as computer-based programs/CD, professional standards/regulations - Microsoft office package. - Multi- media associated with the text book and the relevant websites

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (ie number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Lecture rooms, laboratories, etc.) • Lecture room suitable for 35 students. • Lecture room equipped with a black board and Data show. • Optically and electronically facilitated lecture rooms (smart rooms).

2. Computing resources • Computers or internet connection. • Smart Board • Data show is required in every room
3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list) Not applicable

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching • Course evaluation by student • Continuous preparation of exercise and examples of questions to measure the level of success of the students in the course, and to estimate the efficiency of the used teaching system.
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department • Peer consultation on teaching • Continuous internal and external revision for evaluation and development. • Estimating the achievement of the students and professors through the questionnaires. • Evaluation for the continuous quizzes and final exam by the students by using surveys.
3 Processes for Improvement of Teaching • Undergraduate Committee will review deficiencies based on the student evaluation, faculty input, course file, and program assessment. • Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of properties and the use of structural materials. • Organize workshop on effective teaching methods to enable instructors to improve their teaching skills. • Teaching method will focus on students' learning and on course learning outcomes.
4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent faculty member of a sample of student work, periodic exchange and remarking of a sample of assignments with a faculty member in another institution) • Undergraduate Committee will review samples of student work in this course to check on the standard of grades and achievements. • A faculty member from a reputable university will evaluate the course material and the students' work to compare the standard of grades and achievements with those at his university. • Periodic exchange and remarking of tests with staff at another institution.
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • Continuous evaluation of the students during the term • The course material and learning outcomes are periodically reviewed and the changes to be taken are approved in the departmental and higher councils.

- The head of department and faculty take the responsibility of implementing the proposed change.
- Reviewing the course report, specification and its development periodically by the study plans commission and external professors.
- Schedule Workshops for stuff members. - Modernize the source of learning for the course.
- Statistical analysis of the results of the students survey and exploit them in the development, measuring and evaluation.

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T5. COURSE REPORT (CR)

A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.

Course Report

For guidance on the completion of this template refer to the NCAAA handbooks.

Institution: **Umm Al-Qura University.**	Date of CR: **Second Term 382.**
College/ Department: **Faculty of Applied Science, Biology Department.**	

A Course Identification and General Information

1. Course title: **Biochemistry.**	Code : **4012312-3.** Section: **(1)**
2. Name of course instructor: **Prof. Shady M. ElShehawy.**	Location: **Al-Abedia campus.**
3. Year and semester to which this report applies. **Second semester, academic year 1438/1439H (382).**	
4. Number of students starting the course? **46**	Students completing the course? **46**

5. Course components (actual total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	**32**	-	-	**48**	-	**80**
Credit	**32**	-	-	**16**	-	**48**

B- Course Delivery

1. Coverage of Planned Program

Topics Covered	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
Introduction of Biochemistry (Importance and targets)	**5**	**5**	
Water (Composition – importance – properties)	**5**	**5**	
Carbohydrates 1	**5**	**5**	
Carbohydrates 2	**5**	**5**	
Carbohydrates metabolism	**10**	**10**	
Midterm Exam	**5**	**5**	
Proteins 1	**5**	**5**	
Proteins 2	**5**	**5**	
Proteins 3	**5**	**5**	
Proteins metabolism and Urea formation	**5**	**5**	
Lipids 1	**5**	**5**	
Lipids 2	**5**	**5**	
Lipids metabolism	**5**	**5**	

Vitamins	**5**	**5**	
Review	**5**	**5**	
	80	**80**	

2. Consequences of Non Coverage of Topics
For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.

Topics (if any) not Fully Covered	Effected Learning Outcomes	Possible Compensating Action
There is no.	**There is no.**	**There is no.**

3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment for each LO	Summary analysis of assessment results for each LO
1	**Knowledge**	**Short discussions. Short essay questions. Term activities. Final and midterm exam.**	
2	**Cognitive Skills**	**Short discussions. Short essay questions. Term activities. Final and midterm exam.**	
3	**Interpersonal Skills and Responsibility**	**Periodical exams.**	
4	**Numerical and Communication Skills**	**Oral presentation. Assessment of presentations. Term activities.**	
5	**Psychomotor Skills**	**Oral exam.**	

Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

There is no.

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework).

List Teaching Methods set out in Course Specification	Were They Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
Lectures Home works		√	

Oral discussion		√	
Periodical reports **Home works** **Grouping works**		√	
Periodical reports **Home works**		√	
Practical work in Lab		√	

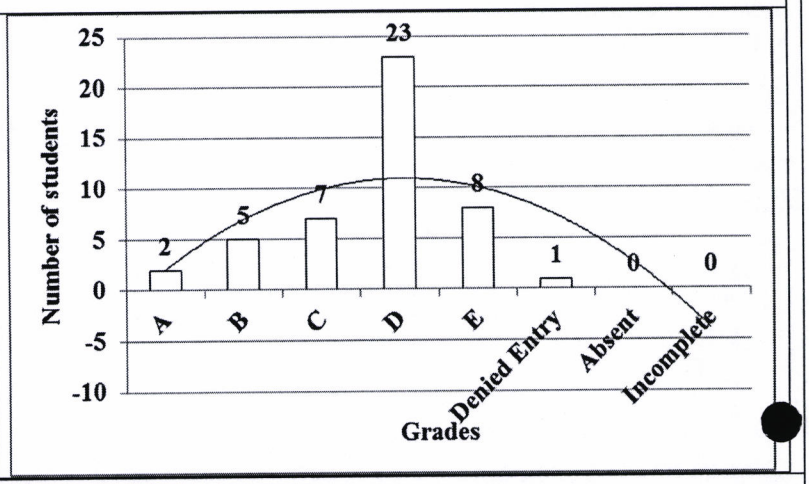
Note: In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.

C. Results

1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage
A	2	4.35
B	5	10.87
C	7	15.22
D	23	50.00
F	8	17.39
Denied Entry	1	2.17
Absent	0	0.00
Incomplete	0	0.00
Pass	37	80.44
Fail	8	17.39
Withdrawn	0	0.00

Analysis of Distribution of Grades



2. Analyze special factors (if any) affecting the results

There is no.

3. Variations from planned student assessment processes (if any) (see Course Specifications).

There is no.

a. Variations (if any) from planned assessment schedule (see Course Specifications)

Variation	Reason
There is no.	**There is no.**

b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specifications)

Variation	Reason
There is no.	**There is no.**

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
There is no.	**There is no.**

D Resources and Facilities

1. Difficulties in access to resources or facilities (if any) **There is no.**	2. Consequences of any difficulties experienced for student learning in the course. **There is no.**

E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any) **There is no.**	2. Consequences of any difficulties experienced for student learning in the course. **There is no.**

F Course Evaluation

1 Student evaluation of the course (Attach summary of survey results) **There is no.**
a. List the most important recommendations for improvement and strengths: **There is no.**
b. Response of instructor or course team to this evaluation: **There is no.**
2. Other Evaluation (eg. by head of department, peer observations, accreditation review, other stakeholders) **There is no.**
a. List the most important recommendations for improvement and strengths: **There is no.**
b. Response of instructor or course team to this evaluation: **There is no.**

G Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Action Results	Action Analysis
a. **There is no.**	**There is no.**	**There is no.**	**There is no.**

2. List what other actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation). **There is no.**

3. Action Plan for Next Semester/Year				
Actions Recommended for Further Improvement	Intended Action Points (should be measurable)	Start Date	Completion Date	Person Responsible
a. **Development and update the course topics and represented the notes in English language.**	**Development and update the course topics and represented the notes in English language.**	**Second semester (382)**	**First semester (391)**	**Course Instructor**
b. **Update the practical lessons of biochemistry and prepare the chemicals and glasses to carry out most of experiments.**	**Update the practical lessons of biochemistry and prepare the chemicals and glasses to carry out most of experiments.**	**First semester (391)**	**Second semester (392)**	**Course Instructor and technicians**

Name of Course Instructor: **Prof. Shady M. ElShehawy.**

Signature: Shady ElShehawy Date Report Completed: **27/08/1439H.**

Program Coordinator: _____

Signature: _____ Date Received: _____

المملكة العربية السعودية
وزارة التعليم العالي
جامعة أم القرى
كلية العلوم التطبيقية
قسم الأحياء

الفصل الدراسي الثاني
العام الجامعي ١٤٣٨/١٤٣٩هـ
الخميس الموافق ١٤٣٩/٨/٢٤هـ - الفترة الرابعة
إسم الطالب: .....
الرقم الجامعي: 436027861

35/40

الاختبار النظري النهائي لمقرر
الكيمياء الحيوية ٣-٤٠١٢٣١٢

المطلوب الإجابة عن جميع الأسئلة التالية: 10

- السؤال الأول: (١٠درجات): أذكر فقط في صورة نقاط:

١- وظائف الليبيدات.
٢- مصير البيروفيت الناتج عن عملية التحلل الجليكولي.
٣- أنواع المستويات التركيبية المختلفة للبروتين.
٤- الخصائص الكيميائية للدهون.

