Date: 08-08-2024

0824E 207

First Year MBBS Examination

I MBBS Biochemistry Paper 1

Time: 3 hours

Max Marks: 100

Answer to the points.

Figure to the right indicates marks.

Use separate answer books for each section.

Draw diagrams wherever necessary.

Write legibly.

Section 1

1. Structured Long Question (Any 1

out of 2) (1x10 Marks = 10 marks)

a) write about hormonal regulation of blood glucose. Add a note on Glycogen metabolism. (6+4=10) **(10)**

b) Write about hemoglobin biosynthesis. Add a note on abnormal hemoglobin's. (5+5=10)

2. Case based/Applied short notes (Any 2 out of 3) (2x6 marks = 12 marks) (12)

a) A 30 year old male suffering from malaria and was under anti-malarial drugs. During treatment he developed signs of anemia. Laboratory findings showed decreased Hemoglobin and increased bilirubin levels. (1+3+2=6)

1. Name the enzyme deficient in this pathway.

2. Explain the biochemical basis for hyperbilirubinemia.

3. Name the pathway involved with its significance.

b) A 20 year old girl was referred to hospital with complaints of muscle cramps and progressive muscle weakness. Symptoms were aggravated with exercise, high fat diet and fasting. (1+3+2=6)

1. What is the deficient molecule?

2. Metabolic pathway involved and role of deficient molecule.

3. What is the cause of muscle weakness?

c) 55 year women had history of loss of appetite, nausea, vomiting and Flue(viral) like symptoms since 7 days. Her urine was dark in colour and

noticed icterus over past two days. Laboratory findings- Total Bilirubin= 8.5 mg/dl. Direct Bilirubin = 4.6 mg/dl, serum ALT = 1000 IU/L, Alkaline phosphatase = 250 IU/L.: (1+5=6)

1, What is the diagnosis

2. Write any three differentiating point between Prehepatic, hepatic and obstructive jaundice.

3. Write short notes (Any 3 out of 4) (3x6 marks = 18 marks) (18)

a) Define oxidative Phosphorylation. Explain chemiosmotic theory.

b) Galactose metabolism.

c) Liver function tests with their significance.

d) Phospholipids and their functions.

4. Answer only in 2-3 sentences (Any

5 out of 6) (5x2 marks = 10 marks)

a) Enumerate four important Glycosaminoglycans with their function. **(10)**

b) Define glycolysis and gluconeogenesis.

c) Enumerate types of immunoglobulins with their functions.

d) Inhibiters of Electron transport chain.

e) Qualities of Good doctor.

f) Structural difference between starch and glycogen.

Section 2

5. Structured long question (Any 1 out of 2) (1x 10 marks = 10 marks)

a) Define and classify Enzymes **(10)**

with suitable examples. Add a note on Cardiac enzymes. (1+6+3=10)

b) Describe Beta oxidation of Fatty acids (palmetic acid) with its energetics. (7+3=10)

6. Write short notes (Any 2 out of 3) (2x6 marks = 12 marks) (12)

a) Phase-II reactions of detoxification (Conjugation) with examples.

b) Draw a well labeled diagram of cell membrane and add a note on active transport.

c) Hormonal regulation of blood PH.

7. Write short notes (Any 3 out of 4) (3x6 marks = 18 marks) (18)

a) Role of hormones in water balance.

b) Role of Radio isotopes in diagnosis and prognosis of various diseases.

c) Tumor markers. Examples with clinical significance.

d) Basic principles of communication (AETCOM) wh

8. Answer only in 2-3 sentences (Any 5 out of 6) (5x2 marks = 10 marks)

a) Enumerate causes of metabolic acidosis. **(10)**

b) Essential fatty acids with their functions.

c) Define Chromatography with its applications.

d) Ketosis

e) Enumerate factors affecting enzyme activity.

f) Coenzymes with their functions.