

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

Semester: 2
Subject Code: 11103152
Subject Name: Metabolism- I

Date: 11/05/2018
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) Essay Type (08)**
 (a) Describe Glycogen synthesis.
- Q.1. B) Answer the following questions (Any two)**
- (a) Describe briefly the significance of HMP shunt. (04)
 (b) Draw a well labeled diagram of TCA or Krebs cycle. (04)
 (c) Write a short note on Oxidative phosphorylation. (04)
- Q.2. A) Answer the following questions.**
- (a) Fill in the blanks. (Each of 02 marks) (04)
1. A specialized system for transport of activated fatty acids from cytosol to mitochondria is _____.
 2. Acetyl CoA from mitochondria is transported into cytosol after its conversion to _____ for fatty acid biosynthesis.
- (b) Draw the pathway for beta oxidation of palmitic acid. (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Multiple choice questions. (Each of 01 marks) (03)
1. _____ is not a ketone body.

(A) Acetone	(B) β -Hydroxy butyrate
(C) Acetoacetate	(D) Acyl CoA
 2. A fatty acid which is not synthesized in the body and has to be supplied in the diet is

(A) Palmitic acid	(B) Lauric acid
(C) Linolenic acid	(D) Palmitoleic acid
 3. The cholesterol molecule is

(A) Benzene derivative	(B) Quinoline derivative
(C) Steroid	(D) Straight chain acid
- (b) Name three steroid hormones synthesized from cholesterol. (03)
 (c) Describe fatty acid synthesis. (03)
- Q.3. A) Essay Type (08)**
 (a) Describe Urea cycle with the help of diagram.
- Q.3. B) Answer the following questions (Any two)**
- (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
1. Transamination
 2. Deamination
- (b) Differentiate between Ketogenic and Glucogenic aminoacids. (04)
 (c) Explain GS/GOGAT pathway. (04)
- Q.4. A) Answer the following questions.**
- (a) Describe de novo pathway for Purine biosynthesis. (04)
 (b) Describe Pyrimidine biosynthesis briefly. (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Short answer questions. (Each of 01 marks) (03)
1. Conversion of ribonucleotides to deoxyribonucleotides is catalyzed by which enzyme.
 2. What is the end product of purine metabolism in humans?
 3. Write the name of metabolic disease associated with over production of Uric acid.
- (b) Name the components that make the nucleotides? (03)
 (c) Draw the structures of purine nitrogen bases. (03)