- السؤال الثاني: (١٠درجات): أكتب نبذة مختصرة عن كلاً من: 9

١- قطبية الماء Water Polarity.
٢- سكر الريبوز Mannose Sugar.
٣- الأحماض الأمينية الغير قطبية Hydrophobic Amino Acids.
٤- الكوليسترول Cholesterol.

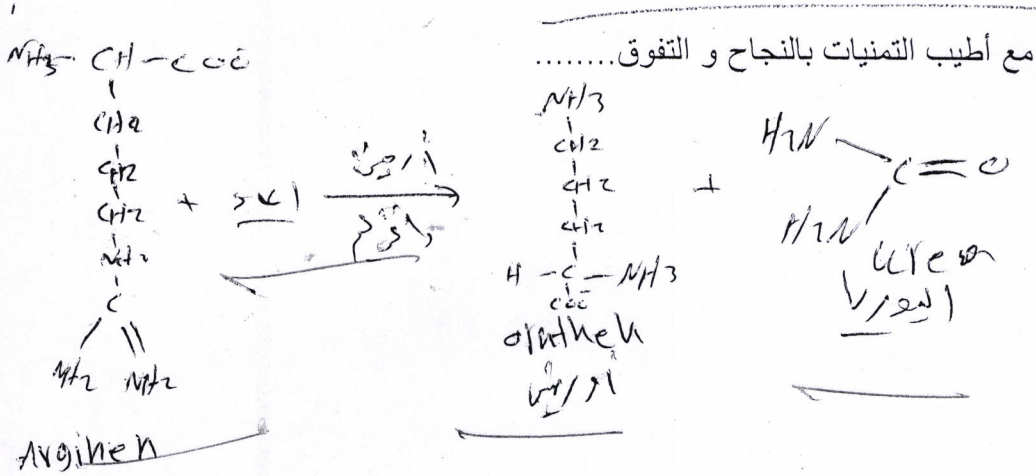
- السؤال الثالث: (١٠درجات): 8

١- قارن في جدول بين كلاً من الزيوت و الدهون؟
٢- أكتب التركيب الكيميائي لحمض الأوليك $C_{18:1}$؟
٣- أكتب التركيب الكيميائي لحمض أميني أروماتي حلقي؟
٤- بماذا تفسر إرتفاع القيمة الغذائية للبروتين الحيواني عن البروتين النباتي؟

- السؤال الرابع: (١٠درجات): وضح بالرسم فقط كلاً من: 8

١- التشكل الحلقي لسكر الفركتوز Fructose Ring Formation.
٢- عدد جزيئات ATP الناتجة من أكسدة و تمثيل جزئ واحد من الجلوكوز.
٣- مسارات الأحماض الأمينية الموجودة بالغذاء داخل الكائن الحي.
٤- المعادلة الرئيسية لتكوين اليوريا Urea Formation.

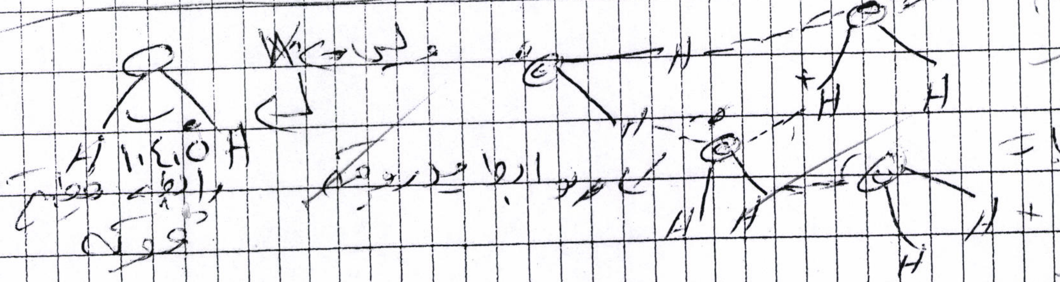
مع أطيب التمنيات بالنجاح و التفوق.....



④ تتفاعل الأحماض الأمينية التي تحتوي على رابطة مزدوجة مع الهالوجينات في حال وجود مركب عضوي

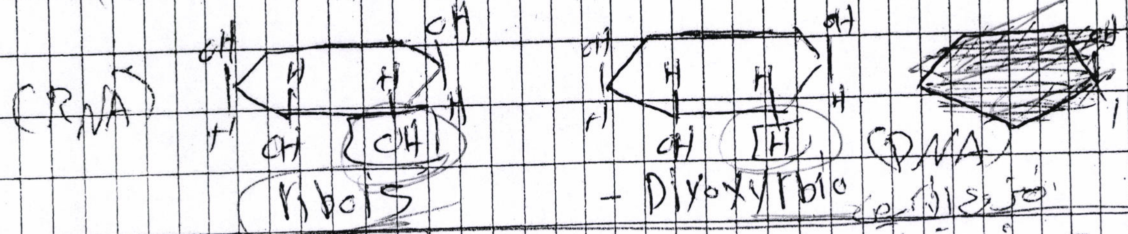
٤ تستطيع الأحماض الأمينية التي تحتوي على رابطة مزدوجة من خلال إضافة الهيدروجين ويسمى هذا التفاعل Dihydrogination .

⑤ تتأكسد الأحماض الدهنية غير المشبعة عند تعرضها للضوء أو الماء أو ... تصبح كريهة

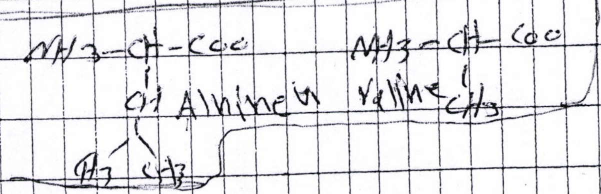


١- قطبية الماء
٢- الحرارة النوعية
٣- ...
٤- ...

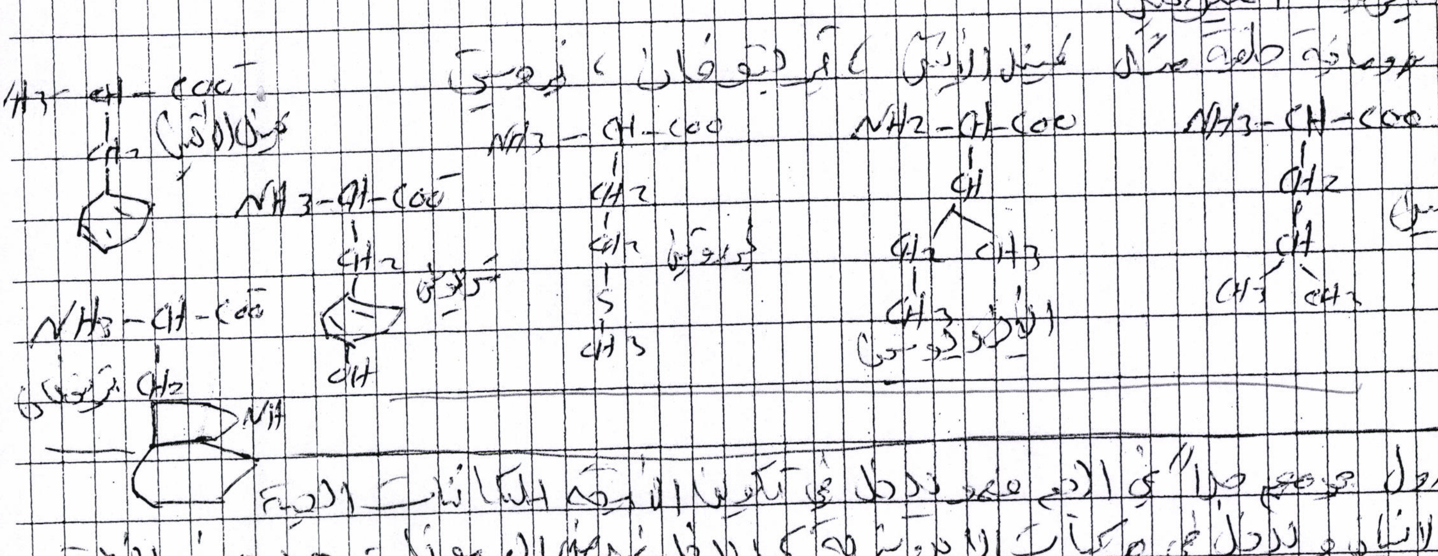
سكر الرايبوز يدخل في تركيب المادة الوراثية مثل DNA و RNA



