Seat Number

वलय - 008

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BP 203-T
Biochemistry
(712203)

P. Pages : 3

Time : Three Hours **Max. Marks : 75**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Draw appropriate diagrams wherever necessary.
5. Figure to the right indicate marks.
6. All the questions are compulsory.

1. Select appropriate option for the following questions. **20**

a) Which among following is an Invert Sugar.
   a) Glucose b) Maltase
   c) Lactose d) Sucrase

b) The Lippoprotein which is bod for health is
   a) VLDL b) HDL
   c) LDL d) Chylomicron

c) Sulphur containing Amino Acid is
   a) Cystine b) Tyrosine
   c) Histidine d) Yalins

d) TCA cycle occurs in
   a) Mitochondria b) Cytosol
   c) Nucleus d) Lysosome

e) Symptom of Glucose – 6 – phosphate deficiency is
   a) Anemia b) Hepatitis
   c) HHH syndrome d) COPD – COPS

f) Polysaccharides are
   a) Polymers b) Acids
   c) Proteins d) Oils

g) Saturated fatty acid is
   a) Palmitic Acid b) Oleic Acid
   c) Linoleic Acid d) Arachidonic acid

h) Semi essential amino acid is
   a) Arginine b) Lysine
   c) Glycine d) Threonine

i) ATP synthase activity is associated with mitochondrial Enzyme Complex.
   a) II b) III
   c) I d) V

j) Conversion of pyruvate to Acetyl Co-A is
   a) Reversible
   b) Required participation of Lipoic Acid
   c) Biotin dependent
   d) Occurs in Nucleus

k) The 'P : O Ration' for oxidation of $FADH_2$ is.
   a) 2 b) 3
   c) 4 d) 5

l) DNA does not contains
   a) Uracil b) Adenine
   c) Thymine d) Cytosine

m) Sugar differing in structure around single carbon atom are
   a) Epimers b) Isomers
   c) Stereoisomers d) All of these

n) Relationship between free energy. Enthalpy and Entropy is given by
   a) $\Delta G = \Delta H - T\Delta S$ b) $\Delta S = \Delta G - T\Delta H$
   c) $\Delta H = T\Delta S - \Delta G$ d) None of these

o) Irreversible reaction in glycolysis is catalysed by
   a) Hexokinase b) Triose phosphate isomerase
   c) Phosphohexose isomerase d) Phosphoglycerate – Mutase.

p) Acetyl Co-A upon oxidation xia TCA cycle gives
   a) 12 ATP b) 24 ATP
   c) 38 ATP d) 15 ATP

q) Nitrogenous base present in lecithin is
   a) Choline b) Ethanolamine
   c) Serine d) Inositol

r) Gluconeogenesis is conversion of
   a) Lactate to Glucose b) Pyruvate to Glucose
   c) Oxaloacetate to glucose d) All of these

s) Linear sequence of Amino Acids in primary structure is containg
   a) Peptide linkage b) Hydrogen bonds
   c) Covalent linkage d) All of these

t) Enzymes sealing okazaki fragments are
   a) DNA ligase b) Polymerase
   c) Topoisomerase d) Primase

2. Solve **any two.** **20**

a) Explain various levels of structural organization of proteins.

b) Give detail account on TCA cycle.

c) Explain protein metabolism as Transamination and De-amination

3. Solve **any seven.** **35**

a) Explain mechanisms of Enzyme Action using Fischer's and Koshland's model.

b) Explain β – oxidation of fatty acids.

c) Define Lipids and classify them giving suitable example for each class.

d) Add a note on DNA Replication.

e) Outline the synthesis of Vit. D.

f) Classify enzymes in detail.

g) Explain Pentose Phosphate pathway.

h) What urea cycle? Explain it in short. state significance.

i) State and explain pathway for Glycolysis. Add note on Energetics.

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