CBCS SCHEME

USN | | | | | | | | | | |

18BT32

Third Semester B.E. Degree Examination, Feb./Mar. 2022
Microbiology

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define Microbiology. Write a note on scope of Microbiology. **(10 Marks)**
b. Explain structure, classification and reproduction of Fungi in detail. **(10 Marks)**

OR

2 a. Define taxonomy. What are the various criteria used to classify bacteria? **(10 Marks)**
b. What are the contributions of Robert Koch and Louis Pasteur in the field of Microbiology? **(10 Marks)**

Module-2

3 a. What is pure culture technique? Explain the methods of isolation of a pure culture. **(10 Marks)**
b. Define Staining techniques. Distinguish between gram staining and acid fast staining. Add a note on its application. **(10 Marks)**

OR

4 a. Explain the principle, construction and application of phase contrast microscope. **(10 Marks)**
b. Define sterilization. Explain the working principle and applications of Autoclave and Hot air oven. **(10 Marks)**

Module-3

5 a. Explain the fate of pyruvate under anaerobic conditions. Explain with pathways. **(10 Marks)**
b. Write explanatory note on Primary and Secondary metabolites with examples. **(10 Marks)**

OR

6 a. Explain the EMP pathway and Bioenergetics of it. **(10 Marks)**
b. Define growth curve. How will the growth curve pattern of E-coli change when the medium is supplemented with both glucose and lactose? Justify your answer. **(10 Marks)**

Module-4

7 a. Write a note on :
(i) Diphtheria (ii) Gonorrhea **(10 Marks)**
b. Explain the pathogenecity of mycobacterium leprae. Add a note on the diagnosis of Leprosy. **(10 Marks)**

OR

8 a. Write a note on:
(i) Rabies (ii) SARS **(10 Marks)**
b. Give an account of the disease pathway of Syphilis and Plague. **(10 Marks)**

Module-5

9 a. Define Biogeochemical cycle. Explain Nitrogen and Sulphur cycle. **(10 Marks)**
b. Explain with relevant examples, the role of microorganisms as biofertilizers. **(10 Marks)**

OR

10 a. Explain enzyme production from microbes. Explain production of Vitamin B12. **(10 Marks)**
b. Write explanatory note on:
(i) VAM (ii) Rhizobium. **(10 Marks)**

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