

PE-269
(542) M.Sc. BOTANY (SECOND SEMESTER)

Examination JUNE 2022

Compulsory/Optional

Group-

Paper-

Name/Title of Paper- PLANT BIOCHEMISTRY AND BIOENERGETICS

Time: Three Hours

Maximum Marks-080

Minimum Passing Marks-029

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

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

Section-A

1- Answer the following questions:-

1x10=10

- a. What is the name of the electron acceptor during glycolysis.
- b. Which is the connecting compound between glycolysis and Krebs's cycle?
- c. Which is the 5 carbon compound in Krebs's cycle?
- d. What is the name of the amino acid which accumulates under both drought and salinity stress?
- e. Which one is the competitive inhibitor of succinic dehydrogenase?
- f. Acceptor of CO_2 in C_4 plants is _____
- g. In which organelle β -oxidation of fatty acids takes place.
- h. Which serves as a marker for Cytochrome Oxidase?
- i. Which is called as a fruit ripening hormone?
- j. Which one is the precursor for IAA in plants?

2- Answer the following questions in short

2x5=10

- a- What are the functions of ATP?
- b- Draw only flow diagrams of Pentose Phosphate Pathway.
- c- Comment upon the "Allosteric Enzymes".
- d- Comment upon Brassinosteroids.
- e- Define photoperiodism in short.

Section-B

Answer all questions in detail

15x4=60

3- Write in detail the mechanism of Anaerobic respiration.

Or

Write notes on:-

a. Storage lipids

b. Electron Transport System

4- Write a brief essay on "Enzymes".

Or

Write critically notes on- (any 2)

a) Michaelis-Menten equation b) Cryptochromes c) Photo-morphogenic Signaling

5- What are "Plant Hormones"? Give the structure, discovery and mode of actions of "Gibberellins".

Or

What do you understand by Signal Transduction? Explain with diagrams.

6- What is floral induction? Describe the genetic and molecular analysis of Flowering.

Or

Write notes on-

a) Phytochromes

b) Vernalization