SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Sc.(PBPBT) - END SEMESTER EXAMINATIONS APRIL-2023
SEMESTER - VI

20UPBCT6012 - Plant Physiology, Biochemistry and Biophysics

Total Duration : 2 Hrs 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Sketch the Calvin-Benson cycle for photosynthetic fixation of CO_2
2. Describe symbiotic nitrogen fixation with the help of a diagram.
3. Classify the enzymes with suitable example.
4. Assertion (A) First law of thermodynamics is applicable to an electric fan or a heater. Reason (R) In an electric fan, the electrical energy is converted into mechanical work that moves the blades. In a heater, electrical energy is converted into heat energy.

   Choose the best answer and justify it.
   A. Both A and R are correct; R is the correct explanation of A.
   B. Both A and R are correct; R is not the correct explanation of A.
   C. A is correct; R is incorrect
   D. Both A and R are incorrect.
5. Illustrate the process of oxidative phosphorylation stating the steps.
6. Distinguish between abiological and biological nitrogen fixation.
7. Explain the factors affecting the enzyme activity.
8. Explain in detail about thermodynamics-Enthalpy and Entropy with suitable examples.

Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. State the difference between cyclic and non-cyclic Photo-phosphorylation.
10. Explain Glycolysis stating the site of occurrence, end products both in aerobic and anaerobic respiration and determine the fate of these products.
11. Distinguish the role of various plant growth regulators with suitable example.
12. Classify the coenzymes with suitable example.
13. Discuss the Bioenergetics of ATP production in living systems.

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