الأحماض الأمينية اللاقطبية



١- سلاسل ... مثل الألنين والفالين
٢- ذات سلاسل متفرعة مثل الليوسين والأيزوليوسين
٣- كبريتية الميثيونين
٤- أروماتية حلقية مثل الفينيل ألانين، التربتوفان، البرولين



الكوليسترول من أهم الدهون التي تدخل في تكوين الأغشية الخلوية في جسم الإنسان ويدخل في مركبات الاسترويدات كالهرمونات ويوجد في الأغذية الحيوانية والبيض والكبد ... (LDL) ... (HDL)

س١/ وظائف الدهون

١- تعتبر مصدر من مصادر الطاقة للكائنات الحية.

٢- تدخل في بناء أغشية خلايا الكائنات الحية.

٣- تشكل طبقة عازلة لحماية لبعض أعضاء الجسم.

٤- تحتوي على بعض الأحماض الدهنية المهمة في العمليات الفسيولوجية والتي لا يستطيع الجسم أن يصنعها.

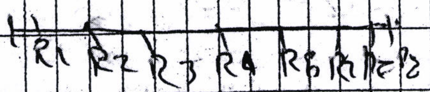
س٢/ مصير البيروفيت الناتج من عملية التحلل الجليكولي

في الظروف الهوائية فإنه يدخل في تكوين أستيل كو (A) (CoA)

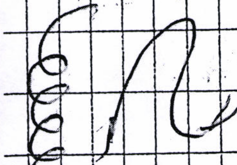
أما في الظروف اللاهوائية فإنه يتحول له صورة حمض اللاكتيك أو الكحول

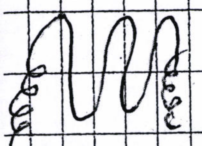
س٣/ أنواع مستويات التراكيب الفراغية للبروتينات

١- سلسلة ببتيدية مستوى (١)



٢- بيتا بليتد شيت أو اللولب كويل أو ألفا هلكس مستوى (٢)



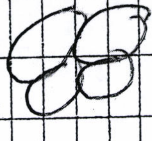


٣- التركيب الثالث للبروتين وهو انثناء جزيئين من تراكيب الثانوية للبروتين وهو ما يعطي الشكل الكروي هلوبيولين مستوى (٣)

ويحدد شكل البروتين وتحدد وظائفه.

٤- تركيب معقد ويتكون من ارتباط بين أكثر من البروتينات

ويطلق عليه الوحدات البروتينية مستوى (٤)



س٤/ الخواص الكيميائية للدهون

١- تتفاعل مجموعة الهيدروكسيل في الأحماض الدهنية مع الكحولات لتعطي الإسترات أساس الجليسريدات

٢- تتفاعل الأحماض الدهنية مع القلويات وتنتج أملاح مثل الصابون (صابون)

المملكة العربية السعودية
وزارة التعليم العالي
جامعة أم القرى
كلية العلوم التطبيقية
قسم الأحياء

الفصل الدراسي الثاني
العام الجامعي ١٤٣٨/١٤٣٩هـ
الخميس الموافق ١٤٣٩/٨/٢٤هـ - الفترة الرابعة
إسم الطالب: .....
الرقم الجامعي: .....

الاختبار النظري النهائي لمقرر
الكيمياء الحيوية ٣-٤٠١٢٣١٢

المطلوب الإجابة عن جميع الأسئلة التالية:

- السؤال الأول: (١٠درجات): أذكر فقط في صورة نقاط:

١- وظائف الليبيدات.
٢- مصير البيروفيت الناتج عن عملية التحلل الجليكولي.
٣- أنواع المستويات التركيبية المختلفة للبروتين.
٤- الخصائص الكيميائية للدهون.

- السؤال الثاني: (١٠درجات): أكتب نبذة مختصرة عن كلاً من:

١- قطبية الماء Water Polarity.
٢- سكر الريبوز Mannose Sugar.
٣- الأحماض الأمينية الغير قطبية Hydrophobic Amino Acids.
٤- الكوليسترول Cholesterol.

- السؤال الثالث: (١٠درجات):

١- قارن في جدول بين كلاً من الزيوت و الدهون؟
٢- أكتب التركيب الكيميائي لحمض الأوليك $C_{18:1}$؟
٣- أكتب التركيب الكيميائي لحمض أميني أروماتي حلقي؟
٤- بماذا تفسر إرتفاع القيمة الغذائية للبروتين الحيواني عن البروتين النباتي؟

- السؤال الرابع: (١٠درجات): وضح بالرسم فقط كلاً من:

١- التشكل الحلقي لسكر الفركتوز Fructose Ring Formation.
٢- عدد جزيئات ATP الناتجة من أكسدة و تمثيل جزئ واحد من الجلوكوز.
٣- مسارات الأحماض الأمينية الموجودة بالغذاء داخل الكائن الحي.
٤- المعادلة الرئيسية لتكوين اليوريا Urea Formation.

مع أطيب التمنيات بالنجاح و التفوق.....

