

Mid-West University
Examinations Management Office

Birendranagar, Surkhet

End Semester (Alternative/Physical) Examinations -2078

Bachelor level/ B.Sc /4th Semester

Time: 3hrs

Subject : Plant Physiology (BOT341)

Full Marks : 60

Pass Marks : 30

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Answer the following question

(6x10=60)

1. a) Explain the mechanism of stomatal movement with suitable diagram and describe the Kranz anatomy. **[5]**
b) Describe active absorption of minerals with special role of carriers. Different between micro and macro nutrient. **[5]**
2. a) Define enzyme and discuss the mechanism of enzyme action. Write the deficiency symptoms of Sulphur. **[5]**
b) What do you understand by cyclic photophosphorylation, Explain? **[5]**
3. a) Explain the structure of chlorophyll pigments with diagram.
b) Define the light reaction and emphasize its major steps with suitable diagram.

OR

Give an account of Auxins with reference to their discovery, distribution and physiological effects.

4. What do you understand by bioenergetics? How laws of thermodynamics govern energy transformation in living organisms?
5. a) What is dark reaction? Discuss the major steps of CO₂ fixation by green plants. Explain Warburg effect with suitable example.
b) What do you understand by Gibbs free energy and write short note on CAM-pathway.

OR

- a) Give a detail account of EMP pathway. How the Gibberellic acid enhance to germinate ? **[5]**
- b) Write the importance of vernalization in plants. Write the advantage of tissue culture. **[5]**
6. Describe Citric acid cycle in plants and explain how ATP is generated in mitochondria show with diagram.

THE END