
 University of Sadat City	Final Exam:	First Term	Course Code:	B1-49	Percentage		 GEBRI
	Academic Year:	2018-2019	Academic Program:	Diploma of Biochemistry and Molecular Biology	N. of Exam Paper	3	
	Level:	Diploma	Department:	Molecular Biology	Date:	16/1/2019	
	Course Name:	Molecular Genetics1	Total score:	60	Time allowed:	3hr	

Instructions of Exam:

1. Answer the obligatory questions.
2. Use the blue pen and pencil in answer sheet
3. Allow one sheet answer for every student
4. Is not allowed to borrow the tools (pen, pencils, drawing tools, calculator ...etc)
5. Is not allowed to use the cell phone or any of its application during the time of exam

Answer the following questions:

1st question: (15 Marks)

- a) Summarize the enzymes involved in prokaryotic DNA replication and the functions of each? [5 Marks]
- b) Mention the RNA processing? [5 Marks]
- c) List and drawing the phases of the cell cycle? [5 Marks]

2nd question: (15 Marks)

- a) What are the stages of transcription? [5 Marks]
- b) Differentiate between mRNA prokaryotes and eukaryotes? [5 Marks]
- c) The ribosome has three binding sites for tRNA; what its function? [5 Mark]

3rd question: (10 Marks)

Explain how prokaryotic genes expressed and support your answer with drawing?

4th question: (10 Marks)

- 1- Illustrate characters of ideal cancer bio markers? [3 Marks].
- 2- Define the following: [3 Marks; one Mark for each]
 - a- proto-oncogenes
 - b- oncogenes
 - c- tumor suppressors gene
- 3- Discuss the role of P53 in cell division and cancer? [4 Marks]

نموذج رقم: SQ0000000F101002

الإصدار (٠/٢) ٢٠١٨/٠١/١٤



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أسير فادي

ناصر رشدي

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5th question: (10 Marks)

A- Choose the correct answer: [5 Marks]

1- Autoimmunity is:

- a- Ability of immune system to differentiate between self and non-self-antigens and response against self-antigens.
- b- Ability of immune system to response against foreign antigens
- c- Ability of immune system to undergo antigen presentation
- d- All of the above

2- Where do precursor T-lymphocytes develop into fully competent

- a- The thymus gland
- b- The bone marrow
- c- The lymph nodes
- d- The spleen

3- The mechanisms that produce antibody diversity include:

- a- Multiple germline gene segments,
- b- Somatic recombination of the germline gene segments,
- c- The potential for multiple combinations of heavy and light chain.
- d- All of the above



4- Which of the following statement is NOT true about the gene segments encode the light chain of Immunoglobulin molecule.

- a- C for the constant region
- b- V for the variable region
- c- J for the joining region
- d- D for the diversity region

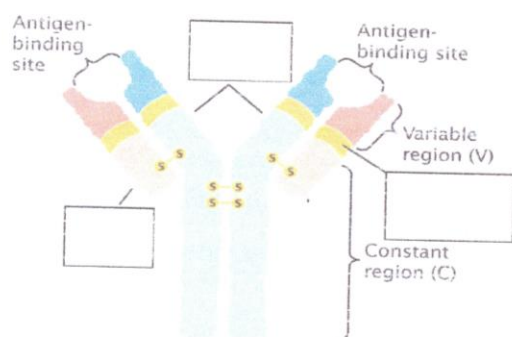
5- The MHC is an extended region of the genome that spans approximately 4 mega base pairs (Mbs) on the short arm of human chromosome

- a- 6
- b- 8
- c- 9
- d- 13

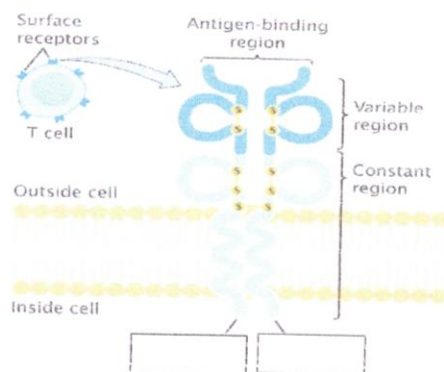
اسم الطالب: *محمد عبد الله* تاريخ: *16/1/2019*

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B- Label the Figures below: [5 Marks]



Antibody Molecule: [3 Marks]



T-cell receptor: [2 Marks]

With best wishes

Professor of Course	Prof. Hadia Heikal		Course coordinator	
Staff Course	Prof. Hadia Heikal Dr. Aysam Fayed Dr. Tamer Roshdy Dr. Ahmed Salah		Department Head	Prof. Samir El Masry
Exam group	Prof. Hadia Heikal, Dr. Aysam Fayed, Dr. Tamer Roshdy, and Dr. Ahmed Salah			
	