السؤال الأول

١-

~~٢- سكر الريبوز الاحادي~~ التحلل الفسفوري جلايكوجينيا

٣-

٤- ١- الدهون لا تذوب في الماء

٢-

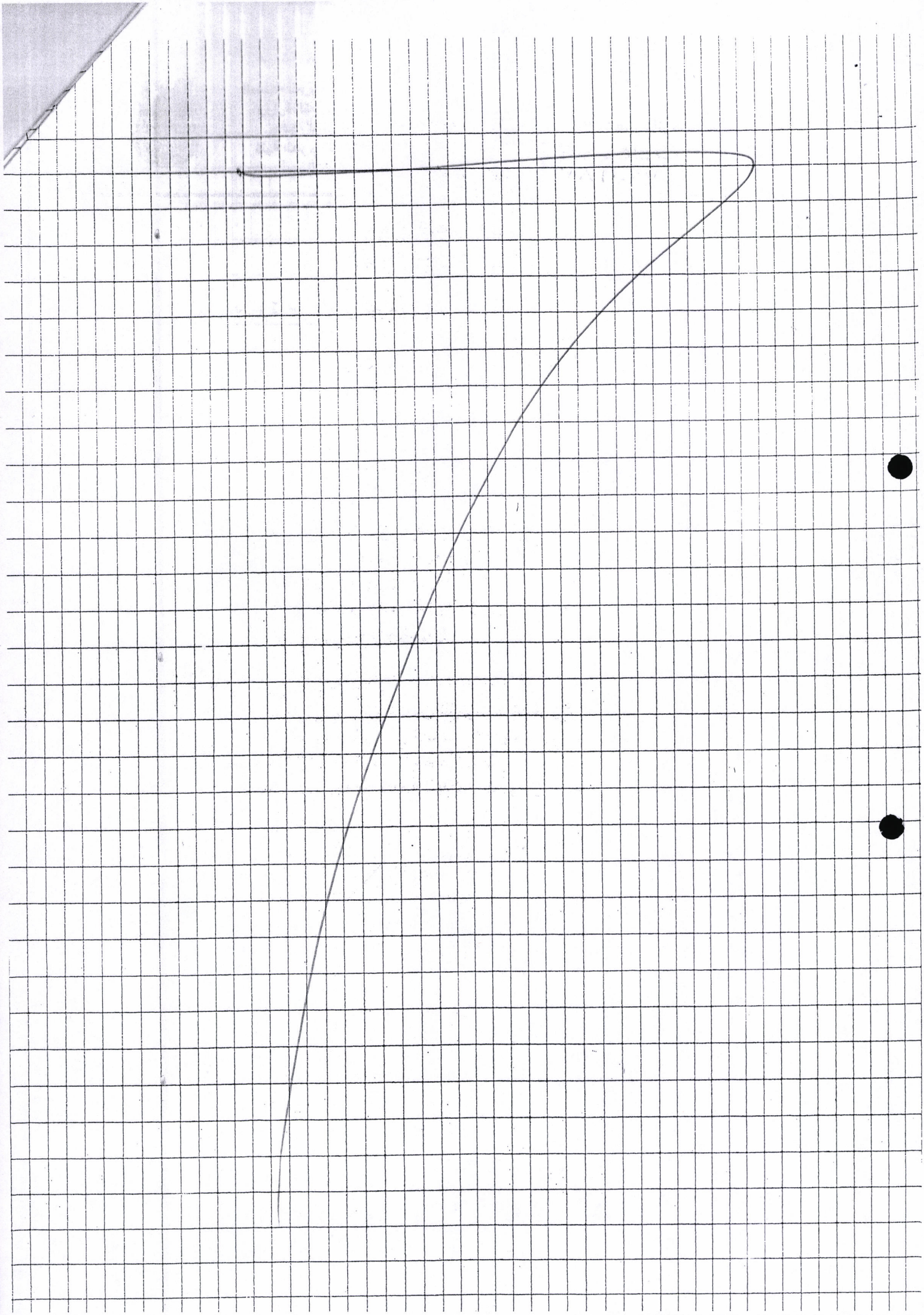
السؤال الثاني

١- الدهون والزيوت التي تذوب في الماء

٢- سكر الريبوز سكر احادي

٣- هي الأحماض التي لا تذوب في الماء

٤- الكولسترول ينقسم الى قسمين قسم ضار ويسبب انسداد في الشرايين وقسم نافع يجب وجوده في الجسم



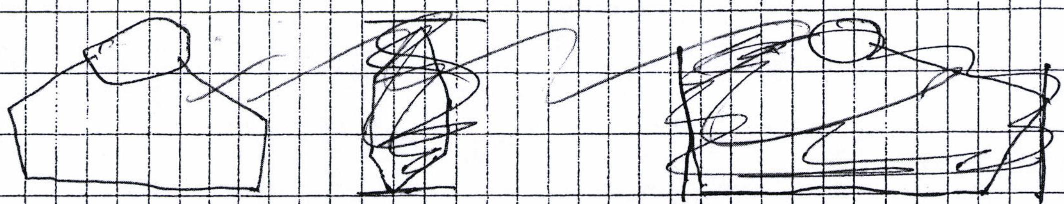
السؤال الثالث

١-

الزيت	الدهون
نباتي	حيواني
غير مشبعة	مشبعة
سائل	صلب

٢-

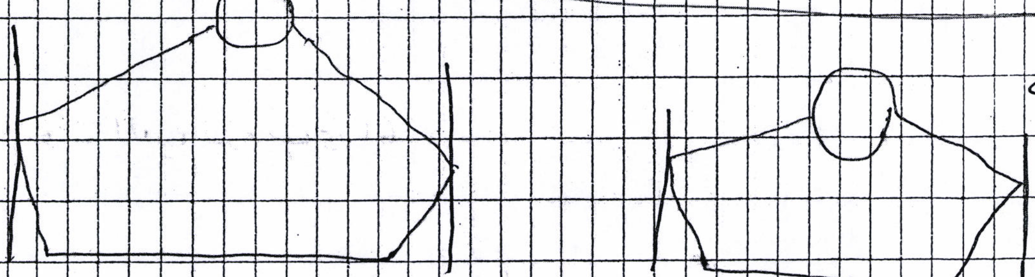
٣-



٤- بسبب ان الحيوان يأكل دهون نباتية فتجتمع دهون الحيواني مع النباتي فيحمل أنه ذات قيمة غذائية عالي

السؤال الرابع

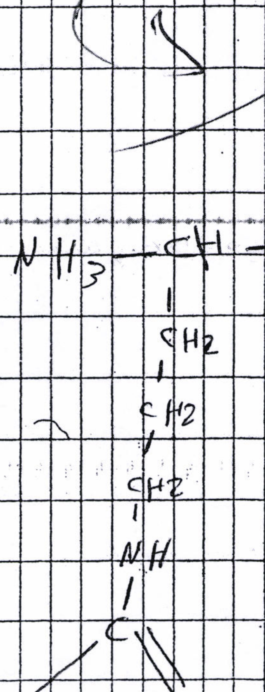
١-



٢-

٣-

٤-



آثار نجعة إما كنت مستغ

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

T5. COURSE REPORT (CR)

A separate Course Report (CR) should be submitted for every course and for each section or campus location where the course is taught, even if the course is taught by the same person. Each CR is to be completed by the course instructor at the end of each course and given to the program coordinator

A combined, comprehensive CR should be prepared by the course coordinator and the separate location reports are to be attached.

Course Report

For guidance on the completion of this template refer to the NCAAA handbooks.

Institution: **Umm Al-Qura University.**	Date of CR: **First Term 381.**
College/ Department: **Faculty of Applied Science, Biology Department.**	

A Course Identification and General Information

1. Course title: **Biochemistry.**	Code : **401231-3.** Section: **(1)**
2. Name of course instructor: **Prof. Shady M. ElShehawy.**	Location: **Al-Abedia campus.**
3. Year and semester to which this report applies. **First semester, academic year 1438/1439H (381).**	
4. Number of students starting the course? **8**	Students completing the course? **7**

5. Course components (actual total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	**32**	-	-	**48**	-	**80**
Credit	**32**	-	-	**16**	-	**48**

B- Course Delivery

1. Coverage of Planned Program

Topics Covered	Planned Contact Hours	Actual Contact Hours	Reason for Variations if there is a difference of more than 25% of the hours planned
Introduction of Biochemistry (Importance and targets)	**5**	**5**	
Water (Composition – importance – properties)	**5**	**5**	
Carbohydrates 1	**5**	**5**	
Carbohydrates 2	**5**	**5**	
Carbohydrates metabolism	**10**	**10**	
Midterm Exam	**5**	**5**	
Proteins 1	**5**	**5**	
Proteins 2	**5**	**5**	
Proteins 3	**5**	**5**	
Proteins metabolism and Urea formation	**5**	**5**	
Lipids 1	**5**	**5**	
Lipids 2	**5**	**5**	
Lipids metabolism	**5**	**5**	

Vitamins	**5**	**5**	
Review	**5**	**5**	
	80	**80**	

2. Consequences of Non Coverage of Topics
For any topics where the topic was not taught or practically delivered, comment on how significant you believe the lack of coverage is for the course learning outcomes or for later courses in the program. Suggest possible compensating action.

Topics (if any) not Fully Covered	Effected Learning Outcomes	Possible Compensating Action
There is no.	**There is no.**	**There is no.**

3. Course learning outcome assessment.

	List course learning outcomes	List methods of assessment for each LO	Summary analysis of assessment results for each LO
1	**Knowledge**	**Short discussions. Short essay questions. Term activities. Final and midterm exam.**	
2	**Cognitive Skills**	**Short discussions. Short essay questions. Term activities. Final and midterm exam.**	
3	**Interpersonal Skills and Responsibility**	**Periodical exams.**	
4	**Numerical and Communication Skills**	**Oral presentation. Assessment of presentations. Term activities.**	
5	**Psychomotor Skills**	**Oral exam.**	

Summarize any actions you recommend for improving teaching strategies as a result of evaluations in table 3 above.

There is no.

