

CBCS SCHEME

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17BT34

Third Semester B.E. Degree Examination, Dec.2018/Jan.2019

Microbiology

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Draw diagrams wherever necessary.

Module-1

- 1 a. Give an overview of Microbial diversity. Add a note on five Kingdom classifications. (10 Marks)
b. Explain in detail Robert Koch's "Germ theory of disease". (05 Marks)
c. Differentiate between Prokaryotes and Eukaryotes. (05 Marks)

OR

- 2 a. With a neat labeled diagram, explain the ultra structure of bacterial cell. Add a note on conjugation in bacteria. (10 Marks)
b. Elaborate on the general features of Prions and Spirochetes. (10 Marks)

Module-2

- 3 a. With the help of a ray diagram, explain the working, application and limitations of phase contrast microscope. (10 Marks)
b. In detail, explain the different types of media used for Microbe culture. (06 Marks)
c. Elaborate on pour plate technique. (04 Marks)

OR

- 4 a. Explain the importance of staining technique taking gram staining as an example. (10 Marks)
b. Define Sterilization. In detail, explain Moist heat sterilization. (10 Marks)

Module-3

- 5 a. Derive a Mathematical equation for generation time of bacteria. Give an account on bacterial growth curve. (12 Marks)
b. Elaborate on physical conditions required for growth of bacteria. (08 Marks)

OR

- 6 a. Explain in detail the heterolactic acid pathway. Add a note on its significance. (10 Marks)
b. Define Primary Metabolites. Explain the process of breakdown of glucose under Aerobic Condition. (10 Marks)

Module-4

- 7 a. Write a critical note on Mycobacterium tuberculosis. (10 Marks)
b. Explain the pathogenesis and diagnosis of Herpes. (10 Marks)

OR

- 8 a. Diagrammatically explain the life cycle of Microbe causing Malaria in India. (10 Marks)
b. Write short notes on Symptoms caused by typhoid bacteria and its diagnostic procedure. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. What are Biofertilizers? Explain the process of isolation and mass production of Rhizobium. (10 Marks)
- b. Write explanatory note on N_2 – Cycle. (10 Marks)

OR

- 10 a. Define Bioremediation. Explain in detail the technique used to detect potability of water. (10 Marks)
- b. Outline the steps involved in the production of penicillin. (06 Marks)
- c. Write short notes on applications of Microbial enzyme viz. protease. (04 Marks)
