Date: 07-01-2022

0819E373

First Year MBBS Examination

I MBBS Biochemistry Paper 1

Time: 3 hours

Max Marks: 100

1. Answer to the points.
2. Figure to the right indicates marks.
3. Use separate answer books for each section.
4. Draw diagrams wherever necessary.
5. Write legibly.

Section 1

1. Write the following structured long question:((Any 1 out of 2) (10)

a) What are the indications of glucose tolerance test? What precautions need to be taken before doing a GTT? What are the abnormal curves obtained? What is

impaired glucose tolerance (IGT). (2+2+3+3=10)

b) What are different transport mechanisms of human cells draw labeled diagram of cell & sub cellular organelles. Enumerate the metabolic pathways taking place in cell & mitochondria. (1+1+2+6=10)

2. Write the following case based scenario/Applied short notes: (Any 2 out of 3) (12)

a) A 35 year old poor farmer on irregular diet admitted in Govt. hospital with history of frequent diarrhea dermatitis around neck & other body parts with intermittent loss of memory since 2 month, on examination some lesion around neck & dorsum of hand seen. He is Cultivating maize crops & using it in excess as a staple diet since 10 years.i) What is the diagnosis in above case.ii) Which vitamin deficiency

cause above disorder.iii) Name of lesion around the neck.iv) Does antituberculous drug isoniazid affect synthesis.v) Which important amino acid is deficient in maize? Does it have a role as precursor to synthesise the deficient vitamin.

b) Write short note on uncouplers of oxidative phosphorylation & inhibitors & ETC its types.

c) Write short note on Jaundice & what are different types of jaundice with laboratory investigations.

3. Write short notes: (Any 3 out of 4) (18)

a) Define Amphibolic pathways & write down biomedial importance of Amphibolic pathways.

b) What is Substrate level Phosphorylation. Describe Substrate level phosphorylation with Biomedical

importance.

c) What are 5 levels of communications with patients and enumerate the seven facilitatory elements that facilitate the doctor patient communication.

d) What are glycosaminoglycans? Describe distributions and functions of various types of glycosaminoglycans.

4. Answer in 2-3 sentences only:(give biochemical justification) (Any 5 out of 6) (10)

a) Anaplerotic reactions of TCA and its Biochemical Significance.

b) Difference between serum cholinesterase and pseudo cholinesterase. Why this test is important before giving GA to patients.

c) Intravenous methylene blue is used in treatment of methemoglobinemia.

d) Potassium given along with fluid replacement is useful in treatment of diabetic ketoacidosis induced Cerebral edema.

e) Trop-l and CK-MB is specific for MI diagnosis.

f) Potassium Cyanide (KCN) hamper the production of ATP.

Section 2

5. Write the following structured long question: (Any 1 out of 2) (10)

a) Write down classification of enzymes with examples. Define Isoenzymes with examples and describe diagnosis importance of Isoenzymes with examples. (5+5=10)

b) What are fatty acids? Describe B-oxidations of fatty acids and write down metabolic fate of Acetyl CoA. (2+8=10)

6. Write short notes: (Any 2 out of 3) (12)

a) Role of lung in maintaining acid base balance.

b) Discuss important biochemical functions of K+ sodium and calcium.

c) Define Oncogenes. Types and classifications of Oncogenes.

7. Write short notes: (Any 3 out of 4) (18)

a) Metabolic acidosis.

b) RFLP

c) Prostacyclins

d) Enzymes as tumour markers.

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

a) Biotransformation of Xenobiotics.

b) Difference between LCAT and ACAT.

c) Various Mechanism of H+ secretions.

d) Henderson Hasselbalch equations.

e) Lipotropic Factors and Biochemical functions.

f) Methemoglobinemia.