Mid-West University

Examinations Management Office

Final Examinations -2081

Level: Bachelor/Science/Fourth Semester — F. M: 60

Time: 3hrs. — P. M: 30

Subject: Physiology and Biochemistry (BOT441/341)

Candidates are required to give their answers in their own words as far as practicable. Figures in the margins indicate marks.

Section A

Attempt all the long questions. **[4×8= 32]**

1. Discuss the mechanism of electron transport during oxidative phosphorylation in detail with suitable diagram. (6+2)
2. Give detail account of the mechanism of absorption of water in plants with necessary diagrams.

OR

Emphasize the properties, structure and mechanism of enzyme action. (2+2+4)

3. How light reaction is linked to dark reaction? Give the illustrative account of dark fixation of CO_2 in green plants with flow chart. (1+5+2)
4. Give concise account of carbohydrate with its importance.

Section B

Answer the questions in brief. **[7×3=21]**

5. Discuss the mechanism of photoperiodism in SDP and LDP.
6. Explain the ion exchange mechanism which greatly facilitates mineral salt absorption in plants.
7. Write down the role and deficiency symptoms of nitrogen in plants.
8. Draw the flow chart of Krebs' cycle and calculate the ATP_s formed in this process.

OR

Write explanatory note on photosynthetic pigments.

9. Illustrate the roles of thermodynamics in biological process.
10. Define tissue culture. Discuss the methods of tissue culture in brief.
11. Discuss the physiological effects and commercial role of auxin.

Section C

Answer ANY SEVEN questions in very short. **[7×1=7]**

12. Give two examples of fibrous protein.
13. Point out the features of CAM plants.
14. What do you mean by Warburg's effect?
15. Make a simple sketch of stomata of dicot plant.