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PY 132605

BINA CHOWDHURY CENTRAL LIBRARY
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Azara, Hatkhowapara,
Guwahati - 781017

Roll No. of candidate

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2019

B.Pharm. 6th Semester End-Term Examination

BIOCHEMISTRY

(Old Regulation)

Full Marks – 100

Time – Three hours

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

Answer question No. 1 and any *six* from the rest.

1. Answer the following : (Choose the correct answer)
(10 × 1 = 10)
- (i) Which of the following enzyme catalyzes the first step of glycolysis
- (a) Hexoknase
 - (b) Pyruvate Kinase
 - (c) Phosphofructokinase
 - (d) Aconitrase

[Turn over

- (ii) The general term used for the anaerobic degradation of glucose to obtain energy is
- (a) Anabolism
 - (b) Oxidation
 - (c) Fermentation
 - (d) Metabolism
- (iii) The coenzyme is
- (a) Often a metal
 - (b) Always a protein
 - (c) Often a vitamin
 - (d) Always an inorganic compound
- (iv) The enzymes of the TCA cycle in a eukaryotic cell are located in the
- (a) Nucleus
 - (b) Mitochondria
 - (c) Plasma cells
 - (d) Lysosomal bodies
- (v) What important reducing agent is an important product of the pentose phosphate pathway?
- (a) NAD^+
 - (b) NADP^+
 - (c) NADH
 - (d) NADPH

- (vi) Elevated level of serum LDH₁ indicates
- (a) Liver Problem
 - (b) Heart Attack
 - (c) Kidney Failure
 - (d) Muscle Spasm
- (vii) The first amino group entering into urea cycle is
- (a) Carbonyl phosphate
 - (b) Ornithine
 - (c) Argininosuccinate
 - (d) None of the above
- (viii) Nitrogen atoms of urea produced in the urea cycle are derived from
- (a) Nitrate
 - (b) Nitrite
 - (c) Ammonia and aspartic acid
 - (d) Ammonia
- (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) Which of the following elongation factor is called as translocase?
- (a) EF2
 - (b) EFG
 - (c) both (a) and (b)
 - (d) EF-Tu and EF-Ts

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2. Answer any six : (6×15=90)

- (a) What are the different components of electron transport chain? Explain the mechanism of oxidative phosphorylation. Mention the different inhibitors of oxidative phosphorylation. Explain the importance of oxidative phosphorylation. (3+6+3+3=15)

- (b) What are nitrogen balance and its significance? What is transamination? With proper illustration, explain urea cycle. What are the different metabolic disorders related to urea cycle? (4+2+6+3=15)
- (c) What do you mean by the term enzyme? With example, explain the different enzyme nomenclature systems. With proper diagram and equation, explain enzyme kinetics. (1+7+7=15)
- (d) Explain the process of glycolysis. With calculation, explain the total numbers of ATP produced by one molecule of glucose upon complete aerobic breakdown. (7+8=15)
- (e) What is mutation? Give some examples of physical and chemical mutagens. Explain the process of DNA replication and transcription. (2+3+5+5=15)
- (f) What is genetic code? With proper illustration, explain the process of protein synthesis. Mention the antibiotics involved in the inhibition of protein synthesis. (2+10+3=15)
- (g) What are the different stages of fatty acid oxidation? What are ketone bodies? Write down the process of ketogenesis. (7+2+6=15)
- (h) Write short note on any *three* : (3 × 5 = 15)
- (i) Pentose phosphate pathway
 - (ii) Malate shuttle
 - (iii) Vitamin B complex as co-enzyme
 - (iv) Cori Cycle.

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