MISR UNIVERSITY for science and technology



جامعة مصر للعلوم والتكنولوجيا كلية الطب

Fundamentals of molecular biochemistry & genetics

BIO101

Student's Portfolio

2024-2025



BIO101 COURSE

PHASE 1, LEVEL 1, SEMESTER 1

Spring 2024

- Name: Mazen Youssef Seddik Shafik ID: 2000.49.802
- Course code: S.L.J.e.
- Section Day and Time: Sunday 19200.

 Instructor: Sunday 19200

	Module professional information:				
	Overall Module Aims to:				
Aim 1	Provide the medical students to have knowledge about different food stuff chemistry, types & medical importance and chemistry& types of proteins, lipids& carbohydrates and diseases due to defect in their structures; e.g. Alzheimer, anemia & formation of free radicals and how role of anti-oxidants.				
Aim 2	Study chemistry of nucleic acids, their types and their functions. In addition, studying DNA replication, and mechanism of gene expression "RNA transcription".				
Aim3	Explain basic skills for the application of identification between different types of proteins & carbohydrates and application of molecular biology in a simple mode.				

Module activities

By the end of his graduation, the student should be able to achieve.

Carbohydrate unknown	Protein unknown
Glucose	Albumin
Fructose	Casine
Sucrose	 Gelatine
Starch	

Academic Activities:

Checklist for Glucose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's	2mL sample	Pur Ale ring			
test	2 drops Alco. α naphthol		Carbohydra	V	
	2mL H ₂ SO ₄ Slowly on side wall of test tube			~	
Iodine test	3mL sample	No result	Not Starca	v	
	3 drops Iodine			-	
Fehling test	2mL sample in test tube	orange ppt	glucose or Fructos	_	- 15 %
	2mL Fehling reagent in another test tube				
	Heat both test tubes			~	
	Mix after heating	Market		V	
Ketose test	2mL sample	red Colour		·	
	2mL HCL		91465e	·	
	Heat (in & out)			4	

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Checklist for Fructose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's	2mL sample	Purple ring		A SECTION ASSESSMENT	
test	2 drops Alco. α naphthol		car bohytrag		
	2mL H ₂ SO ₄ Slowly on side wall of test		and a second production of the second producti		a colo
Iodine test	tube 3mL sample	noresult	not Strach		
	3 drops Iodine				
Fehling test	2mL sample in test tube	Orange	glucose	e de la companya de	- 142.135j
	2mL Fehling reagent in another test tube	PPT	glucose or Fructose		
	Heat both test tubes				
	Mix after heating				
Ketose test	2mL sample 2mL HCL	red Colonr	Fructose		
	Heat (in & out)	Colony			

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Checklist for Sucrose

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's	2mL sample	AND STREET			
test	2 drops Alco. α naphthol	Purple	Carbohy drata	V	
	2mL H ₂ SO ₄ Slowly on side wall of test tube				
Iodine test	3mL sample	no blue Colour	nostarch	V	
	3 drops Iodine				
Fehling test	2mL sample in test tube	no orange POT	neither glucose norfrectos		ed on
	2mL Fehling reagent in another test tube				
	Heat both test tubes			V	
	Mix after heating				
Ketose test	2mL sample	red Colour	sucrose	1	
	2mL HCL			V	
	Heat (in & out)				a larg

Checklist for Starch

Experiment	Steps	Observation	Result	Done	Not Done
Molisch's test	2mL sample 2 drops Alco. α naphthol 2mL H ₂ SO ₄ Slowly on side wall of test tube	Purple ring	Carbohyon	V	
Iodine test	3mL sample 3 drops Iodine	- blue Colour	star es	V	

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Checklist for Albumin

Experiment	Steps	Observation	Result	Done	Not Done	
2n	2mL sample	Violet Colour	in the second	Control of	A STANSON OF THE STANSON	V V
	2mL NaOH 10%		Protein			
	2 drops CuSO ₄			7505		
Heat	3mL sample	A.Q.	571.44	i junior		
coagulation test	Heat top of solution in test tube	Cogulation	AlBumin			

Experiment	Steps	Observation	Result	Done	Not Done
Biuret test	2mL sample				Done
	2mL NaOH 10%	violet	Protein		
	2 drops CuSO ₄		11012		
Heat	3mL sample				
coagulation	Heat top of solution	No Coaswation	notalBumin		
test	in test tube				
Xanthoproteic	2mL sample				
test	1mL HNO ₃	yellow colour	Casein		
	Heat	Colour			
Rosenheim's	2mL sample	Bally epid in action to	A sept to marrie		
test	2 drops FCF	0.1010	Casein		
	2mL H ₂ SO ₄ Slowly	Purple			
	on side wall of test tube				

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Checklist for Gelatine

Experiment	Steps	Observation	Result	Done	Not Done
Biuret test	2mL sample	-13-10d	0 -		
	2mL NaOH 10%	violet	Protein		W. C. C. W. T. C.
	2 drops CuSO ₄	Colour			
Heat	3mL sample		. +		
coagulation	Heat top of solution	No Coagulation	alBumin		
test	in test tube				
Xanthoproteic	2mL sample	Glow eg	gelatin		
test	1mL HNO ₃				
	Heat				
Rosenheim's	2mL sample	No Purple			
test	2 drops FCF				
	2mL H ₂ SO ₄ Slowly on side wall of test tube	No Purple ring	gelatin		

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