CBCS Scheme

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

15NT46

Fourth Semester B.E. Degree Examination, June/July 2018
Biochemistry and Microbiology

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. Explain about concentration of solutions and different ways to express it. **(04 Marks)**
b. Describe in detail about Proteins. **(08 Marks)**
c. Explain in detail about biological membrane, its structure and function. **(04 Marks)**

OR

2 a. Describe in detail about Carbohydrates. **(06 Marks)**
b. Describe in detail about transport and passive transport, with neat diagrams. **(10 Marks)**

Module-2

3 a. What is the principle of bioenergetics? Explain the thermodynamics of bioenergetics. **(10 Marks)**
b. Elucidate pentose phosphate pathway of glucose oxidation, with a neat flow chart. **(06 Marks)**

OR

4 a. Elucidate biological oxidation and reduction reaction in detail. **(08 Marks)**
b. Explain Glycolysis with the help of a neat flow chart. **(08 Marks)**

Module-3

5 a. Describe about prokaryotes and eukaryotes, with neat labeled diagram. **(06 Marks)**
b. Briefly explain the structure, classification and reproduction of bacteria. **(10 Marks)**

OR

6 a. Briefly explain the structure , classification and reproduction of fungi. **(10 Marks)**
b. Explain about the microbial diversity and taxonomy in detail. **(06 Marks)**

Module-4

7 a. Explain in detail about microbial growth curve patterns. **(06 Marks)**
b. Explain in detail the control of micro organisms by physical agents. **(10 Marks)**

OR

8 a. Explain the control of micro organisms by chemical agents. **(10 Marks)**
b. Write in detail the physical conditions required for microbial growth. **(06 Marks)**

Module-5

9 a. Elucidate the synthesis of nanoparticles by bacteria. **(07 Marks)**
b. Explain in detail the synthesis of nanoparticles by fungi using extracellular and intracellular method. **(09 Marks)**

OR

10 a. Describe about magnetotactic bacteria for natural synthesis of magnetic nanoparticles. **(08 Marks)**
b. Explain the mechanism of formation of gold nanoparticles by TMV virus and mention its applications. **(08 Marks)**

* * * * *