25-01-2023

I-MBBS (Part-I) **04113 A1 + 01113 A2**

(This question paper consists of 2 pages)

First M.B.B.S. (Main) Examination (New Scheme)

January - 2023

Biochemistry

Paper- I

Time: Three Hours

Maximum Marks: 100

Attempt all questions in both sections.

Section-A

1. Fill in the blanks: **6x1=06**

1. Fill in the blanks:

a) Lipoprotein responsible for reverse cholesterol transport is _____.

b) Secondary structure present in collagen protein _____.

c) Low Km value indicates _____ affinity between enzyme and substrate.

d) Chemical name of calcitriol is _____.

e) Nitric oxide is synthesized from _____ amino acid.

f) Type of bilirubin increased in obstructive jaundice is _____.

2. Choose the correct option in the following multiple choice questions: 4x1=4

A) Which type of inhibition warfarin has on vitamin K dependent carboxylase?

a) Competitive

b) Non-competitive

c) Allosteric

d) Suicidal

B) Polysaccharide does not give colour with iodine test :

a) Starch

b) Dextrin

c) Cellulose

d) Glycogen

C) Von -Gierke's disease is characterised by all except :

a) Lactic acidosis

b) Hyperglycemia

c) Hyper uricemia

d) Hyperlipidemia

D) Complex of electron transport chain not functions as proton pump :

a) Complex I

b) Complex II

c) Complex III

d) Complex IV

3. A 66-year-old obese male had severe chest pain in the morning after doing exercise. He described pain as retrosternal and radiating to the left arm. On investigation, serum troponin I was raised. He had complaints of dyspnoea and intermittent palpitations. Based on this history, answer: 5x3=15

a) What is the probable diagnosis?

b) What other investigations are to be performed for diagnosis?

c) What is the role of isoenzymes in the diagnosis of this case?

d) What is a flipped pattern?

e) What are various risk factors for this disease?

4. Write short notes on (Any Five): 5x2=10

a) Ferritin

b) Anion gap

c) Atherosclerosis

d) Uncouplers

e) Denaturation of proteins

f) Transaminases

5. Explain briefly (Any Three): 3x5=15

a) Chemiosmotic theory

b) Krebs-Henseleit cycle

c) Fates of Acetyl CoA

d) Functions of electrolytes

Section-B

6. Discuss the reactions of Krebs cycle with its energetics. Suggest role of vitamins in Krebs cycle. 20

7. Explain Why (Any Five): 5x2=10

a) Liver cannot utilize ketone bodies.

b) Insulin is given to diabetics by subcutaneous route.

c) Eating raw eggs causes biotin deficiency.

d) Vitamin C is not synthesized in humans.

e) Ketoacidosis is observed in starvation.

f) Ammonia is toxic to brain.

8. Explain briefly (Any Four): 4x5=20

a) Products obtained from glycine amino acid

b) Biochemical functions and deficiency manifestations of Vitamin A

c) Diagnostic significance of enzymes

d) Differential diagnosis of jaundice

e) Gluconeogenesis

****