SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

M.Tech (BT) – I Year (I Sem)	
Course Name: Molecular Biology and virology	**Code: MBT1015**
Time: 02 Hours	**Max Marks: 60**

University Roll No.															

(To be filled by the Student)

Note: Please read instructions carefully:

a) The question paper has 03 sections and it is compulsory to attempt all sections.

b) All questions of Section A are compulsory; questions in Section B and C contain choice.

Section A: Very Short Answer type Questions Attempt all the questions.		**BL**	**CLO**	**Marks (10)**
1.	Describe the events of S phase.	BL 1	CLO 3	02
2.	How many chromosomes are present in a somatic cell?	BL 1	CLO 1	02
3.	What is a response element?	BL 1	CLO 2	02
4.	What are retroviruses and prions?	BL 1	CLO 3	02
5.	Calculate the number of amino acids in a protein having molecular weight 33000?	BL 3	CLO 1	02
Section B: Short Answer Type Questions Attempt any 03 out of 06 questions.		**BL**	**CLO**	**Marks (30)**
1.	Discuss the initiation process of transcription in prokaryotes.	BL 2	CLO 2	10
2.	Explain the gene regulation process in eukaryotes.	BL 2	CLO 2	10
3.	Discuss different levels of DNA packaging in a eukaryotic chromosome.	BL 2	CLO 1	10
4.	What is a secondary messenger and discuss its importance?	BL 1	CLO 3	10
5.	What role does super-coiling plays in packaging of DNA?	BL 1	CLO 1	10
6.	Distinguish between the GPCR and RTK signaling pathways.	BL 4	CLO 3	10
Section C: Long Answer Type Questions/Case Study Attempt any 01 out of 04 questions.		**BL**	**CLO**	**Marks (20)**
1.	Illustrate the roles of different prokaryotic DNA polymerases.	BL 4	CLO 3	20
2.	Explain different stages of mitosis with the help of a well labeled diagram.	BL 2	CLO 1	20
3.	Discuss the various steps of translation process.	BL 2	CLO 2	20
4.	Explain JAK-STAT and RAS/MAPK pathway with the help of diagram.	BL 2	CLO 3	20
