

SH-I/MCB-102-C-2/19

B.Sc. 1st Semester (Honours) Examination, 2019-20**MICROBIOLOGY****Course ID : 12212****Course Code : SHMCB-102-C-2****Course Title : Bacteriology****Time: 1 Hour 15 Minutes****Full Marks: 25***The figures in the right hand side margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* of the following: 1×5=5
- What is L-form of bacteria?
 - State the differences between eubacteria and archaebacteria.
 - Distinguish fimbriae and pili.
 - Mention the significance of calcium dipicolinate in endospore formation.
 - What is cold sterilization?
 - Why lysozyme is insensitive to archaeal cell wall.
 - Mention the growth condition under which poly-β-hydroxyalkanoate (PHA) is synthesized by bacteria.
 - What is differential medium? Cite example.
2. Answer *any two* questions from the following: 5×2=10
- What do you mean by pure culture? Write a brief note on cultivation of anaerobic bacteria. 2+3=5
 - Briefly explain the salient features and economic importance of Archaebacteria. 3+2=5
 - If in 8h, an exponentially growing culture increases from 5×10^6 cells/ml to 5×10^8 cells/ml, then calculate the number of generation (n), generation time (g) and growth rate. 2+2+1=5
 - Write a short note on zeta-proteobacteria. What is non-proteobacteria? 3+2=5
3. Answer *any one* question from the following: 10×1=10
- Briefly describe the composition and structure of Gram-positive bacterial cell wall. State the functions of it. What component of Gram-negative bacterial cell has endotoxin property? 6+2+2=10
 - Briefly describe the molecular basis of bacterial classification. What are the criteria used for bacterial species concept? 8+2=10