4. Effectiveness of Planned Teaching Strategies for Intended Learning Outcomes set out in the Course Specification. (Refer to planned teaching strategies in Course Specification and description of Domains of Learning Outcomes in the National Qualifications Framework).

List Teaching Methods set out in Course Specification	Were They Effective?		Difficulties Experienced (if any) in Using the Strategy and Suggested Action to Deal with Those Difficulties.
	No	Yes	
Lectures Home works		√	

Oral discussion		√	
Periodical reports **Home works** **Grouping works**		√	
Periodical reports **Home works**		√	
Practical work in Lab		√	

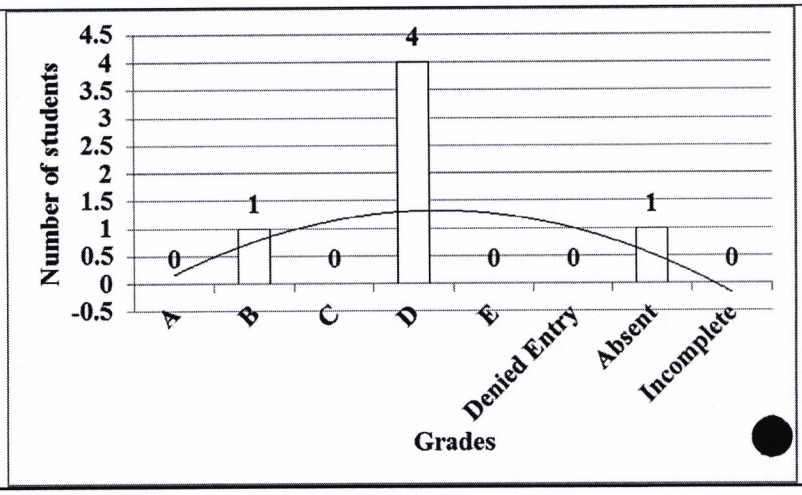
Note: In order to analyze the assessment of student achievement for each course learning outcome, student performance results can be measured and assessed using a KPI, a rubric, or some grading system that aligns student work, exam scores, or other demonstration of successful learning.

C. Results

1. Distribution of Grades

Letter Grade	Number of Students	Student Percentage
A	0	0
B	1	16.67%
C	0	0
D	4	66.67%
F	0	0
Denied Entry	0	0
Absent	1	16.67%
Incomplete	0	0
Pass	5	83.33%
Fail	0	0
Withdrawn	0	0

Analysis of Distribution of Grades



2. Analyze special factors (if any) affecting the results

There is no.

3. Variations from planned student assessment processes (if any) (see Course Specifications). **There is no.**	
a. Variations (if any) from planned assessment schedule (see Course Specifications)	
Variation	Reason
There is no.	**There is no.**
b. Variations (if any) from planned assessment processes in Domains of Learning (see Course Specifications)	
Variation	Reason
There is no.	**There is no.**

4. Student Grade Achievement Verification (eg. cross-check of grade validity by independent evaluator).	
Method(s) of Verification	Conclusion
There is no.	**There is no.**

D Resources and Facilities

1. Difficulties in access to resources or facilities (if any) **There is no.**	2. Consequences of any difficulties experienced for student learning in the course. **There is no.**

E. Administrative Issues

1 Organizational or administrative difficulties encountered (if any) **There is no.**	2. Consequences of any difficulties experienced for student learning in the course. **There is no.**

F Course Evaluation

1 Student evaluation of the course (Attach summary of survey results) **There is no.**
a. List the most important recommendations for improvement and strengths: **There is no.**
b. Response of instructor or course team to this evaluation: **There is no.**
2. Other Evaluation (eg. by head of department, peer observations, accreditation review, other stakeholders) **There is no.**
a. List the most important recommendations for improvement and strengths: **There is no.**
b. Response of instructor or course team to this evaluation: **There is no.**

G Planning for Improvement

1. Progress on actions proposed for improving the course in previous course reports (if any).			
Actions recommended from the most recent course report(s)	Actions Taken	Action Results	Action Analysis
a. **There is no.**	**There is no.**	**There is no.**	**There is no.**

2. List what other actions have been taken to improve the course (based on previous CR, surveys, independent opinion, or course evaluation). **There is no.**

3. Action Plan for Next Semester/Year

Actions Recommended for Further Improvement	Intended Action Points (should be measurable)	Start Date	Completion Date	Person Responsible
a. **Development and update the course topics and represented the notes in English language.**	**Development and update the course topics and represented the notes in English language.**	**Second semester (382)**	**First semester (391)**	**Course Instructor**

Name of Course Instructor: **Prof. Shady M. ElShehawy.**

Signature: Shady ElShehawy Date Report Completed: **07/05/1439H.**

Program Coordinator: _____

Signature: _____ Date Received: _____

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قسم الأحياء

الفصل الدراسي الأول
العام الجامعي ١٤٣٨/١٤٣٩هـ
إسم الطالب: عبد الرحمن زكي باصهي
الرقم الجامعي: 434000927

28/40
5h

الاختبار النظري النهائي لمقرر
الكيمياء الحيوية ٣-٤٠١٢٣١

المطلوب الإجابة عن جميع الأسئلة التالية:

السؤال الأول: (١٠درجات): أذكر فقط في صورة نقاط: -١٠
١- وظائف الكربوهيدرات.
٢- مصير البيروفيت الناتج عن عملية التحلل الجليكولي.
٣- أنواع المستويات التركيبية المختلفة للبروتين.
٤- الخصائص الكيميائية للدهون.

السؤال الثاني: (١٠درجات): أكتب نبذة مختصرة عن كلاً من: -٨
١- قطبية الماء Water Polarity.
٢- سكر الريبوز Ribose Sugar.
٣- الأحماض الأمينية القطبية Hydrophilic Amino Acids.
٤- الكوليسترول Cholesterol.

السؤال الثالث: (١٠درجات): -٥
١- قارن في جدول بين كلاً من الزيوت و الدهون؟
٢- أكتب التركيب الكيميائي لحمض الأوليك $C_{18:1}$؟
٣- أكتب التركيب الكيميائي لحمض أميني كبريتي؟
٤- بماذا تفسر إرتفاع القيمة الغذائية للبروتين الحيواني عن البروتين النباتي؟

السؤال الرابع: (١٠درجات): وضح بالرسم فقط كلاً من: -٥
١- التشكل الحلقي لسكر الجلوكوز Glucose Ring Formation.
٢- عدد جزيئات ATP الناتجة من أكسدة و تمثيل جزئ واحد من الجلوكوز.
٣- مسارات الأحماض الأمينية الموجودة بالغذاء داخل الكائن الحي.
٤- المعادلة الرئيسية لتكوين اليوريا Urea Formation.

مع أطيب التمنيات بالنجاح و التفوق.....

السؤال الأول: فقرة 1

1) تعتبر المصدر الرئيسي للطاقة
2) تشكل نسبة عالية من المواد الغذائية التي نتناولها
3) توفر الكاميليه للنبات
4) تدخل في تصنيع الأحماض النووية DNA و RNA
5) تدخل في العديد من الصناعات

فقرة 2: مصير البايروفيت

يتحول إلى Acetyl CoA	يتحول إلى Lactate	يتحول إلى كحول
يتم في ظروف هوائية تعرف بـ عملية التنفس الطبيعي	يتم في ظروف لاهوائية مثلاً عند القيام بجهد عضلي شاق لا يتم عند العضلة الأكسجين الكافي فيتحول البايروفيت إلى حمض اللاكتيك	يتم في ظروف لاهوائية ويتحول إلى كحول أو ATP يتم في البكتيريا والخمائر

فقرة 3: التركيب الأولي للبروتين

R_1 R_2 R_3 R_4 R_5 R_6 R_7 R_8

التركيب الثانوي للبروتين: Random Coil | Bplated Sheet | α helix

3) التركيب الثلاثي للبروتين وهو عبارة عن نوعين من البروتينات الثانوية تتجمع لتعطي شكل ثالثي

4) التركيب الرابع للبروتين يتحد كذا نوع من البروتين الثلاثي ليكون نوع كامل من البروتين

