

PC – 269 CV-19
M.Sc. (Second Semester)
BOTANY
Examination June 2020
Paper- IV

PLANT BIOCHEMISTRY AND BIOENERGETICS

Time : Three Hours]

[Maximum Marks : 80

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following in very short- [1x10=10]
 - (a) Name the electron acceptor during glycolysis.
 - (b) Which is the initial substrate for Kreb's cycle?
 - (c) Name the connecting compound between glycolysis and Kreb's cycle.
 - (d) What is the site of β -oxidation of fatty acids?
 - (e) Which enzyme requires molybdenum as the cofactor?
 - (f) What is the name of multiple forms of an enzyme catalyzing the same reaction?
 - (g) What is the name of Photoreceptors commonly involved in light entrainment of the biological clock in moulds and plants?
 - (h) Which hormone is responsible for fruit ripening?
 - (i) Application of which hormone delays the onset of senescence in leaves?
 - (j) Which part of the plant perceives the vernalization effect?
2. Answer very briefly and precisely- [2x5=10]
 - (a) Define "Redox Potential".
 - (b) Enumerate the functions of lipids.
 - (c) Explain Michaelis-Manton Equation.
 - (d) What are Cryptochromes?
 - (e) Define "Signal - Transduction".

Section-B

Answer the following questions in detail-

[15x4=60]

3. Describe TCA cycle in detail.

Or

Describe at length the structure of lipids.

4. Describe the phytochromes emphasizing their biological properties.

Or

Comment upon-

(a) Mechanism of Enzyme action.

(b) Photo – morphogenic Receptors.

5. Discuss the structure, physiological effects and mechanism of "Auxins".

Or

Write notes on-

(a) Ethylene.

(b) Brassinosteroids.

6. Write a detail account on "Photoperiodism".

Or

Explain the Floral Induction and its development.