[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1743 **L**

Unique Paper Code : 2162013602

Name of the Paper : PLANT BIOCHEMISTRY AND METABOLISM

Name of the Course : **BOTANY**

Semester : VI

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all . **Question no. 1 is compulsory.**
3. All parts of question should be answered together.

Q1. (a) **Fill in the blanks** **(1x5 = 5 marks)**

i) The synthesis of complex molecules from simple molecules with the utilization of energy is called .....
ii) In photosynthesis Light reaction occurs in ..... and the dark reaction occurs in .....
iii) For the production of one molecule of Glucose .....ATP & ..... NADPH2 molecules go through the C3 cycle.
iv) ..... number of molecules of Acetyl Co-A are produced after beta-oxidation of 16 carbon fatty acid.
v) The term enzyme was first named by .....

(b) Expand the following **(1x5 = 5 marks)**

i. RuBisCO
ii. PEP
iii. TAG
iv. FAD
v. DCPIP

(C) Define the following ***(Any five)*** **(1x5 = 5 marks)**

i. Amphibolic pathway
ii. Coupled Reaction
iii. Absorption Spectrum
iv. Michaelis constant (Km)
v. RQ
vi. Phosphorescence
vii. Plastoquinone (PQ)

P.T.O.

Q2. **Differentiate between the following (*Any Five*)** **(5x3 = 15 marks)**

i) C3 and C4
ii) Cyclic and Non- Cyclic Photophosphorylation
iii) Lock-key and Induced fit hypothesis of enzyme action
iv) Substrate level phosphorylation and oxidative phosphorylation
v) Competitive and non-competitive inhibition
vi) Saturated and unsaturated fatty acids

Q3. Write short notes of the following (*Any three*) **(3x5=15 marks)**

i) Ammonia assimilation in nodules
ii) Cyanide resistant respiration
iii) Classification of enzymes
iv) Blackmans law of limiting factor
v) Mobilization of lipids during seed germination

Q4. (a) Explain various factors affecting enzyme activity **(7 marks)**
(b) Give an account of Beta oxidation of fatty acids along with its energetics **(8 marks)**

Q5 (a) Discuss in detail C_2 cycle and its significance. **(6+2=8 marks)**
(b) Explain the flow of electrons in light dependent phase with the help of a diagram. **(5+2=7marks)**