

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, APRIL 2017
M. Sc. Semester II
Subject: Biochemistry

Paper Code: 11203151

Title of the paper: Plant Biochemistry & Human Nutrition

Date: 30 /03 /2018

Time: 10:00 a.m to 11:30 a.m.

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.**
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- Q. 1** Attempt any one question of the following. **(08)**
(i) What is seed dormancy? describe its different type
(ii) Describe Photosystem I and Photosystem II
- Q. 2** Attempt any three questions of the following. **(12)**
(i) Short note on N₂ cycle along with diagram.
(ii) describe type of seed germination
(iii) Symbiotic N₂ fixation
(iv) Describe the mechanism of quantum capture
(v) Draw the calvin cycle and describe its steps.
- Q. 3** Do as directed. Attempt all five questions. **(05)**
(i) What is secondary metabolites? Give the example of it.
(ii) Give the definition of Photosynthesis?
(iii) Write down the Components of Nitrogenase enzyme
(iv) What is plant growth hormone? List out its type
(v) What is nitrification?
- Q. 4** Write correct option in your answer sheet for following 15 multiple choice questions. **(15)**
- MCQ 1 In cyclic photophosphorylation the light energy electrons are driven out from
(A) Chlorophyll a 683 (B) P 700
(C) Chlorophyll a 673 (D) P 870
- MCQ 2 The site of Dark reaction of Photosynthesis is
(A) Grana (B) Stroma
(C) Thylakoids (D) Both (a) and (b)
- MCQ 3 _____ ions help in photolysis of water
(A) Mn⁺⁺ (B) Mg⁺⁺
(C) Cl⁻ (D) both (a) and (c)
- MCQ 4 In Calvin cycle,
(A) fructose 1,6 diphosphate (B) ATP is formed during
undergoes dephosphorylation. dephosphoylation of fructose
(C) 1,3 di PGA undergo (D) none of these
phosphorylation
- MCQ 5 Unidirectional flow of e⁻ in non-cyclic photophosphorylation is

- (A) PS II -- e- ----> PS I -- e- ----> NADP -- e- ----> water
- (B) Water -- e- ----> PSII -- e- ----> PS I -- e- ----> NADP
- (C) PS I -- e- ----> NADP -- e- ----> water -- e- ----> PS II
- (D) Water -- e- ----> PS I -- e- ----> PS II -- e- ----> NADP
- MCQ 6 Photosynthetic pigments are located in _____
- (A) Grana (B) Stroma
(C) Thylakoids (D) None of these
- MCQ 7 Light reaction occurs in _____
- (A) Grana (B) Stroma
(C) Thylakoids (D) Both (a) and (b)
- MCQ 8 A Seed contains
- (A) Stored food (B) Embryo
(C) Seed coat (D) All of these
- MCQ 9 All are synthetic auxins except
- (A) NAA (B) 2,4-D
(C) IAA (D) 2,4,5-T
- MCQ 10 Seed dormancy may be due to
- (A) Immature embryo (B) Hard seed coat
(C) Presence of germination inhibitors (D) All of these
- MCQ 11 Which of the following is not a function of Auxin
- (A) Inducing Dormancy (B) Enhancing cell division
(C) Inducing callus formation (D) None of these
- MCQ 12 Cytokinin are
- (A) Adenine derivatives (B) Guanine derivatives
(C) Cytidine derivatives (D) Thymine derivatives
- MCQ 13 In tissue culture, high cytokinins to auxin ratio _____
- (A) Root differentiation (B) Shoot differentiation
(C) Callus formation (D) Both (a) and (b)
- MCQ 14 Gibberellins was named after a fungus called
- (A) Gibberella Fujikuroi (B) Gibberella gaditijirrii
(C) Gibberella acumenata (D) Gibberella africana
- MCQ 15 High concentration of ethylene is present in
- (A) Ripening fruits (B) Young leaves
(C) Buds (D) Meristamatic tissue