24225

20223

03 Hours / 80 Marks

Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
(6) In case, multiple answer options are observed for the same sub question of question No. 3, the options appearing first in the answer book shall be treated as answer and assessed accordingly.

Marks

1. Attempt any SIX of the following: **30**

a) Define the term 'Enzyme'. Enlist the factors affecting enzyme activity. Explain effect of substrate concentration and temperature on rate of enzyme catalysed reaction.
b) Explain beta-oxidation of unsaturated fatty acid with energetic of palmitic acid.
c) Enlist various qualitative tests of carbohydrates. Explain significance and procedure of Molisch's Test and Benedict's test.
d) Give the schematic representation of overall view of TCA cyde.
e) Describe lipid profile tests with its clinical significance.
f) Explain secondary structure of protein.
g) Discuss in brief the steps involved in Glycolysis and give its energetic.

2. Attempt any TEN of the following : **30**

a) Name abnormal constituents of urine with the disease associated with them.
b) What are minerals? Give biochemical functions and deficiency disorders of calcium.
c) Explain ETC chain and oxidative phosphorylation.
d) Explain Watson and Crick model of DNA.
e) Give source, chemical nature, functions and deficiency diseases of Vitamin A.
f) What are fatty acids? Classify it based on chemical structure and nutritional requirements with examples.
g) Define
   i) Carbohydrates ii) Vitamins
   iii) Aminoacids
h) Define the term 'Dehydration'. Give its causes. Write any one formula of ORS mixture.
i) Enlist various tests used for assessment of kidney functions. Explain GFR.
j) What is anaemia? What are the different types of anemias ?
k) State the causes of –
   i) Phenylketonuria ii) Alkaptonuria
   iii) Ketoacidosis

P.T.O.

Marks

3. Attempt ALL question of the following : **20**

a) Co-enzyme A is a co-enzyme form of Vitamin _____.

b) Draw structure of cholesterol.

c) Write full form of DNA and RNA.

d) Match the followings.

1. Glucose	a) Hematuria
2. Homogentisic acid	b) Jaundice
3. Bile Pigment	c) Alkaptonuria
4. Blood	d) Glycosuria

Options

A. 1-d, 2-c, 3-b, 4-a
B. 1-b, 2-d, 3-a, 4-c
C. 1-d, 2-b, 3-a, 4-c
D. 1-d, 2-b, 3-c, 4-a

e) True or False: The prokaryote cell has a nucleus.

f) Draw structure of any one monosaccharide.

g) Write the meaning hyperkalemia and hypokalemia.

h) Define biochemistry.

i) Name coenzyme derived from the Vitamin B_1.

j) The reaction identifies presence of peptide bond is _____.

A. Ninhydrin reaction
B. Xanthoproteic reaction.
C. Molisch's reaction
D. Biuret reaction

k) Give two examples of Polysaccharide.

l) Define nucleoside.

m) What are normal bilirubin levels in adults?

n) In conjugated proteins, when the prosthetic group is carbohydrates, it is known as _____.

o) What is Polycythemia Vera.

p) If one NADH molecule completely oxidized by electron transport chain reaction in mitochondria, then it generates _____.

A. 2 ATP
B. 3 GTP
C. 4 ATP
D. 3 ATP

q) ORS stands for _____.

r) Define Biotechnology.

s) _____ : catalyze the synthesis of two molecular substrate into one molecular compound with the release of energy.

A. Ligase
B. Lyases
C. Isomerase
D. Hydrolases

t) Match the followings.

1. Vitamin D	a) Beri - Beri
2. Vitamin C	b) Pernicious anemia
3. Vitamin B_{12}	c) Scurvy
4. Vitamin B_1	d) Ricket

Options

A. 1-d, 2-c, 3-b, 4-a
B. 1-b, 2-c, 3-d, 4-a
C. 1-d, 2-b, 3-a, 4-c
D. 1-d, 2-b, 3-c, 4-a

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