

**PARUL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**M.Sc., Winter 2019-20 Examination**

**Semester: 2**  
**Subject Code: 11203151**  
**Subject Name: Plant Biochemistry & Human Nutrition**

**Date: 11/12/2019**  
**Time: 02:00 pm to 04:30 pm**  
**Total Marks: 60**

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type (Each of 04 marks) (08)**  
(a) Explain the photosynthesis mechanism respective Dark and Light reaction
- Q.1. B) Answer the following questions (Any two) (04)**  
(a) Short note (Each of 02 marks) (04)  
1. Hill reaction  
2. List the factors effect the seed germination  
(b) Short note on Proton gradient related to ATP synthesis (04)  
(c) Short note on Functions of secondary metabolites in plants (04)
- Q.2. A) Answer the following questions. (04)**  
(a) Short note (Each of 02 marks) (04)  
1. Note on light receptors (Pigment systems)  
2. Nature of secondary metabolites and their distribution  
(b) Short note on Seed germination and Dormancy (04)
- Q.2. B) Answer the following questions (Any two) (03)**  
(a) Do as directed (Each of 01 marks) (03)  
1. Define photophosphorylation  
2. Any two examples for co<sub>2</sub> fixation in c<sub>3</sub> plants  
3. Nature of secondary metabolites  
(b) Steps in mechanism of photorespiration (03)  
(c) What are the biochemical changes occur in seed germination (03)
- Q.3. A) Essay type (Each of 04 marks) (08)**  
(a) What is BMR? Explain the factors affect BMR.  
(b) Make a note on Carbohydrate digestion and their dietary requirements
- Q.3. B) Answer the following questions (Any two) (04)**  
(a) Short note (Each of 02 marks) (04)  
1. Define allergens with two examples  
2. List the Essential fatty acids  
(b) Short note on Biological value of a protein (04)  
(c) Short note on Antinutrients with example (04)
- Q.4. A) Answer the following questions. (04)**  
(a) Short note (Each of 02 marks) (04)  
1. Calorific value of foods  
2. Short note on starvation  
(b) Short note on deficiencies of B-complex vitamins (04)
- Q.4. B) Answer the following questions (Any two) (03)**  
(a) Short note (Each of 01 marks) (03)  
1. Food contaminants  
2. Any two Sources of Vitamin A and D  
3. Role of Vitamin K in blood clotting  
(b) Short note on Dietary fibers (03)  
(c) Short note on symbiotic N<sub>2</sub> fixation. (03)