



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours/Programme 1st Semester Examination, 2021-22

**MCBHGE01T/MCBGCOR01T-MICROBIOLOGY (GE1/DSC1)**

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.*

**Answer Question No. 1 and any *four* questions from the rest**

1. Answer any *four* questions from the following: 2×4 = 8
  - (a) What are inclusion bodies?
  - (b) How plasmids differ from episome?
  - (c) What is Prion?
  - (d) Name two endospore forming Pathogenic Bacteria.
  - (e) Define differential media.
  - (f) 70% alcohol has high bactericidal activity than absolute alcohol (100% alcohol).  
— Explain.
  - (g) Write down the causative agent of COVID-19.
  
2. (a) Define universal phylogenetic tree. 2
  - (b) What do you mean by classical taxonomy? Mention the several characteristics that are measure to group an organism into the classical taxonomy. 1+2
  - (c) Write down about the ecological significance and importance of Gram negative bacteria. 3
  
3. (a) What is the generation time of 100 bacterial cells which are growing logarithmically for 5 hours and produce  $1.7 \times 10^6$  cells? 3
  - (b) What is the Pour Plate technique? What is the advantages and disadvantages of this technique? 1+2
  - (c) How chemostat differ from turbidostat? 2
  
4. (a) Write about the different phases of bacterial growth curve. 4
  - (b) What is glycocalyx? 2
  - (c) Name membrane strengthening compound found in bacterial cell membrane. 2

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| 5. (a) What do you mean by Pleomorphic bacteria? Give example.          | 1+1 |
| (b) What is LPS Layer? Write down the function of it.                   | 1+2 |
| (c) What is temperate virus?  | 1   |
| (d) Write two differences between prokaryotic and eukaryotic ribosome.  | 2   |
| 6. (a) Indicate any one method of cultivation of animal virus.          | 3   |
| (b) Define the following:   | 3   |
| (i) Diauxic growth Curve  |     |
| (ii) Synchronous growth.  |     |
| (c) How radiation responsible for sterilization?                        | 2   |
| 7. (a) What is the function of capsule and outer membrane of bacteria?  | 3   |
| (b) What is Periplasmic space and what is its importance?               | 2   |
| (c) Describe the structure of flagella of Gram (+ve) bacteria.          | 3   |
| 8. (a) What is Pure culture? Write down the importance of Pure culture. | 1+2 |
| (b) How Synthetic media differs from Complex media?                     | 3   |
| (c) What is microelement and macroelement? Cite with example.           | 2   |
| 9. (a) What is interferon?  | 2   |
| (b) Mention two enveloped virus.  | 2   |
| (c) What is Plaque assay?   | 2   |
| (d) What is Cytopathic effect?  | 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.*

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