

CBCS Scheme

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15BT34

Third Semester B.E. Degree Examination, Dec.2016/Jan.2017 Microbiology

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. What are the important contributions of Louis Pasteur and Sir Alexander Hamming towards the growth of microbiology? (08 Marks)
b. Enumerate the differences between Prokaryotes and Eukaryotes citing relevant examples. (08 Marks)

OR

- 2 a. With neat labeled diagrams, give an account of the ultra structure of a bacterial cell. (05 Marks)
b. Define Taxonomy. Explain the 5 kingdom classification. (06 Marks)
c. Give an account of the general features of Spirochactes and Actinomycetes. (05 Marks)

Module-2

- 3 a. What do you understand by pure culture techniques? Explain the methods of isolation of a pure culture. (08 Marks)
b. Distinguish between gram staining and acid fast staining. Add a note on its application. (08 Marks)

OR

- 4 a. What is Micrometry? Explain the principle and technique involved in determining size of a cell. (08 Marks)
b. Enumerate and explain the various methods of control of microorganisms by physical means. (08 Marks)

Module-3

- 5 a. Explain the bacterial growth curve. (08 Marks)
b. What is the fate of pyruvate under anaerobic conditions? Substantiate with pathways. (08 Marks)

OR

- 6 a. Describe the metabolism of glucose via the shunt pathway. Add a note on its significance. (08 Marks)
b. Give an account of the balance sheet of glycolysis with relevant reactions. Account for 38 ATBs. (08 Marks)

Module-4

- 7 a. Give an account of the pathogenesis of Mycobacterium Lepae. Add a note on its diagnosis and treatment. (08 Marks)
b. Diagrammatically explain the life cycle of Plasmodium vivax. (08 Marks)

OR

- 8 a. With respect to pathogenesis, distinguish between the different kinds of hepatitis infections. (06 Marks)
b. Give an account of the morphology, pathogenesis and cure of syphilis. (06 Marks)
c. Explain the pathogenesis of plague. (04 Marks)

Module-5

- 9 a. What are Biofertilizers? Explain with respect to Rhizobium and VAM. (06 Marks)
b. Give an account of soil profile and soil microflora. (04 Marks)
c. What is the method of analysis for the detection of coliforms in water? (06 Marks)

OR

- 10 a. Explain the production of penicillin from *Penicillium chrysogenum*. (08 Marks)
b. Discuss the different types of air samples. (08 Marks)

Qapaper

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