W-2022

Seat Number | | | | | | |

PANKH-26

BP-203T
Biochemistry
(712203)

Total Pages : 5]
Time : 3 Hours

Max Marks : 75

Note : (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) Figures to the right indicate full marks.

(5) *All* questions are compulsory.

1. Multiple Choice Questions : 20

(*i*) The most important sugar concerned with human biochemistry is :

(*a*) Cane sugar (*b*) Glucose

(*c*) Lactose (*d*) Fructose

(*ii*) Which one of the following is not a disaccharide ?

(*a*) Sucrose (*b*) Lactose

(*c*) Maltose (*d*) Starch

(*iii*) The net number of moles of APP produced when one free glucose molecule undergoes glycosis under aerobic condition is :

(*a*) 2 (*b*) 3

(*c*) 8 (*d*) 9

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(iv) Enzymes involving transfer of electrons of the hydrogen atoms of the substrate to oxygen are known as :

(a) Oxygenases (b) Oxidases

(c) Dehydrogenases (d) Hydroperoxidases

(v) The common currency of energy in biological reaction is :

(a) ATP (b) AMP

(c) ADP (d) UDPG

(vi) Which of the statements regarding coenzyme is *incorrect* ?

(a) Every coenzyme is a cofactor and every cofactor is a coenzyme.

(b) Every coenzyme is a cofactor but every cofactor is not a coenzyme.

(c) Coenzymes are the active constitutents of enzymes.

(d) Most of the coenzymes are nucleotides and are composed of vitamins.

(vii) Oxidases are the enzymes which :

(a) Catalyse the removal of hydrogen from one substrate and pass it second substrate.

(b) Catalyse the removal of hydrogen from a substrate and pass it directly to oxygen.

(c) Catalyse the incorporation of oxygen directly into the substrate.

(d) All the three.

(viii) The number of different amino acids found to be present in natural proteins are :

(a) 10 (b) 15

(c) 25 (d) 20

(*ix*) Amino acids exists as :

(*a*) Cations

(*b*) Anions

(*c*) Zwitter ions

(*d*) None of these

(*x*) The metabolism of protein is integrated with that of carbohydrate and fat through :

(*a*) Malate

(*b*) Citrate

(*c*) Isocitrate

(*d*) Oxaloacetate

(*xi*) Which of the following cannot undergo transamination ?

(*a*) Threonine

(*b*) Alanine

(*c*) Serine

(*d*) Valine

(*xii*) Lipids are :

(*a*) Soluble in water

(*b*) Soluble in organic solvents

(*c*) Soluble in both

(*d*) Insoluble in both

(*xiii*) Fatty acids are oxidised mainly by :

(*a*) β-oxidation

(*b*) α-oxidation

(*c*) γ-oxidation

(*d*) All of these

(*xiv*) When the concentration of ketone bodies in human blood increases, the condition is known as :

(*a*) Ketonuria

(*b*) Ketonemia

(*c*) Ketosis

(*d*) Ketogenesis

(xvi) Disorders of lipid metabolism includes :

(a) Fatty liver (b) Obesity

(c) Atherosclerosis (d) All of these

(xvii) The three common bases in DNA and RNA are :

(a) Adenine, Guanine and Cytosine

(b) Adenine, Guanine and Uracil

(c) Adenine, Guanine and Thymine

(d) None of the above

(xviii) The disease gout is characterised by increased level of :

(a) Uric acid (b) Allantoin

(c) Ammonia (d) Creatinine

(xviii) Energy is measured in which of the following units ?

(a) Kelvin (b) Joule

(c) Pascal (d) Mol

(xix) Enthalpy is represented by which of the following symbols ?

(a) H (b) K

(c) S (d) U

(xx) The type of Sugar is nucleic acids are :

(a) Hexose (b) Tetrose

(c) Heptose (d) Pentose

2. Solve any *two* of the following : 20

(*a*) Explain Watson and Crick DNA model and add a note on DNA replication.

(*b*) Explain in detail about transamination and reactions of Urea cycle.

(*c*) Explain the various disorders related to lipid metabolism.

3. Write short notes on the following (any *seven*) : 35

(*a*) Electron transport chain.

(*b*) Energy rich compounds.

(*c*) Classification of enzymes according to IUB.

(*d*) Ketone bodies.

(*e*) Catabolism of Phenylalanine and Phenyl ketonuria.

(*f*) Hyperuricemia and Gout.

(*g*) Enzyme inhibitors.

(*h*) Enthalpy and Entropy.

(*i*) Endergonic and Exergonic reaction.