BIOCHEMISTRY

a) DNA does not contain

i. Thymine
ii. Adenine
iii. Uracil
iv. Deoxyribose

ANS (iii)

b) In humans purine are catabolised to uric acid due to lack of the enzyme:

i. Urease
ii. Uricase
iii. Xanthine oxidase
iv. Guanase

ANS (ii)

c) Glycine gives _____ atoms of purine.

i. C2, C3
ii. C4, C5 and N7
iii. C4,C5 andN9
iv. C4,C6 andN7

ANS(II)

d) In DNA, genetic information is located in

i. Purine bases
ii. Pyrimidine bases
iii. Purine and pyrimidine bases
iv. sugar

ANS (III)

e) The structural stability of the double helix of DNA is as cribbed largely to

i. Hydrogen bonding between adjacent purine bases
ii. Hydrophobic bonding between staked purine and pyrinuidine nuclei
iii. Hydrogen bonding between adjacent pyrimidine bases
iv. Hydrogen bonding between purine and pyrimidine bases

ANS (IV)

f) A key substance in the committed step of pyrimidines biosynthesis is

i. Ribose-5-phosphate
ii. Carbamoyl phosphate
iii. ATP
iv. Glutamine

ANS (II)

g) Osteoporosis is characterized by _____of bone

i. demineralization
ii. Increase in bone
iii. Both A &B
iv. None of these

ANS (I)

h) The following element is involved in wound healing

i. Calcium
ii. Sodium
iii. Magnesium
iv. Zinc

ANS (IV)

i) Manganese inhibit_____

i. Lipid peroxidation
ii. Arginase
iii. Pyruvate carboxylase
iv. Peptidase

ANS (I)

j) Iodine is absorbed through_____

i. Skin
ii. Lungs
iii. Small intestine
iv. All of these

ANS (IV)

k) Heme is synthesized from

i. Succinyl-CoA and glycine
ii. Active acetate and glycine
iii. Active succinate and alanine
iv. Active acetate and alanine

ANS (II)

l) Daily requirement of phosphorous for an infant is

i. 240-400mg.
ii. 1.2gm
iii. 800mg
iv. 800-1200mg

ANS (I)

m) BMR is increased in all of the following except

i. Hyperthyroidism
ii. Anaemia
iii. Addison's disease
iv. Pregnancy

ANS (III)

n) The principal cation of extra cellular fluid:

i. K+
ii. Na+
iii. H+
iv. Ca+

ANS (II)

o) Zn is present as prosthetic group in this enzyme:

i. Carbonic anhydrase
ii. Carboxy peptidase
iii. Lactate dehydrogenase
iv. All of these

ANS (IV)

p) What is ceruloplasmin?

i. Plasma protein
ii. Stored form of copper
iii. Both A & B.
iv. None of these

ANS (III)

q) Transferrin is a type of

i. Albumin
ii. α-globulin
iii. β1 globulin
iv. γ-globulin

ANS II

r) Iron is absorbed from

i. Stomach
ii. Duodenum and jejunum
iii. Ileum
iv. None of thes

ANS II

s) Lock-and-key"model of enzyme action proposed by Fisher implies that:

i. The active site is flexible and adjust to substrate
ii. The active site requires removal of PO4 group
iii. The active site is complementary in shape to that of the substrate
iv. Substrates change conformation prior to active site interaction

ANS III

t) In competitive inhibition which of the following kinetic effect is true?

i. Decreases both Km and Vmax
ii. Increases both Km and Vmax
iii.Decreases Km without affecting Vmax
iv. Increases Km without affecting Vmax

ANS IV

BIOCHEMISTRY

T .Compounds having the same structural formula but differing in spatial configuration are known as

i. Stereoisomers
ii. Anomers
iii. Optical isomers
iv. Epimer

ANS I

a) A dissaccharide linked by α -1-4 Glycosi- deic linkages is

i. Lactose.
ii. Sucrose
iii. Cellulose
iv. Maltose

ANS IV

b) On boiling Benedict's solution is not reduced by

i. Sucrose
ii. Lactose
iii. Maltose
iv. Fructose

ANS I

c) Cori cycle is

i. Synthesis of glucose
ii. Reuse of glucose.
iii. Uptake of glucose.
iv. Both A&B

ANS IV

d) Out of 24 mols of ATP formed in TCA cycle, 2 molecules of ATP can be formed at "substrate level" by which of the following reaction?

i. Citric acid→ Isocitric acid
ii. Isocitrate→ Oxaloacetate
iii. Succinic acid→ Fumarate
iv. Succinylcat→ Succinic acid

ANS IV

e) When choline of lecithin is replaced by ethanolamine the product is

i. Spingomyelin
ii. Cephalin
iii. Plasmalogens
iv. Lysolecithin

ANS II

f) Which of the following is a hydroxyl fatty acid:

i. Oleic acid
ii. Ricinoleic acid
iii. Stearic acid
iv. Arachidonic acid

ANS II

g) Glycosphingolipids are a combination of

i. Ceramide with one or more sugar residues
ii. Sphingosine with galactose
iii. Glycerol with galactose
iv. Sphingosine with phosphoric acid

ANS I

h) In β−oxidation of fatty acids which of the following are utilized as co-enzymes?

i. NAD+ and NADP+
ii. FADH 2andNADH+H+
iii. FAD and FMN
iv. FAD and NAD+

ANS IV

i) A carbohydrate not found in DNA is

i. Ribose
ii. Deoxyribose
iii. Ribulose
iv. Thyamine

ANS I

j) Cholesterol, bile salts, vitamin D and sex hormones are

i. Mucolipids
ii. Glycolipids
iii. Phospholipids
iv. Isoprenoid lipids

ANS IV

k) Each of the following can be an inter- mediate in the synthesis of phosphatidyl choline except

i. Phosphatidyl inositol
ii. CDP-choline
iii. Phosphatidyl ethanolamine
iv. Diacylglycerol

