## PSG COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

### **MSc DEGREE EXAMINATION MAY 2022**

(Second Semester)

#### Branch - BIOCHEMISTRY

#### **MOLECULAR GENETICS**

	Time: Three Hours		Ma	ximum: 50 Marks
	<b>ALL</b> qu	SECTION-A (5 Mar Answer ALL questions carry EQUAL	ons	$(5 \times 1 = 5)$
1.	The direct repeat within the a) 20 bp c) 5-11 bp	IS element has a lengt b) 11-15 bp d) 3-7 bp	h of	
2.	<ul><li>Who proposed holiday mode</li><li>a) Gobind Khurana</li><li>c) Robin Holiday</li></ul>	el for homologous rec b) Louis Pasteur d) Niels Bohr	ombination?	
3.	<ul><li>What is the length of a motif</li><li>a) 30-60</li><li>c) 70-90</li></ul>	f, in terms of amino ac b) 10- 20 d) 1- 10	oids residue?	engtioner of police.
4.	<ul><li>Among all the heat shock pr</li><li>a) Hsp70</li><li>c) Hsp60</li></ul>	oteins which one is kr b) Hsp32 d) Hsp30	iown as char	peronins?
5.	<ul><li>What is the best way to prote</li><li>a) Get yourself vaccinated fo</li><li>c) Use a latex condom durin</li></ul>	or HIV		h control pills
	<u>.</u>	SECTION - B (15 M Answer ALL Questi		

**ALL** Questions Carry **EQUAL** Marks  $(5 \times 3 = 15)$ 

6. a. State c-value paradox.

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OR

- b. Classify multigene families.
- 7. a. Explain endosymbiont therapy.

- b. Illustrate plastid with its types and function.
- 8. a. Outline the techniques involved in studying the DNA-protein interaction.

- b. Explain protein Zinc finger motif.
- 9. a. Provide the general model of gene expressions.

- b. Show the role of NF-kB in brain function.
- 10. a. Discuss the strategies for viral gene expression.

b. Recommend the drugs for HIV.

Cont...

# SECTION -C (30 Marks)

## Answer ALL questions ALL questions carry EQUAL Marks

 $(5 \times 6 = 30)$ 

11. a. Describe the types and functions of transposons.

- b. Elucidate site directed mutagenesis.
- 12. a. Interpret homologous recombinantion.

- b. Explain cytoplasmic inheritance.
- 13. a. Illustrate protein motif binding in DNA with its specificity
  - b. Demonstrate the molecular aspects of binding techniques.
- 14. a. Evaluate the structure and functions of steroid and nuclear receptors.

- b. Illustrate serum response factors in brain development and functions.
- 15. a. Formulate Baltimore classification of replication strategy.

b. Discuss molecular biology of HIV/AIDS.

**END** 

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