

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
B.Sc., Winter 2017-18 Examination

Semester: 3
Subject Code: 11103202
Subject Name: Metabolism-II

Date: 29/12/2017
Time: 10:30 am to 1:00 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)** Explain electron transport chain with oxidative phosphorylation. (08)
- Q.1. B) Answer the following questions (Any two)**
- (a) Short note. (04)
1. What are cytochromes? Give two examples?
 2. Write a note on essential aminoacids.
- (b) Explain Calvin cycle. (04)
- (c) Structure of mitochondria with well label diagram. (04)
- Q.2. A) Answer the following questions.**
- (a) Short note. (04)
1. Short note on high energy compounds any two.
 2. Write the source of vitamin D.
- (b) Write a short note on secondary messengers. (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Multiple choice questions. (03)
1. Which of the following ETC components accepts only one electron
(a) Oxygen (b) FMN (c) FAD (d) cytochrome c
 2. Oxidative phosphorylation occurs in
(a) mitochondria (b) nucleus (c) cell membrane (d) ribosomes
 3. The first step in photosynthesis is the
(a) Formation of ATP
(b) Ionisation of water
(c) Excitement of an electron of chlorophyll by light
(d) Formation of NADH₂
- (b) Write a short note on Acid base regulation. (03)
- (c) Write a short note on CAM cycle. (03)
- Q.3. A) Brief note.** (08)
- (a) Light reaction occurring in plants during photosynthesis.
- (b) Explain the Mechanism of action of steroid hormone insulin and it's regulation.
- Q.3. B) Answer the following questions (Any two)**
- (a) Short note. (04)
1. Function of steroid hormones.
 2. Give a short note on toxic compounds in the metabolic regulation.
- (b) Write a short note on respiratory inhibitors. (04)
- (c) Write short note on protein malnutrition. (04)
- Q.4. A) Answer the following questions.**
- (a) Short note. (04)
1. Write a short note on essential fatty acids.
 2. Describes the terms – antivitaminosis and hypervitaminosis.
- (b) ATP serves as a currency of a cell justify it. (04)

Q.4. B) Answer the following questions (Any two)

(a) Short note.

(03)

1. What is balanced diet.

2. What is the metabolic function of vitamin E?

3. Define Basal metabolic rate.

(b) Give the classification of minerals.

(03)

(c) Draw and label the structure of chlorophyll.

(03)