

Total number of printed pages-3

53 (FPT 301) BAMB

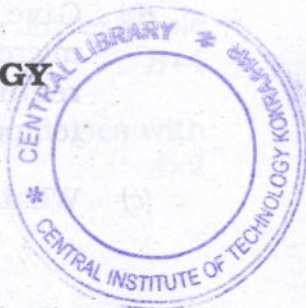
2019

BASIC MICROBIOLOGY

Paper : FPT 301

Full Marks : 100

Time : Three hours



The figures in the margin indicate full marks for the questions.

Answer any five questions out of six.

1. (a) Explain the major structural differences between cellwalls of Gram-positive and Gram-negative bacterial cells using a comprehensive schematic diagram. 8

- (b) Who described bacteria for the first time? How did he describe bacterial cells? 1+2

- (c) Describe Koch's postulates. List the beneficial and harmful influences of microorganisms on human society. 3+6

Contd.

2. (a) Elaborate on the structural components of a bacteriophage using a schematic diagram. 10
- (b) Give the classification of microorganisms on the basis of oxygen requirements and optimum growth temperature. 8
- (c) What are Archaea? Give an example. 2
3. (a) Show, with a schematic diagram, how magnification is achieved in Compound Light Microscope. 6
- (b) Write short notes on **any two** of the following : 7×2
- (i) Growth phases of a bacteria
- (ii) Primary active transport mechanism
- (iii) Mechanism of operation of a batch retort.
4. (a) Elaborate on structure of bacterial ribosome. How does translation take place in bacterial ribosome? 4+4
- (b) Briefly describe the life cycle of *Plasmodium* parasite. 12
5. (a) Briefly explain the **four** mechanisms of action of antibiotics with an example for each. 8+4
- (b) Define the following terminologies with an example for each : 4×2
- (i) Sanitization
- (ii) Antiseptic
- (iii) Sterilization
- (iv) Pasteurization.
6. (a) Describe peptidoglycan structure with a simple schematic diagram. What are Plus (+) sense and Minus (-) sense viruses? 8+2
- (b) How does infectious prions differ from native prions in structure? Describe the lytic cycle of a bacteriophage using a schematic diagram. 2+8

