

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, MARCH 2020
M. Sc. Semester 2

Subject: Biochemistry

Paper Code: 11203156 Title of the paper: Plant Biochemistry

Date: 3/3/2020

Time: 2:30 pm to 4:00 pm

Maximum Marks: 40

Instructions:

- 1. All questions are compulsory and options are given in first and second question only.**
- 2. Numbers to the right of question indicate the marks of respective question.**

Q. 1 Attempt any one question of the following. **(08)**

- (i) C3 cycle with diagram
- (ii) Describe-Light dependent reaction

Q. 2 Attempt any three questions of the following. **(12)**

- (i) Photochemical reaction center in photosystem
- (ii) Which are three different forms in which water is present in the soil?
- (iii) Explain- External secretory tissue
- (iv) What are the differences between C3 and C4 plants?
- (v) Short note on Plasmodesmata

Q. 3 Do as directed. Attempt all five questions. **(05)**

- (i) Define-Turgor pressure
- (ii) What is root quiescent zone?
- (iii) Evapotranspiration
- (iv) What is absorption?
- (v) Define-Photorespiration

Q. 4 Write correct option in your answer sheet for following 15 multiple choice questions. **(15)**

MCQ 1 A plant cell wall is mainly composed of

- | | |
|-------------|---------------|
| (A) Protein | (B) Cellulose |
| (C) Lipid | (D) Starch |

MCQ 2 Large storage for food, water and waste is present in

- | | |
|-------------|---------------|
| (A) vacuole | (B) tissue |
| (C) organ | (D) Cellulose |

MCQ 3 Plasmodesmata connection helps in

- | | |
|---|---|
| (A) Cytoplasmic streaming | (B) Movement of substances between cell |
| (C) Locomotion of unicellular organisms | (D) None of above |

MCQ 4 Where does light reaction take place?

- | | |
|---------------|---------------------------|
| (A) Grana | (B) Stroma |
| (C) Cytoplasm | (D) Endoplasmic reticulum |

MCQ 5 In photosynthesis dark reaction, is called so because

- (A) It occurs in dark. (B) It does not require light energy.
- (C) It cannot occur during daytime (D) It occurs more rapidly at night.
- MCQ 6 Name the pigment which is responsible for absorption of light in plants?
 (A) Chlorophyll (B) Stoma
 (C) Xylem (D) Phloem
- MCQ 7 Gap junctions are otherwise known as plasmodesmata.
 (A) True (B) False
- MCQ 8 Name the structural unit of photosynthesis?
 (A) Thylakoid (B) Grana
 (C) Stroma (D) Chlorophyll
- MCQ 9 Which of the following statements are true regarding Photosystems?
 (A) Photosystems are arrangements of chlorophyll and other pigments packed into thylakoids. (B) Many Prokaryotes have only one photosystem.
 (C) Both A and B are correct. (D) Only A is correct.
- MCQ 10 To produce 3 glucose molecules _____ ATP and _____ NADPH₂ molecules are required.
 (A) 54, 36 (B) 54, 30
 (C) 36, 60 (D) 18, 12
- MCQ 11 The source of CO₂ during calvin cycle in C₄ plant is
 (A) Malic acid (B) OAA
 (C) PEP (D) RuDP
- MCQ 12 Light reaction of photosynthesis results in formation of _____.
 (A) O₂ (B) NADPH + H⁺
 (C) ATP (D) All of these
- MCQ 13 In Calvin cycle,
 (A) fructose 1,6 diphosphate undergoes dephosphorylation. (B) ATP is formed during dephosphoylation of fructose
 (C) 1,3 di PGA undergo phosphorylation (D) none of these
- MCQ 14 In non-cyclic photophosphorylation, all the participants acts as electron donor and acceptor except
 (A) Chl-a of PS I (B) Chl-a of PS II
 (C) NADP (D) Both (A) and (B)
- MCQ 15 In non-cyclic photophosphorylation
 (A) ATP is generated (B) Both PSI and PSII are involved
 (C) Electron flow is unidirectional (D) All the above

-- End of Paper--