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Fourth Semester B.E. Degree Examination, June/July 2019 Biochemistry and Microbiology

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Describe in detail about protein. (10 Marks)
 b. What is a Chemical reaction? Explain in detail the types of chemical reactions. (06 Marks)
 c. What is pH? Explain about buffers and its properties? (04 Marks)

OR

- 2 a. Describe in detail about Nucleic acid. (10 Marks)
 b. Describe in detail about active transport and passive transport with neat diagram. (10 Marks)

Module-2

- 3 a. What is the principle of bioenergetics? Explain the thermodynamics of bioenergetics. (10 Marks)
 b. Write a note on phosphoryl group transfers and ATP hydrolysis. (04 Marks)
 c. Elucidate biological oxidation and reduction reaction in detail. (06 Marks)

OR

- 4 a. Explain Glycolysis with the help of a neat flow chart. (10 Marks)
 b. Explain Citric acid cycle, with a neat diagram. (10 Marks)

Module-3

- 5 a. Briefly explain the structure, classification and reproduction of fungi. (10 Marks)
 b. Briefly explain the structure, classification of viruses. (10 Marks)

OR

- 6 a. Briefly explain the structure, classification and reproduction of protozoa. (10 Marks)
 b. Elucidate the reproduction of bacteria with the help of neat diagrams. (10 Marks)

Module-4

- 7 a. Explain in detail the control of micro – organisms by physical agents. (10 Marks)
 b. Write in detail the physical conditions required for microbial growth. (06 Marks)
 c. Explain in detail about microbial growth curve patterns. (04 Marks)

OR

- 8 a. Write a note on Antibiotics and other Chemotherapeutic agents with examples. (10 Marks)
 b. Explain the Control of microorganisms by Chemical agents. (10 Marks)

Module-5

- 9 a. Explain in detail the synthesis of nano particles by fungi using extracellular and intracellular method. (10 Marks)
 b. Describe about magnetotactic bacteria for natural synthesis of magnetic nanoparticles. (10 Marks)

OR

- 10 a. Explain the mechanism of formation of gold nanoparticles by TMV virus and mention its applications. (10 Marks)
 b. Elucidate the green synthesis of nano particles using aloe vera. (10 Marks)

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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.