فقرة 4) الخصائص الكيميائية للدهون

الجليسريدات

1) تتفاعل الهيدروكسيل مع الكحول مكونة استروهي الأساس في تكون
2) تتفاعل الأحماض الدهنية مع القلويات مكونة املاح مثل التفاعل مع هيدروكسيد الصوديوم يعطي املاح الصوديوم وهذا يعرف بعملية التصبن
3) تتشبع الروابط المزدوجة في الدهون غير المشبعة بالهيدروجين وتسمى عملية الهدرجة ويتحول من الحالة السائلة إلى الصلبة
4) تتأكسد الروابط المزدوجة في الدهون غير المشبعة نتيجة تعرضها إلى الضوء والهواء والماء والانزيم المؤكسد وتتحول إلى كحولات أو الدهيدات أو كيتونات هذه العملية تعرف بالتزنخ

السؤال الثالث

فرع ١

Compare	Oil	fat
Status	Liqued	Solid
Source	plant	Animal
Fatty Acid	unsaturated	Saturated
atritive Value	less	more
Ex	Corn	Camel
	Olives	Cow

فرع ٢ | التركيب الكيميائي لحمض الأوليك

$$COOH-(CH_2)_8-CH=CH-(CH_2)_6-CH_3$$

فرع ٣ | حمض أميني كبريتي :-

فرع ٤ | لأن البروتين الحيواني ~~[illegible]~~ مشبع والبروتين النباتي غير مشبع

المملكة العربية السعودية
وزارة التعليم العالي
جامعة أم القرى
كلية العلوم التطبيقية
قسم الأحياء

الفصل الدراسي الأول
العام الجامعي ١٤٣٨/١٤٣٩هـ
إسم الطالب: محمد سعود الحارثي
الرقم الجامعي: 436008939

19/40

الاختبار النظري النهائي لمقرر
الكيمياء الحيوية ٣-٤٠١٢٣١

المطلوب الإجابة عن جميع الأسئلة التالية:

- **السؤال الأول: (١٠درجات): أذكر فقط في صورة نقاط:** (7)

١- وظائف الكربوهيدرات.
٢- مصير البيروفيت الناتج عن عملية التحلل الجليكولي.
٣- أنواع المستويات التركيبية المختلفة للبروتين.
٤- الخصائص الكيميائية للدهون.

- **السؤال الثاني: (١٠درجات): أكتب نبذة مختصرة عن كلاً من:** (5)

١- قطبية الماء Water Polarity.
٢- سكر الريبوز Ribose Sugar.
٣- الأحماض الأمينية القطبية Hydrophilic Amino Acids.
٤- الكوليسترول Cholesterol.

- **السؤال الثالث: (١٠درجات):** (5)

١- قارن في جدول بين كلاً من الزيوت و الدهون؟
٢- أكتب التركيب الكيميائي لحمض الأوليك $C_{18:1}$؟
٣- أكتب التركيب الكيميائي لحمض أميني كبريتي؟
٤- بماذا تفسر إرتفاع القيمة الغذائية للبروتين الحيواني عن البروتين النباتي؟

- **السؤال الرابع: (١٠درجات): وضح بالرسم فقط كلاً من:** (2)

١- التشكل الحلقي لسكر الجلوكوز Glucose Ring Formation.
٢- عدد جزيئات ATP الناتجة من أكسدة و تمثيل جزئ واحد من الجلوكوز.
٣- مسارات الأحماض الأمينية الموجودة بالغذاء داخل الكائن الحي.
٤- المعادلة الرئيسية لتكوين اليوريا Urea Formation.

مع أطيب التمنيات بالنجاح و التفوق........

اجابة السؤال الاول:

ج ١/ ١- تتكون ٦٠٪ من كتلة المادة الغذائية
٢- دعامة هامة للنباتات والكائنات الحية الدقيقة
٣- تدخل في بناء وتركيب الكلايا والانسجة
٤- تدخل في تركيب الاحماض النووية DNA - RNA
٥- تدخل في المنتجات الصناعية
٦- تدخل في بناء وتركيب المركبات البيولوجية

ج ٢/ مصير البروتينات
يعتمد على الكائن الحي — وجود السجين

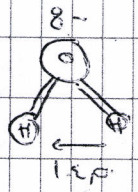
ج ٣/ التركيب الاولي للبروتين
يبدا بحمض امينى وينتهي بحمض امينى

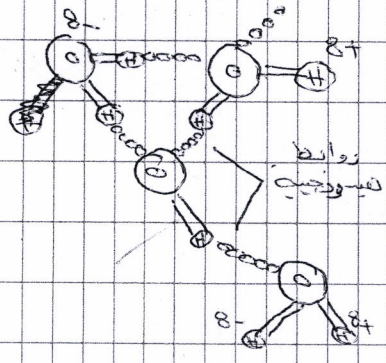
R_1 R_2 R_3 R_4 R_5 R_6 R_7 R_8

التركيب الثانوي للبروتين
أ- حلزوني ب- ورق مطوي ج- كرة عشوائية

ج ٤/ ١- تتفاعل مجموعة الكربوكسيل في الاحماض الدهنية مع الكحول مكونة رابطة استر
٢- تتفاعل الروابط المزدوجة مع الاحماض الدهنية الغير مشبعة بالهيدروجينات
٣- تشبع الروابط المزدوجة الموجودة في الاحماض الدهنية الغير مشبعة بالهيدروجين
٤- تتأثر الاحماض الدهنية لتعرضها للضوء والماء والاكسجين

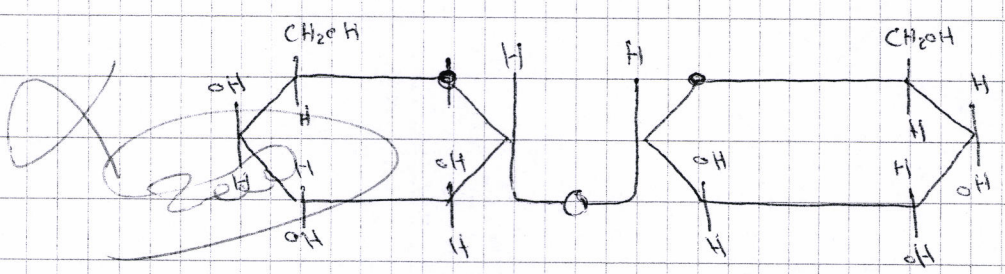
اجابة السؤال الثاني
ج ١/ يأخذ الشكل المثلث في تركيبه الهيكلي يتكون جزيئ الماء من ذرتي هيدروجين



