

--	--	--	--	--	--	--	--	--	--



**GIET UNIVERSITY, GUNUPUR - 765022**  
**M. Sc. (First Semester) Regular Examinations, February - 2024**  
**22BTPC102 - Cell and Molecular Biology**  
**(Biotechnology)**

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

**PART - A****(2 x 10 = 20 Marks)**

Q.1. Answer <i>ALL</i> questions	CO #	Blooms Level
a. What would happen to the life of a cell if there was no Golgi apparatus?	CO1	K1
b. How are ribosomes in prokaryotic cells different from those in eukaryotic cells?	CO1	K2
c. Write the role of DNA polymerase $\epsilon$ and DNA polymerase $\delta$ in Replication.	CO2	K3
d. How DNA gets damaged?	CO2	K2
e. What is transported in the mitochondria?	CO3	K1
f. Write the correct order of steps in Polymerase chain reaction. Which enzyme is used for DNA amplification in Polymerase chain reaction?	CO3	K3
g. How is Cytokinesis different in animal and plant cell?	CO4	K2
h. What is apoptosis and which protein promotes apoptosis?	CO4	K1
i. Write any two applications of Southern blotting.	CO5	K2
j. What are the 4 techniques for protein extraction?	CO5	K1

**PART - B****(10 x 5 = 50 Marks)**Answer *ANY FIVE* questions

	Marks	CO #	Blooms Level
2. a. What are the key mechanisms involved in cellular transport within an animal cell, and how do they contribute to the movement of substances across the cell membrane?	10	CO1	K1
3.a. Write the TCA cycle in mitochondria.	5	CO1	K3
b. Describe the Replication in Eukaryotic cell.	5	CO2	K2
4. a. Describe the Mitosis and meiosis cell division.	10	CO2	K2
5.a. What is Genetic code? Describe the types and characteristics of codon anticodon. Write the wobble hypothesis.	10	CO3	K1
6. a. Describe the intracellular vesicular trafficking from endoplasmic reticulum to lysosome.	10	CO3	K2
7.a. Describe the process of 5' capping and 3' poly A tail.	5	CO4	K2
8. a. Write the mechanism of action of tumour suppressor genes.	5	CO4	K3
b. Describe the role of transposons in prokaryotic cell.	5	CO5	K1