Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec– 2018**

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| **Code :** | **17BT2001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASICS OF BIOCHEMISTRY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course Outcome** | **Marks** |
| 1. | a. | Add a note on the following:  Enantiomers with examples. | CO1 | 6 |
| b. | C4 and C2 epimers with one example to each. | CO1 | 6 |
| c. | Optical activity of sugars and racemic mixtures. | CO1 | 8 |
| (OR) | | | |  |
| 2. | a. | Write an account of homopolysaccharides and their functions. | CO1 | 6 |
| b. | What are mucopolysaccharides? List out their biological and clinical significances. | CO4 | 8 |
| c. | Comment on glycoproteins and glycoplipids and mention their importance. | CO5 | 6 |
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| 3. | a. | Write the structure, properties and functions fatty acids. | CO1 | 6 |
| b. | What are simple and compound lipids? Give one example to each. | CO1 | 6 |
| c. | Draw a chemical structure of cholesterol. Summarize the clinical and biochemical functions of cholesterol. | CO5 | 8 |
| (OR) | | | |  |
| 4. |  | Write a note on the following:   1. Essential fatty acids and their sources. 2. Ketone bodies and its clinical significance. 3. Derived lipids and their importance. | CO1 | 6+6+8 |
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| 5. | a. | Discuss the general structure and classification of amino acids. | CO1 | 6 |
| b. | Demonstrate the higher order structural organization of proteins. Stress the role of various bonds in protein conformation. | CO1 | 8 |
| c. | Name the natural and artificial peptides. Give their biological industrial applications. | CO4 | 6 |
| (OR) | | | |  |
| 6. | a. | What is the Ramachandran plot and mention its uses. List out the essential amino acids and its uses. | CO1 | 6 |
| b. | Describe the classification, properties and functions of proteins. | CO1 | 8 |
| c. | Indicate the structure of peptide bond and mention its characteristics and functions. | CO1 | 6 |
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| 7. | a. | Write the chemical structure of nucleosides and nucleotides. How they differ from each other? | CO2 | 6 |
| b. | Illustrate the double helical structure of DNA. Add a note on the importance of hydrogen bond and phosphodiester bond. | CO2 | 8 |
| c. | Review the chemical and biological functions of DNA. | CO2 | 6 |
| (OR) | | | |  |
| 8. | a. | Explain the RNA types, structure and function. | CO1 | 6 |
| b. | What are nucleoproteins? Mention its functions. | CO1 | 6 |
| c. | Diagrammatically explain the ribosome structure, subunits and their functions. | CO1 | 8 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the following:  Functions of water soluble vitamins and their deficiency diseases. | CO3 | 8 |
| b. | Functions of fat soluble vitamins and their deficiency diseases. | CO3 | 6 |
| c. | Enumerate the uses of commercially available nutraceuticals and vitamin supplements. | CO3 | 6 |