Total No. of printed pages = 4

ER 20-23 T

Roll No. of candidate 01/06/24

2024

D.Pharm. Part-II (Regular) End-Term Examination

BIOCHEMISTRY AND CLINICAL PATHOLOGY

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer from the followings : (20 × 1 = 20)

(i) Carbon atom involved in the formation of osazone are

(a) 1 and 2 (b) 2 and 3

(c) 3 and 4 (d) 5 and 6

(ii) Which of the following is not an aldose sugar?

(a) Fructose (b) Glucose

(c) Mannose (d) Galactose

(iii) Which of the following is an example of aromatic amino acid?

(a) Glycine (b) Serine

(c) Cysteine (d) Tryptophan

(iv) Which of the following lipoprotein contain larger amount of protein?

(a) Very Low-Density Lipoprotein

(b) Chylomicrons

(c) High Density Lipoprotein

(d) Low Density Lipoprotein

(v) Nucleoprotein is an example of ————.

(a) Structural protein (b) Genetic protein

(c) Hormonal protein (d) Defense protein

(vi) Nucleic acids are the polymer of ————————.

(a) Nucleosides (b) Nucleotides

(c) DNA (d) RNA

(vii) Which of the following is an example of transferase enzyme?

(a) Alcohol dehydrogenase

(b) Hexokinase

(c) Aldolase

(d) Cytochrome oxidase

(viii) Which of the following is not a fat-soluble vitamin?

(a) Vitamin A (b) Vitamin B

(c) Vitamin D (d) Vitamin K

(ix) Which of the following vitamin deficiency cause rickets in children?

(a) Vitamin A (b) Vitamin B

(c) Vitamin B12 (d) Vitamin D

(x) Glycolysis is commonly known as

(a) Krebs Cycle

(b) Uronic acid pathway

(c) Embden-Meyerhof pathway

(d) None of the above

(xi) Glycolysis is regulated by which of the following irreversible enzyme?

(a) Hexokinase

(b) Phosphohexose isomerase

(c) Phosphoglycerate kinase

(d) Enolase

(xii) Oxaloacetate is an important intermediate of

(a) Glycolysis (b) Kreb's Cycle

(c) Glycogenolysis (d) Glycogenolysis

(xiii) Which of the following is not an example of Glycogen Storage disease?

(a) Pompe disease (b) Cori disease

(c) Galactosemia (d) Von Gierke's disease

(xiv) Which of the following is the end product of β-oxidation of lipids?

(a) Acetyl CoA (b) Acyl CoA

(c) Palmitoyl CoA (d) All of the above

(xv) Hypercholesterolemia is observed in the disorder(s)

(a) Hyperthyroidism (b) Diabetes mellitus

(c) Nephrotic syndrome (d) All of the above

(xvi) Glutamate pyruvate transaminase involve in

(a) Carbohydrate metabolism

(b) Lipid metabolism

(c) Protein metabolism

(d) None of the above

(xvii) Which of the following element involve in wound healing?

(a) Calcium (b) Sodium

(c) Zinc (d) Magnesium

(xviii) Creatinine clearance test is associated with

(a) Liver function test

(b) Kidney function test

(c) Gastric function test

(d) Thyroid function test

(xix) Urea clearance is less than Glomerular Filtration Rate (GFR) because it is

(a) Partially secreted by the renal tubules

(b) Partially reabsorbed by the tubules

(c) Only filtered by glomeruli

(d) None of the above

(xx) Phenylketonuria is caused due to the deficiency of

(a) Homogentisate oxidase

(b) Phenylalanine hydroxylase

(c) Tyrosine transaminase

(d) None of the above

2. Answer the following questions (Answer any *ten*) : (10 × 3 = 30)

(a) Draw a neat labeled diagram of eukaryotic cell.

(b) What do you mean by reducing sugar? Explain with example.

(c) Classify amino acids based on nutritional requirement.

(d) Write about the qualitative test of proteins.

(e) Give an account on lipoprotein and its compositions.

(f) Explain nucleotide and its component with example.

(g) Classify the vitamins with the example.

(h) Write a note on metabolic disorder of lipids.

(i) Mention few importance of calcium, zinc and iron for our body.

(j) Mention at least five salient features of double helical model of DNA.

(k) Write a note on irreversible reactions of glycolysis.

3. Long answer questions (Answer *six* out of *seven*) : (6 × 5 = 30)

(a) Define and classify carbohydrates with suitable examples. Mention few qualitative tests of carbohydrate.

(b) Describe the classification of protein with suitable example.

(c) Write an account of the various factor affecting enzyme activity.

(d) Outline the Embden-Meyerhof-Parnas pathway and calculate the number of ATP generated for one mole of glucose under aerobic condition.

(e) Give an account of the water distribution and its balance in body.

(f) Explain about routinely performed tests to assess the function of kidneys.

(g) Elaborate the normal and abnormal constituents of urine.