

**PARUL UNIVERSITY**  
**PARUL INSTITUTE OF APPLIED SCIENCES**  
**MID SEMESTER INTERNAL EXAMINATION, APRIL 2020**  
**B. Sc. Microbiology Semester IV**

**Paper Name: Molecular Biology**

**Date: 07/03/2020**

**Paper Code: 11102251**

**Time: 1hr 30min**

**Max. Marks: 40**

**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. **(08)**

- (i) Describe Griffith's Experiment and transforming principle?
- (ii) Describe Watson and Crick Model of DNA.

**Q. 2** Attempt any three questions of the following. **(12)**

- (i) Short note on theta replication
- (ii) Differentiate between nucleoside and nucleotide with diagrams.
- (iii) Write a short note on Replication of DNA
- (iv) Explain Post transcriptional Modifications
- (v) Explain Semiconservative mode of replication.

**Q. 3** Do as directed. Attempt all five questions. **(05)**

- (i) What is Chargaff's rule?
- (ii) Z form of DNA
- (iii) mRNA structure
- (iv) r RNA
- (v) hnRNA

**Q. 4** Write correct option in your answer sheet for following 15 multiple choice questions. **(15)**

MCQ 1	Name the regulatory component of the cell cycle?			
	(A)	Cyclin	(B)	CDK
	(C)	DNA	(D)	RNA
MCQ 2	What were the isotopes used in Blender's Experiment?			
	(A)	P32 and S35	(B)	P 35 AND S32
	(C)	P30 AND S32	(D)	P32 AND S30
MCQ 3	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 4	5'Cap of mRNA is made up of:			
	(A)	AAAAAAA	(B)	7 methyl guanosine
	(C)	Both of the above	(D)	None of the above
MCQ 5	Which one of the following is the corresponding strand of DNA for 5'ATTCTGCA 3'			
	(A)	3'TTTGTCAGT 5'	(B)	3' ACCAGTTA 5'

	(C)	3' TAAGACGT 5'	(D)	3' TTGTCCAA 5'
MCQ 6	The restriction stage of Cell Cycle where cell enter Quiescence with reduced Protein Synthesis and no growth is:			
	(A)	G1	(B)	S
	(C)	G <sub>0</sub>	(D)	G2
MCQ 7	80 S eukaryotic ribosome consists of:			
	(A)	50S + 30S subunits	(B)	60S + 40S subunits
	(C)	40S + 40S subunits	(D)	None of the above
MCQ 8	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 A and B	(D)	Rough strain infects
MCQ 9	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 10	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 11	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 12	The process of formation of RNA is known as _____			
	(A)	Replication	(B)	DNA repair
	(C)	Translation	(D)	Transcription
MCQ 13	Enzyme required for Transcription is			
	(A)	DNA polymerase	(B)	RNA polymerase
	(C)	Helicase	(D)	Gyrase
MCQ 14	Which among this is the start Codon			
	(A)	AGG	(B)	AUG
	(C)	UAA	(D)	UAG
MCQ 15	The acceptor arm in tRNA where incoming amino acid attaches is:			
	(A)	D Loop	(B)	ACC tail
	(C)	T $\psi$ C arm	(D)	Anticodon Arm

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