

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, SEPTEMBER 2019
B. Sc. Semester III

Subject: BC

Paper Code:11102204

Date: 5/9/2019

Maximum Marks: 40

Title of the paper: Molecular Biology 1

Time: 90 mins.

Instructions:

- 1. All questions are compulsory and options are given in first and second question only.**
- 2. Numbers to the right of question indicate the marks of respective question.**

Q. 1	Attempt any one question of the following: i. Describe Harshey and Chase Blender Experiment to prove DNA as genetic material? ii. What is cell Cycle? Briefly explain the two Phases of cell cycle.	(08)
Q. 2	Attempt any three questions of the following. i. Describe Chargaff's rules of base pairing? ii. Describe Z DNA. How is it different from B DNA? iii. Describe Watson and Crick Model of DNA? iv. Describe the function of rRNA, mRNA and tRNA? v. Describe Griffith's Experiment on transforming principle?	(12)
Q. 3	Do as directed. Attempt all five questions. i. What is Nucleoside? ii. What are Purines? iii. Define hn RNA? iv. What are Informosomes? v. What is Conjugation?	(05)
Q. 4	Write correct option in your answer sheet for following 15 multiple choice questions.	(15)

MCQ 1	Which one of the following is the corresponding strand of DNA for 5' ATTGTCCA 3'			
	(A)	3' TTTGTCAGT 5'	(B)	3' ACCAGTTA 5'
	(C)	3' TAACAGGT 5'	(D)	3' TTGTCCAA 5'
MCQ 2	Which one of the following is Left handed helix?			
	(A)	B Form of DNA	(B)	A form of DNA

	(C)	Z form of DNA	(D)	All of the above
MCQ 3	In Griffith's experiment, the mice used to die when			
	(A)	Smooth strain infects	(B)	When mixture of heat killed smooth and rough strain infects
	(C)	Both of the above	(D)	Rough strain infects
MCQ 4	5'Cap of mRNA is made up of:			
	(A)	AAAAAAAA	(B)	7 methyl guanosine
	(C)	Both of the above	(D)	None of the above
MCQ 5	Splicing is a post _____ modification.			
	(A)	Transcriptional	(B)	Translational
	(C)	Replication	(D)	None of the above
MCQ 6	In a deoxy ribose sugar of DNA oxygen has been removed from ____ region of pentose sugar			
	(A)	2'	(B)	3'
	(C)	4'	(D)	5'
MCQ 7	The restriction stage of Cell Cycle where cell enter Quiescence with reduced Protein Synthesis and no growth is:			
	(A)	G1	(B)	S
	(C)	G ₀	(D)	G ₂
MCQ 8	What were the isotopes used in Blender's Experiment?			
	(A)	P ₃₂ and S ₃₅	(B)	P ₃₅ AND S ₃₂
	(C)	P ₃₀ AND S ₃₂	(D)	P ₃₂ AND S ₃₀
MCQ 9	In B Form of DNA the major groove is			
	(A)	Shallow and narrow	(B)	Deep and wide
	(C)	Short and stout	(D)	Wide and flat
MCQ 10	_____ are removed during Splicing.			
	(A)	Exons	(B)	Introns
	(C)	Adenine	(D)	Guanine
MCQ 11	Poly AAAA tail is Added in which region of RNA?			
	(A)	5'	(B)	3'
	(C)	2'	(D)	All the above
MCQ 12	A Nucleotide is			
	(A)	Nitrogenous bases + Sugar	(B)	Nitrogenous Bases + Phosphate
	(C)	Nitrogenous bases + Sugar + phosphate	(D)	Sugar + Phosphates
MCQ 13	The three stages of interphase are called ____, ____ and ____			
	(A)	G ₁ , S, and G ₂	(B)	G ₁ , G ₀ , and G ₂

	(C)	G ₀ , G ₁ and G ₂	(D)	G ₀ , S and G ₁
MCQ 14	The second portion of the mitotic phase, _____, is the physical separation of the cytoplasmic components into the two daughter cells.			
	(A)	Cytokinesis	(B)	Karyokinesis
	(C)	Interphase	(D)	Prometaphase
MCQ 15	During _____ all the chromosomes are aligned on the equatorial plane, midway between the two poles of the cell.			
	(A)	Anaphase	(B)	Metaphase
	(C)	Telophase	(D)	Interphase

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