

**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  $\beta$ -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-Menton 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.