PG (CBCS) ODD SEMESTER EXAMINATION, 2021
held in July 2022

LIFE SCIENCE & BIOINFORMATICS

1st Semester

Course No. : LISBCC - 103

(Biochemistry)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

(Answer all questions)

1. Discuss the features and role of hydrogen bonding and hydrophobic interactions with respect to biological structure and functions. [7+7=14]

OR

2. Write short notes on the following: [2x7=14]
   a. Buffers and their physiological roles
   b. Free energy and biochemical reactions

3. Define Km. Derive the Michaelis-Menten equation for an enzyme-catalyzed reaction. [2+12=14]

OR

4. Write short notes on the following: [2x7=14]
   a. Mechanism of enzyme action
   b. Basic structure of proteins

5. Describe the process of glycolysis in aerobic as well as anaerobic conditions. [14]

OR

6. Write short notes on the following: [2x7=14]
   a. Mitochondrial respiratory complex
   b. Generation of NADH by pentose phosphate pathway

7. With suitable diagrams, describe the structure of photosystem I and II. Add a note on the mechanism of photoprotection in plants [7+7=14]

OR

8. Write short notes on the following: [2x7=14]
   a. Assimilation of ammonium
   b. Signal transduction in GA function

9. Describe the structure and signaling of phytochrome and phototropins. [14]

OR

10. Write short notes on the following: [2x7=14]
    a. Regulation of exogenous biological clocks in plants
    b. Signal transduction in plants with example