	Academic	2017-2018	Course Code:	A - 14	Percentage	60%	A STATE OF THE PARTY OF THE PAR
Downson or Sada City	Year:		Academic Program:	Master	N. of Exam Papers	2	
NA.	Level:	1 st term	Department:	Molecular biology	Date:	Wednesday 3/1/2017	GEBR
University of Sadat City	Course Name:	Biochemical genetics	Total score:	60 degrees	Time allowed:	3h	

Instructions of Exam:

Answer the obligatory questions

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

The questions are in Two pages

Directions: All Questions are to be answered

- I. For each question, choose the ONE BEST answer Total score (20 Marks; 2 Mark for each)
 - 1. It is now believed that a substantial proportion of the single nucleotide substitutions causing human genetic disease are due to misincorporation of bases during DNA replication. Which proofreading activity is critical in determining the accuracy of nuclear DNA replication and thus the base substitution mutation rate in human chromosomes?
 - A. 3' to 5' polymerase activity of DNA polymerase δ . B. 3' to 5' exonuclease activity of DNA polymerase γ .

 - C. Primase activity of DNA polymerase α . D. 5' to 3' polymerase activity of DNA polymerase III. E. 3' to 5' exonuclease activity of DNA polymerase δ.
 - 2. The proliferation of cytotoxic T-cells is markedly impaired upon infection with a newly discovered human immunodeficiency virus, designated HIV- V. The defect has been traced to the expression of a viral-encoded enzyme that inactivates a host-cell nuclear protein required for DNA replication. Which protein is a potential substrate for the viral enzyme?
 - A. TATA-box binding protein (TBP)
 - B. Cap binding protein (CBP)
 - C. Catabolite activator protein (CAP)

 - D. Acyl-carrier protein (ACP)E. Single-strand binding protein (SBP)
 - 3. The deficiency of an excision endonuclease may produce an exquisite sensitivity to ultraviolet radiation in Xeroderma pigmentosum. Which of the following functions would be absent in a patient deficient in this endonuclease?
 - A. Removal of introns
 - B. Removal of pyrimidine dimers
 - C. Protection against DNA viruses
 - D. Repair of mismatched bases during DNA replication
 - E. Repair of mismatched bases during transcription
 - 4. The anti-Pseudomonas action of norfloxacin is related to its ability to inhibit chromosome duplication in rapidly-dividing cells. Which of the following enzymes participates in bacterial DNA replication and is directly inhibited by this antibiotic?
 - A. DNA polymerase I B. DNA polymerase II
 - C. Topoisomerase I
 - D. Topoisomerase II
 - E. DNA ligase
 - 5. Parahemophilia is an autosomal recessive bleeding disorder characterized by a reduced plasma concentration of the Factor V blood coagulation protein. Deficiency arises from a 12 base-pair deletion in the Factor V gene that impairs the secretion of Factor V by hepatocytes and results in an abnormal accumulation of immunoreactive Factor V antigen in the cytoplasm. In which region of the Factor V gene would this mutation most likely be located?
 - A. 5' untranslated region
 - B. First exon
 - C. Middle intron
 - D. Last exon

E. 3' untransl Professor of Course	Pro. Dr./ Ibrahim Helmy I mah him	Course	Pro. Dr./ Ibrahim Helmy
Staff Course	Pro. Dr./ Ibrahim Helmy Dr./ Mohamed Younis Hohand You Van		Pro. Dr./ Ibrahim Helmy

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		t protein in the human			many closues. If one wishes to
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B. proline					
C. hydroxypro	line				
D. cysteine	illic				
E. lysine					
E. lysine					
7. Accumulat	ion of heme in ret	iculocytes can regulate g	lobin synthesis by indi	rectly inactivating	g eIF-2. Which of the following
		by this mechanism?			
A. Attachment	t of spliceosomes to	pre-mRNA			
B. Attachment	of the ribosome to	the endoplasmic reticulum			
C. Met-tRNA	met binding to the P	-site			
 D. Translocati 	on of mRNA on the	ribosome			
E. Attachment	t of RNA polymeras	e II to the promoter			
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			os reductase gene is CA	GCGC. The mRN	NA produced upon transcription
	e will contain the s	equence			
A. GCGCTG					
B. CUGCGC					
C. GCGCUG					
D. CAGCGC					
E. GUCGCG					
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A. 1750 bps.	iii codoiii.				
B. 750 bp.					
C. 650 bp.					
D. 450 bp.					
E. 150 bp.					
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