



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 3rd Semester Examination, 2020, held in 2021

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 attempt any *four* questions from the rest

1. Answer any *four* questions from the following: 2×4 = 8
 - (a) Define autophagy.
 - (b) What are TIM and TOM complexes?
 - (c) Classify Golgi according to its major section and state their functions.
 - (d) What is the function of the centromere?
 - (e) What is the role of SRP in ER directing protein?
 - (f) What is the role of Phosphodiesterases in cAMP dependent GPCR mediated pathway?
 - (g) Explain the roles played by the M phase Cyclins.

2.
 - (a) What is cotranslational transport for secretory protein? 3+3+2
 - (b) How the lysosomal proteins are modified in Golgi apparatus?
 - (c) What is NPC and NLS?

3.
 - (a) Explain the cAMP pathway of signal transduction pathway. 3+1+3+1
 - (b) What is Chiasma?
 - (c) How is a polypeptide translocated in the lumen of the endoplasmic reticulum?
 - (d) What are the constituents of the prokaryotic ribosomes?

4.
 - (a) What is local histone acetylation? What are its consequences? (1+2)+(3+2)
 - (b) What is PEP group translocation? What are the ligands of G-protein coupled receptor?

5. (a) How are mature lysosomes formed? 3+2+3
(b) What are the different fates of the proteins after reaching the Golgi complex?
(c) What are euchromatin and heterochromatin?
6. (a) How membrane proteins are solubilised? 2+2+2+2
(b) What is meant by the synaptonemal complex?
(c) State the different types of Nuclear Lamina Associated Polypeptides and their functions.
(d) What is the difference between a chloroplast and a leucoplast?
7. (a) What do you understand by cognate partners with respect to Cdks? 2+2+3+1
(b) Mention one difference between the G1 phase and the G2 phase of the cell cycle.
(c) Membrane asymmetry has biological significance — Justify the statement.
(d) What is APC with respect to cell cycle?
8. (a) Membrane carbohydrates are involved in cell selection/recognition — Justify the statement. 3+2+2+1
(b) What are different types of ligand gated channels?
(c) What is Transcytosis?
(d) What are COPI coated vesicles?

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.*

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