

2021-24

Time : 3 hours

Full Marks : 60

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Compulsory)

1. Choose the correct answer of the following :

1×10 = 10

(a) _____ is the net gain of ATP during the conversion of Glucose to Pyruvate.

- (i) 2 (ii) 4
(iii) 6 (iv) 8

(b) Excretion of _____ is necessary due to its toxic effect.

- (i) Protein (ii) Ammonia
(iii) Amino acid (iv) Fat

(c) The process of glycolysis takes place in _____

- (i) Cytoplasm (ii) Mitochondria
(iii) Nucleus (iv) None of these

(d) _____ is the site for Gluconeogenesis.

- (i) Liver (ii) Blood
(iii) Muscle (iv) Brain

(e) The end product of Oxidative phosphorylation is _____

- (i) Oxygen (ii) ATP + H₂O
(iii) ADP (iv) NADH

(f) _____ amino acid is both Glucogenic and Ketogenic in nature.

- (i) Leucine (ii) Lysine
 (iii) Isoleucine (iv) Histidine

(g) Cytochromes were described by _____

- (i) Mac Munn (ii) Darwin
(iii) Mendel (iv) None of these

(h) The total number of ATP obtained from the oxidation of one molecule of glucose is _____

- (i) 38 (ii) 8
(iii) 4 (iv) 2

(i) β -oxidation of fatty acid occurs in _____

- (i) Mitochondria (ii) Peroxisomes
(iii) Lysosomes (iv) All of these

(j) The enzymes of HMP shunt are located in _____

- (i) Kidney (ii) Muscle
(iii) Cytosol (iv) Brain

2. Write short note on any **one** of the following : 5

- (a) Metabolism
(b) Ketogenic amino acid
(c) ATP
(d) Electron transport chain

Group – B

Answer any **three** questions of the following :

15×3 = 45

3. Describe the steps involved in urea cycle.
4. What do you mean by compartmentalization of metabolism ? Discuss with example.
5. Enumerate the pathway of Glycolysis.
6. Write an essay on shuttle system and membrane transporter.
7. Write short notes on any **two** of the following :
- (a) Transamination
(b) Ketogenesis
(c) Glycogenesis
(d) Structure of a fatty acid

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