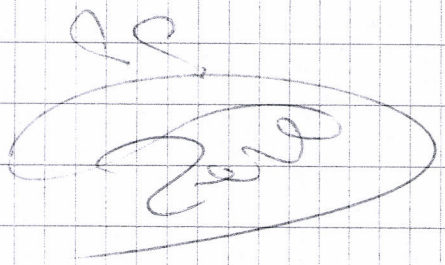


اجابة السؤال الرابع

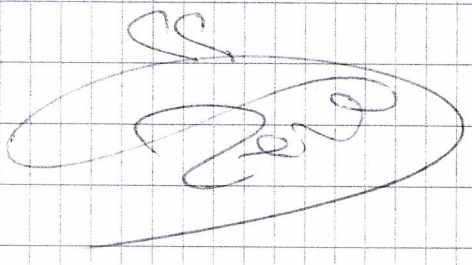
ج١/



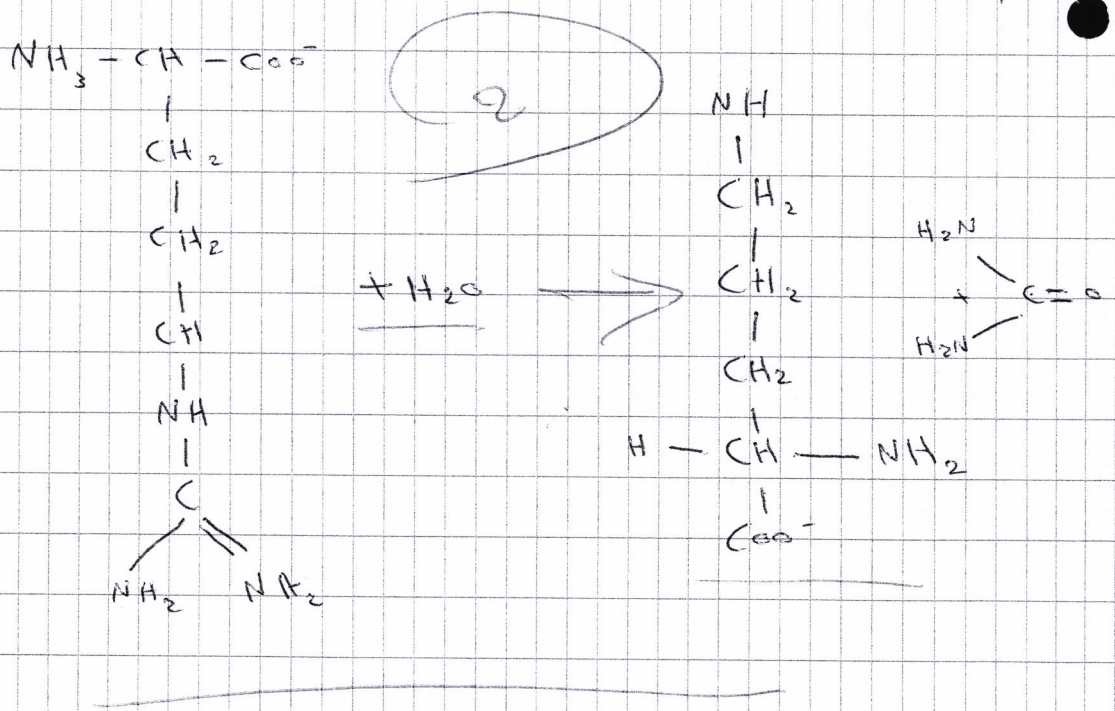
ج٢/



ج٣/



ج٤/



First semester
1437/1438H
Name:.....
Univ. No.:.....

Umm Al-Qura University
Applied Sciences College
Biology Department

The first periodical exam
Biochemistry 401231-3

Please answer all of the following questions:

The first: Complete the following sentences:

(1) Carbohydrates are defined as:
.....
.....

(2) Fasting Blood Sugar is:
.....
.....

(3) Carbohydrate functions are:
.....
.....

The second:

Only draw a water molecule?

The third:

Write a brief on: Mannose - Sucrose?

The fourth:

How can you get Fructose 1.6 diphosphate from Glucose?

Good Luck

المملكة العربية السعودية
وزارة التعليم
جامعة أم القرى
كلية العلوم التطبيقية
قسم الأحياء

الفصل الدراسي الثاني
العام الجامعي ١٤٣٦/١٤٣٧هـ
الاثنين الموافق ١٤٣٧/٨/٢هـ
إسم الطالب:.....
الرقم الجامعي:.....

الاختبار النظري النهائي لمقرر
كيمياء حيوية ٣-٤٠١٢٣١

المطلوب الإجابة عن جميع الأسئلة التالية:

- **السؤال الأول: (١٠درجات): أذكر فقط في صورة نقاط:**
  ١- أهمية المواد البروتينية.
  ٢- مصير البيروفيت الناتج عن عملية التحلل الجليكولي.
  ٣- أنواع المستويات التركيبية المختلفة للبروتين.
  ٤- الخصائص الكيمائية للدهون.

- **السؤال الثاني: (١٠درجات): أكتب نبذة مختصرة عن كلاً من:**
  ١- قطبية الماء Water Polarity.
  ٢- سكر المالتوز Maltose Sugar.
  ٣- الأحماض الأمينية القطبية Hydrophilic Amino Acids.
  ٤- البروستاجلاندينات Prostaglandins (PGs).

- **السؤال الثالث: (١٠درجات):**
  ١- قارن في جدول بين كلاً من الزيوت و الدهون؟
  ٢- أكتب التركيب البنائي لحمض الاستياريك $C_{18:0}$؟
  ٣- أكتب التركيب الكيميائي لحمض أميني غير قطبي أروماتي حلقي؟

- **السؤال الرابع: (١٠درجات): وضح بالرسم فقط كلاً من:**
  ١- التشكل الحلقي لسكر الجلوكوز.
  ٢- كيفية الحصول على فركتوز ١ ، ٦ داي فوسفات من الجلوكوز.
  ٣- خطوات تكوين اليوريا Urea Formation.

مع أطيب التمنيات بالنجاح و التفوق.....

Curriculum Vitae
Of Dr. / Shady M. M. El-Shehawy

***Name*: Shady Mohammed Mahmoud El-Shehawy.**
***Date of birth*: 28/9/1974.**
***Place of birth*: Damietta – Egypt.**
***Present citizenship*: Egyptian.**
***Sex:* Male.**
***Marital status*: Married.**
***Religious:* Moslem.**
***Office Address*: 35516, Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**
***Home Address:* Home 70, St. 30, second block, first region, Domyat El-Gedida city, Damietta Governorate, Egypt.**
Telephone No.*: Home: *002/057/2237952 or 002/057/9804006.
Office: *002/050/2245274 or 002/050/2236002.*
Mobile: *002/01003481845.* 00966558593271
***Fax*: 002/050/2221688 or 002/050/2247900.**
***E-Mail:* yshmtu10@yahoo.com or yshmtu10@mans.edu.eg**
Homepage: smshehawy@uqu.edu.sa
http://mansvu.mans.edu.eg/sitegen/staff/orange/index.php?did=475
***Passport No.*: 2542038**

***Education*: B.Sc. in Agricultural Sciences "Food Industries" (1996).**
M.Sc. in Food Industries(2000).
Ph.D. in Food Industries (2005):
"Fish Chemistry, Processing & Technology"

***Present position*: an associate professor in Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**

***Employment record*:**

- **From 1996 to 2000 as a demonstrator in Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**
- **From 2000 up to 2005 as an assistant lecturer in Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**
- **From 2005 up to September 2011 as a lecturer in Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**

***From September 2011 up to now as an associate professor in Food Industries Dept., Faculty of Agriculture, Mansoura University, Egypt.**

***From Novmber 2011 up to now as an associate professor in Biology Dept., College of Applied Sciences, Umm Al-Qura University, Makkah, KSA.**

***Languages*: Mother language: Arabic.**

	Read	Write	Speak
1- English	*Excellent*	*Excellent*	*Very good*
2- French	*Very good*	*Good*	*Fair*
3- German	*Good*	*Good*	*Fair*

*** *Level of computer*: Have a very good experience in dealing with computer and using it for teaching by MS ward, Excel, PowerPoint, PhotoShop & Internet Programs.**

***Previous teaching experience*: Have an excellent teaching experience at Food Industries Dept., Faculty of Agriculture, Mansoura university, Egypt. I teached for 16 years the following courses:**

Food chemistry analysis, packaging technology, food quality control, cereals & its products technology, sugar technology, special products technology, food Microbiology, fish & their products technology, canning technology, Biostatistics, Biochemistry, cooling & freezing technology, industrial biotechnology, drying technology, fat & oil technology, meat & its products technology, food sciences "principals" and food spoilage.

