QP CODE: D4BBT2403	(Pages: 2)	Reg. No : .....
		Name : .....

FOURTH SEMESTER FYUGP EXAMINATION, APRIL 2026

Discipline Specific Core (DSC) Courses - Major

BOT4CJ205 : CELL & MOLECULAR BIOLOGY

(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

Answer the following questions. Each carries 3 marks (Ceiling: 24 marks)

1.	Comment on Nuclear envelope.	BL2	CO1, CO2, CO3
2.	What are cell cycle checkpoints?	BL2	CO1, CO2, CO3
3.	What is the effect of UV radiation on DNA?	BL1	CO3, CO4
4.	Define "Induced Mutation."	BL1	CO3, CO4
5.	What is a Position Effect?	BL2	CO1, CO2, CO3
6.	Name the radioactive isotopes used by Hershey and Chase.	BL2	CO3, CO4
7.	What is Non-disjunction?	BL2	CO1, CO2, CO3
8.	Define "Leading Strand."	BL2	CO3, CO4
9.	What is a "Repressor Protein"?	BL2	CO3, CO4
10.	What is nucleoid?	BL1	CO1, CO2, CO3

Section B

Answer the following questions. Each carries 6 marks (Ceiling: 36 Marks)

11.	Describe the ultra-structure and functions of chloroplasts.	BL1	CO1, CO2, CO3
12.	Differentiate between Facultative and Constitutive Heterochromatin.	BL2	CO1, CO2, CO3
13.	Describe the features of the Watson and Crick Model of DNA.	BL2	CO3, CO4
14.	Describe Post-transcriptional modifications of eukaryotic mRNA.	BL3	CO3, CO4
15.	Describe the salient features/properties of the Genetic Code.	BL2	CO3, CO4

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16.	Describe the internal zones of the Nucleolus.	BL1	CO1, CO2, CO3
17.	Explain the functional significance of lateral loops in Lampbrush chromosomes.	BL2	CO1, CO2, CO3
18.	Explain the structure and functions of vacuole.	BL1	CO1, CO2, CO3
	Section C		
	Answer any one question. Each carries 10 marks (1 x 10 = 10 Marks)		
19.	Provide a detailed account of the structure, types, and biological functions of RNA.	BL2	CO3, CO4
20.	Discuss the modern molecular concept of the gene, including cistrons, non-coding regions, and regulatory elements	BL1	CO3, CO4
	CO : Course Outcome		
	BL : Bloom's Taxonomy Levels (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)		