



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 3rd Semester Examination, 2021-22

MCBACOR06T-MICROBIOLOGY (CC6)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

Question No. 1 is compulsory and answer any *four* questions from the rest

1. Answer any *four* questions from the following: 2×4 = 8
 - (a) Name the enzymes present in lysosomes.
 - (b) State a function of Cyc B in the M phase.
 - (c) What is the *cis*-Golgi apparatus?
 - (d) What is the function of actin filaments?
 - (e) What is F₁ particle? What is its function?
 - (f) What is Plasmodesmata? What is its function?
 - (g) Differentiate between sarcoma and lymphoma.

2.
 - (a) Draw a labelled diagram of axoneme. 3
 - (b) How do bacterial and eukaryotic flagella differ from each other in structure and function? 3
 - (c) What are desmosomes and hemidesmosomes? 1+1

3.
 - (a) What are the functions of nucleolus? Draw a labelled diagram of nuclear pore complex. 1 $\frac{1}{2}$ +3
 - (b) What is meant by nuclear-cytoplasmic ratio? What does it indicate? 1 $\frac{1}{2}$ +1
 - (c) What is meant by “S” in case of ribosomes? 1

4.
 - (a) How many types of RNA and proteins are found in the 70S and 80S ribosome? 3
 - (b) What are the extracellular and intracellular matrix adherin proteins? 2
 - (c) Write a short note on tight junction. 3

5. (a) What are the functions of anchoring junction? 2
(b) On which factors membrane fluidity depend? 2
(c) What are integral and transmembrane proteins of the plasma membrane? 2
(d) What are the drawbacks of Davson and Danielli “Sandwich Model” of the plasma membrane? 2
6. (a) What is a cell cycle check point pathway? 2
(b) “All cyclins have their cognate Cdk partners” — Explain. 4
(c) Name the two groups of Cdk inhibitors with examples. 2
7. (a) What is calmodulin? What is its role in the signal transduction of a cell? 1+3
(b) Elucidate the structure of microtubules. What work is performed by the microtubules? 2+2
8. (a) What is the function of signal peptidase? Write down the full form of SRP. In which pathway are they involved? Give a brief description of that pathway. $2 + \frac{1}{2} + \frac{1}{2} + 3$
(b) What do you mean by N-linked and O-linked glycosylations? 2

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

—x—