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53 (FPT 301) BMCB

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) Elaborate on the active secondary transport mechanism carried out by bacterial cells. Use schematic diagram. 10
(b) List five differences between eukaryotic and prokaryotic cells. Write a brief description of basidiomycota. 5+5
2. Briefly elaborate on four major groups of antibiotics with examples. 20

Contd.



3. (a) Elaborate on peptidoglycan structure with a simple schematic diagram. Demonstrate how cell wall structures between Gram positive and Gram negative cells differ. 5+5
- (b) Explain with a simple schematic diagram, how Louis Pasteur's "Swan-neck flask" experiment conclusively established germ theory. 8
- (c) What is plasmid? 2
4. (a) Elaborate on operational principle of a simple batch retort using a schematic diagram. 10
- (b) Write short notes on : 2.5×4
- (i) Koch's postulate
- (ii) (+) sense and (-) sense RNA
- (iii) Botulism
- (iv) Genetic engineering.
5. (a) Use a schematic diagram to elaborate on DNA structure. 10
- (b) Use a simple schematic diagram to explain how magnification is achieved through compound light microscope. 5



- (c) Draw simple schematic diagram of a bacteriophage and label it. 5
6. (a) Draw a simple structure of ribosome and explain how protein synthesis takes place through translation. 8
- (b) Elaborate on euryarchaeota and crenarchaeota with examples. 8
- (c) Give the classification of helminthic parasite and give an example for each of the types. 4