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BP 203 T

BINA CHOWDHURY CENTRAL LIBRARY
(GIMT & GIPS)
A.P.S. Hatki Chowapara,
Kawaha, Dist. U.P.

Roll No. of candidate

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2020

B.Pharm. 2nd Semester End-Term Examination

BIOCHEMISTRY - I

(New Regulation)

Full Marks - 75

Time - Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer all question.

(20 × 1 = 20)

(i) Which one of the following is an example of ketose sugar?

- (a) Glucose (b) Fructose
(c) Mannose (d) Galactose

(ii) Which of the following amino acid is optically inactive?

- (a) Phenylalanine (b) Glutamine
(c) Glycine (d) Alanine

(iii) The coenzyme is

- (a) Often a metal
(b) Always a protein
(c) Often a vitamin
(d) Always an inorganic compound

(iv) In which organisms does glycolysis occur?

- (a) Aerobic organisms only
(b) Anaerobic organisms only
(c) Both aerobic and anaerobic
(d) None of the above

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- (v) Which of the following enzyme catalyses first step of glycoysis?
- (a) Hexokinase
 - (b) Pyruvate kinase
 - (c) Phosphofructokinase
 - (d) None of the above
- (vi) In the TCA cycle, which of the following combines with Acetyl CoA to form a 6 carbon compound?
- (a) Glucose
 - (b) Thiamine
 - (c) Pyruvate
 - (d) Oxaloacetate
- (vii) Which of the following is defined as the creation of new glucose from molecules that are not carbohydrates, such as proteins and lipids?
- (a) Gluconeogenesis
 - (b) Glycogenesis
 - (c) Glycogenolysis
 - (d) None of the above
- (viii) What is the final product of Electron Transport Chain?
- (a) NADH_3
 - (b) O_2
 - (c) ATP
 - (d) ADP
- (ix) At which end are the new DNA bases added?
- (a) 5' triphosphate end
 - (b) 3' triphosphate end
 - (c) 5' OH end
 - (d) 3' OH end
- (x) The enzymes of the TCA cycle in a eukaryotic cell are located in the
- (a) Nucleus
 - (b) Mitochondria
 - (c) Plasma cells
 - (d) Lysosomal bodies
- (xi) How many ATPs are produced from one molecule of fatty acid?
- (a) Depends upon length of the fatty acid
 - (b) 30
 - (c) 60
 - (d) 80

(xii) Number of water soluble molecules ketone bodies are

- (a) 1 (b) 2
(c) 3 (d) 4

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(xiii) Ketone Bodies are made from?

- (a) Acetone (b) Pyridine
(c) Mineral Acid (d) Acetyl-CoA

(xiv) Condition in which the rate of synthesis of ketone bodies exceeds the rate of utilization is called

- (a) Ketonemia (b) Anaemia
(c) Diabetes (d) Colour Blindness

(xv) Which of the following enzymes remove supercoiling in replicating DNA ahead of the replication fork?

- (a) DNA topoisomerase
(b) Primase
(c) Helicase
(d) Topoisomerase

(xvi) The enzyme that joins bits of DNA is

- (a) DNA topoisomerase
(b) Primase
(c) DNA ligase
(d) Topoisomerase

(xvii) The site for protein synthesis is

- (a) Mitochondria
(b) Ribosome
(c) Golgi body
(d) Nucleus

(xviii) On ribosome mRNA binds to the

- (a) Smaller subunit
(b) Larger subunit
(c) None of these
(d) Both of these

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(xix) Which site of the tRNA binds to the mRNA?

- (a) Codon
- (b) Amino acid
- (c) Anticodon
- (d) Five prime end

(xx) What products of glucose oxidation are necessary for oxidative phosphorylation?

- (a) Acetyl CoA
- (b) Pyruvate
- (c) NADPH
- (d) NADH and FADH₂

2. Answer any Seven:

(7 × 5 = 35)

- (a) Schematically represent TCA cycle. 5
- (b) Write the different stages of fatty acid oxidation. 5
- (c) Write a note on Enzyme inhibition. 5
- (d) Explain the process of ketone bodies formation. 5
- (e) Write about urea cycle and its disorders. 5
- (f) Illustrate the basic structure of DNA. 5
- (g) Explain about catabolism of Phenylalanine and its related disorders. 5
- (h) Write a note on organisation of human genome. 5
- (i) Write a note on electron transport chain and its mechanism. 5

3. Answer any Two:

(2 × 10 = 20)

- (a) With Schematic representation explain the process of glycolysis. Calculate the energetic and mention the significance of glycolysis. (6+3+1=10)
- (b) Explain the process of protein synthesis. (10)
- (c) Derive Michaelis-Menten equation. Write the factors affecting enzyme activity. (6+4=10)