

B.Sc. Biotech Part II Examination, 2016

Faculty of Science

(Biochemistry II)

Time: 3 Hours

Maximum Marks: 50

Note: Question 1 is compulsory, Attempt five questions in all, selecting at least one question from each section.

Q1. Answer the following in one word or one two lines:

- (i) What is end product of glycolytic pathway?
- (ii) What is the site of oxidation of fatty acid?
- (iii) The atoms of pyrimidine ring are derived from which three components?
- (iv) What is urea cycle disorder?
- (v) What is Transamination?
- (vi) What do you understand by gluconeogenesis?
- (vii) Where does glycolysis take place in a cell?
- (viii) Define Metabolism?
- (ix) Which sugar is present in DNA?
- (x) where is glycogen found in body?

Section A

Q2. Write short note on:

- a) catabolism & Anabolism
- b) Basics of Fermentation

Q3. Write a detailed account on Pentose phosphate pathway?

Section B

Q4. Describe the oxidation of saturated fatty acids?

Q5. Presence of cholesterol in blood is an “essential evil”. Describe the structure and different stages of biosynthesis process of cholesterol?

Section C

Q6. Write a short note on:

- a). Photosystems
- b). Different types of chlorophyll pigment

Q7. What is nitrogen excretion? Write a detailed account on urea cycle?

Section D

Q8. What is difference between denovo and salvage pathway? Describe the biosynthesis of purine nucleotide in detail?

Q9. Write a short note on:

- a). phosphorus Cycle
- b). Importance of nucleic acid

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Q1. Answer the following in two lines:

- i) Write difference between glycolysis and Gluconeogenesis?
- ii) What is the site of biosynthesis of membrane phospholipids?
- iii) Why the photorespiration term as C3 cycle?
- iv) What is nitrogen excretion?
- v) Define the salvage pathway?

Section A

Q2. Write short notes on:

- I) Redox potential
- II) Exothermic and endothermic reaction

Q3. What is carbohydrate metabolism? Describe the citric acid cycle in detail?

Section B

Q4. Define the role of lipid metabolism in human body? Explain biosynthesis of triacylglycerols in detail?

Q5. Write short notes on:

- I) Membrane phospholipids
- II) Biosynthesis of steroids

Section C

Q6. Describe the anatomy of C3, C4 and Cam plants? Describe the Calvin Benson cycle in detail?

Q7. Write short notes on:

- i) Metabolic Fate of amino group
- ii) Decarboxylation & oxidative degradation of amino acid

Section D

Q. 8 Define different pyrimidines in DNA with their structure and also explain their biosynthesis by de novo pathway?

Q9. Write an essay on phosphorus and sulphur regulation?