*Researches:

1. **Ibrahim. Faten Y. and *El-Shehawy, Sh. M.* (2013).** The antimicrobial and antioxidant effect of aqueous thyme and sumac extracts in refrigerated minced beef meat. Journal of Productivity and Development, Zagazig University, volume (18).
2. **Shalaby, M. T. , Ibrahim. Faten Y. ; *El-Shehawy, Sh. M.* and Ibrahim, M. N. (2012).** Effect of concentration process and storage period on quality properties of some fruit and vegetable concentrates. The 6th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (19-22 November 2012).
3. **Hassan, A. M. ; *El-Shehawy, Sh. M.* and Rabie, M. M. M. (2012).** Chemical and bacteriological evaluation of some burger samples collected from local market of Mansoura city. The 6th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (19-22 November 2012).
4. ***El-Shehawy, Sh. M.* ; Gehan A. Ghoneim and Zeinab S. Farag (2012).** Nutritional value and fatty acids composition in the most common Egyptian fish as affected by traditional grilling process. Journal of Food and Dairy Sciences, Mansoura University Vol. 3No. (2): 125 -135.
5. **El-Dengawy, R. A. ; *El-Shehawy, Sh. M.* ; Kassem, A. E. ; El-Kadi, S. M. and Farag, Zeinab S. (2012).** Chemical and microbiological evaluation of some fish products samples. J. Agric. Chem. and Biotechnology, Mansoura Univ. 3 (8): 247 – 259.
6. **Abd El-Gawwad, A. I. ; Habib, G.H.M. ; *El-Shehawy, Sh. M.* and Abd El-Latif, Y. K. (2012).** Using of 24 hours food recall method to study nutritional state for preparatory school students. J. of Food & Dairy Sciences, Mansoura Univ., 3 (4): 199-206.
7. ***El-Shehawy, Sh. M.* and Farag, Zeinab S. (2012).** Fatty acids composition in the most common Egyptian fish as affected by traditional grilling process. Fifth Saudi Science Conference, Makkah, KSA, 16-18 April 2012 (**poster**).
8. **Goneim, Gehan A. ; Ibrahim, Faten Y. and *El-Shehawy, Sh.M.* (2011).** Carrot leaves: antioxidative and nutritive values. J. of Food & Dairy Sciences, Mansoura Univ., 2 (4).
9. **El-Shehawy, Sh. M. M. (2011).** Evaluation of meals in some Egyptian university cities. The 4th Arabic Conference for Nutrition. 5-7 April (2011). Amman, Jordan.
10. **Hassan, A. M. ; *El-Shehawy, Sh. M.* and M. M. M. Rabie (2010).** Chemical and microbiological characteristics of some minced meat samples collected from local market of Mansoura city. J. of Food & Dairy Sciences, Mansoura Univ., 1 (12): 795 - 804.

11. ***El-Shehawy, Sh. M. M.*** **; Shatta, M. A. & Hafez, Y. F. (2010).** Nutrition services assessment in the University cities (Case study for University city, Damietta branch, Mansoura University). The 5th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (18-22 October 2010).
12. ***El-Shehawy, Sh. M. M.*** **& El-Mashad H. E. (2010).** Effect of carrot drying conditions on surface carotene content and drying curve. J. of Food & Dairy Sciences, Mansoura Univ., 1 (6): 355 - 366.
13. ***El-Shehawy, Sh. M.*** **; Gehan A. Goneim ; Faten Y. Ibrahim & Rania E. El-Gamal (2010).** Antioxidative activity of phenolic compounds from white and black berry leaves. J. of Food & Dairy Sciences, Mansoura Univ., 1 (5): 267 - 279.
14. **Tabikha, M.M.M. ;** ***El-Shehawy, Sh. M. M.*** **& Helal, D.M.A. (2010).** Changes in chemical and nutritional quality during cold storage of some fruit and vegetable juice blends. J. of Food & Dairy Sciences, Mansoura Univ., 1 (4): 181 - 191.
15. **Hassan, R.A. ; Safaa M.A. Hassan &** ***El-Shehawy, Sh. M. M.*** **(2010).** Fatty acids composition of fats used in some Egyptian biscuits . J. of Food & Dairy Sciences, Mansoura Univ., 1 (3): 113 - 121.
16. **Tabikha, M.M.M. ;** ***El-Shehawy, Sh. M. M.*** **& Helal, D.M.A. (2009).** Possibility of production high β-carotene content juices from Egyptian common fruits and vegetables. J. Agric. Sci. Mansoura Univ., 34 (9): 9505 – 9518.
17. ***El-Shehawy, Sh. M. M.*** **(2009).** Chemical and physical changes during salted sardine maturation process. J. Agric. Sci. Mansoura Univ., 34 (4): 3095 – 3108.
18. ***El-Shehawy, Sh. M. M.*** **& El-Kady, Sh.M. (2008).** Changes occurring during date pickling process. The 4th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (10-14 November 2008).
19. ***El-Shehawy, Sh. M. M.*** **; A.E.M. Kassem ; A.M.Hassan . M.M.A. Rabie & N.A.El-Borai (2006).** Effect of extraction methods on chemical and physical properties of some fish oils. 3th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (20-23 November 2006).
20. ***El-Shehawy, Sh. M. M.*** **; A.E.M. Kassem ; A.M.Hassan . M.M.A. Rabie & N.A.El-Borai (2006).** Omega-3 fatty acids content in some fish oils. 3th Arab Mansoura Conference of Food & Dairy Science &

Technology, Faculty of Agriculture, Mansoura University, Egypt, (20-23 November 2006).

21. ***El-Shehawy, Sh. M. M.*** **; A.E.M. Kassem ; A.M.Hassan & N.A.El-Borai (2002).** Changes occurred during salting and ripening storage period of a fishy product as a similar anchovy. 1st Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (1-3 October 2002).

- ***Membership*:**

- **Coordinator of Food Industries Dept. in Quality Assurance & Accreditation Unit, Faculty of Agriculture, Mansoura University.**
- **Coordinator of Food Sciences Technology program – Accredit Hours system - Faculty of Agriculture, Mansoura University.**
- **Member in Scientific Organization of Food Industries, Food Industries Dept., Faculty of Agriculture, Alexandria University, Egypt.**
- **Member in Mansoura University Journal of Agricultural Sciences, Faculty of Agriculture, Mansoura University, Egypt.**

- ***Training Courses*:**

- **Participation in training course on:**

"Production and Utilization of Microbial Biomass"

March 7-17 , 1999, Ain Shams University, Faculty of Agriculture, Cairo MIRCEN , University of Maryland, Georgia State University, UNEP UNESCO ROSTAS.

- **Participation in training course on:**

"Micro-analysis Training"

Faculty of Science, Mansoura University, Egypt.

- **Participation in training course on:**

"Scientific Writing"

Egyptian Organization of Scientific Writing, Cairo, Egypt.

- **Participation in 1st Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (1-3 October 2002).**
- **Participation in the first four training courses in Faculty and Leadership Development Project (FLDP) (Scientific research methods – Active communication skills – Thinking skills – Job**

polite) , HEEP Projects, Ministry of Higher Education, Egypt, 11 – 23 /9/2004.

- **Participation the annual 12th conference of University Teaching Development Center, Ain Shams University, Egypt, 18-19 /12/2005.**
- **Participation in training course on Quality Assurance and Accreditation in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 12-13/2/2006.**
- **Participation in training course on Accreted Hours in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 5-7/11/2006.**
- **Participation in 3th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (20-23 November 2006).**
- **Awarded the prize of the best Ph.D. thesis in Agricultural Sciences in Mansoura University (2006).**
- **Participation in training course on Decisions Taking & Problems Solution in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 27 – 29/8/2006.**
- **Participation in training course on Teaching Evaluation in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 28 – 30/4/2007.**
- **Participation in training course on Research Team Management in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 18 – 20/11/2007.**
- **Participation in training course on Time & Meetings Management in Faculty and Leadership Development Project (FLDP), HEEPF Projects, Ministry of Higher Education, Egypt, 25 – 27/5/2008.**
- **Training program on Total Quality Management (TQM) in Poultry Slaughtering & Processing plant as a trainer – March 2008.**
- **Training program on Quality Control (QC) in Poultry Slaughtering & Processing plant as a trainer – April 2008.**

- **Training program on Quality Control and Hygiene Conditions in Food Plants (QCHC) in Agricultural Crops Plants as a trainer – August 2008 (2-4/8/2008).**
- **Training program on Quality Control Testing for Food in Agricultural Crops Plants as a trainer – August 2008 (5-7/8/2008).**
- **Training program on Quality System ISO9000 in Agricultural Crops Plants as a trainer – August 2008 (9-11/8/2008).**
- **Participation in 4th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (10-14 November 2008).**
- **Participation in 5th Arab Mansoura Conference of Food & Dairy Science & Technology, Faculty of Agriculture, Mansoura University, Egypt, (18-22 October 2010).**
- **Participation in 4th Arab Nutrition Conference, Faculty of Agriculture, Jordan University, Amman, Jordan (5-7 April 2011).**
- **Scientific visit to Fachhochschule, Aachen University of Applied Sciences, Standort Jülich - Campus Juelich, Germany from June 13 to July 3 2011.**