ANS I

l) Acrolein test is answered by:

i. Cholesterol
ii. Glycerol
iii. Glycoside
iv. Sphingol

ANS II

n) The smell of the fat turned rancid is due to:

i. Presence of vit E
ii. Presence of quiniones
iii. Phenols
iv. Volatile fatty acids

ANS IV

o) Which of the following regulates lipolysis in adipocytes?

i. Activation of fatty acid synthesis mediated by CAMP
ii. Glycerol phosphorylation to prevent futile esterification of fatty acids.
iii. Activation of triglyceride lipase as a result of hormone stimulated increases in CAMP levels.
IV Activation of CAMP production by Insulin

ANS III

p) All long chain fatty acids with even number of carbon atoms are oxidized to a pool of _____ by β-oxidation.

i. CO2
ii. Propionic acid
iii. Acidic acid
iv. Acetyl CoA

ANS IV

q) Phospholipids are important cell membrane components because:

i. They have glycerol
ii. They can form bilayers in water
iii. They have both polar and nonpolar portions
iv. All of these

ANS III

r) Phospholipase A2 is an enzyme which removes a fatty acid residue from lecithin to form.

i Lecithin fragments
ii. Phosphotidic acid
iii. Glyceryl phosphate
iv. Lysolecithin

ANS IV

s) A fatty acid which is not synthesised in human body and has to be supplied in the diet:

i. Palmitic acid
ii. Oleic acid
iii. Linoleic acid
iv. Stearic acid

ANS III

t) The triacyl glycerol present in hydrolysed by:

i. Lingual lipase
ii. B. Pancreatic lipase
iii. Co-lipase
iv. Lipoprotein lipase

ANS IV

a) Urea synthesis takes place in

i. Blood
ii. Liver
iii. Kidney
iv. Heart

ANS II

b) N-terminal amino acids of a polypeptide are estimated by

i. Edmann reaction
ii. Sanger's reagent
iii. Formaldehyde test
iv. Ninhydrine reaction

ANS I

c) The amino acids required for creatine formation:

i. Glycine
ii. Arginine
iii. Methionine
iv. All of these

ANS IV

d) The transaminase activity needs the coenzyme:

i. ATP
ii. B6 – PO4
iii. FAD+
iv. NAD+

ANS II

e) If one amino acid is fed excess, the absorption of another is

i. Slightly accelerated
ii. Moderately accelerated
i. Highly accelerated
ii. Retarded

ANS IV

f) When haemoglobin takes up oxygen there is a change in the structure due to the moving closer together of

i. α-chains
ii. β-chains
iii. γ-chains
iv. α and γ chains

ANS II

g) A nucleoside consists of

i. Nitrogenous base
ii. Purine or pyrimidine base + sugar
iii. Purine or pyrimidine base + phosphorous
iv. Purine + pyrimidine base + sugar + phosphorous

ANS II

h) Template-directed DNA synthesis occurs in all the following except

i. The replication fork
ii. B. Polymerase chain reaction
iii. Growth of RNA tumor viruses
iv. D. Expression of oncogenes

ANS III

i) In humans, the principal metabolic product of pyrimidines is

i. Uric acid
ii. Allantoin
iii. Hypoxanthine
iv. β-alanine

ANS IV

j) Which pathway is correct for catabolism of purines to form uric acid?

i. Guanylate→Adenylate→Xanthine→hypo- xanthine→Uric acid
ii. Guanylate→inosinate→Xanthine→hypo- xanthine→Uric acid
iii. Adenylate→Inosinate→Xanthine hypo- xanthine→Uric acid
iv. Adenylate→Inosinate→hypoxanthine Xanthine→Uric acid

ANS IV

k) The four nitrogen atoms of purines are derived from

i. Urea and NH3
ii. NH3, Glycine and Glutamate
iii. NH3, Asparate and Glutamate
iv. Aspartate, Glutamine and Glycine

ANS IV

l) Diphenylamine method is employed in the quantitation of

i. Nucleic acid
ii. RNA
iii. DNA
iv. Protein

ANS III

m) In citric acid cycle, GDP is phosphorylated by

i. Succinate dehydrogenase
ii. Aconitase
iii. Succinate thiokinase
iv. Fumarse

ANS III

n) UTP is converted to CTP by

i. Methylation
ii. Isomerisation
iii. Amination
iv. Reduction

ANS III

o)RNA synthesis requires

i. RNA primer
ii. RNA template
iii. DNA template
iv. DNA Primer

ANS III

p) A Gene is

i. A single protein molecule
ii. A group of chromosomes
iii. An instruction for making a protein molecule
iv. A bit of DNA molecul

ANS IV

q) DNA directed RNA polymerase is

i. Replicase
ii. Transcriptase
iii. Reverse transcriptase
iv. Polymerase III

ANS II

r) Transcription is the formation of

i. DNA from a parent DNA
ii. mRNA from a parent mRNA
iii. pre mRNA from DNA
iv. protein through mRNA

ANS III

s) Free purine bases which can be salvaged are

i. Adenine and guanine
ii. Adenine and hypoxanthine
iii. Guanine and hypoxanthine
iv. Adenine, guanine and hypoxanthine

ANS IV

t) Synthesis of DNA is also known as

i. Duplication
ii. Replication
iii. Transcription
iv. Translation