Date: 08-04-2022

0819E379

First Year MBBS Examination

I MBBS Biochemistry Paper 2

Time: 3 hours

Max Marks: 100

Instructions:

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. Answer any one (10)

a) Explain the formation of uric acid. What is the normal serum uric acid level? Explain the disease associated with its accumulation. Suggest a way for lowering serum uric acid level.

b) Write the steps of initiation in eukaryotic translation with a diagram. Add a note on post translational modification. State the mechanism of action of following antibiotics in inhibition of translation.

2. Answer any two (case based scenario/applied short notes) 12 (0)

a) A 2 week old female infant had convulsion. Her mother observed a peculiar mousy odour in child urine. The urine showed a positive ferric - chloride test indicating the presence of phenyl pyruvic acid. (a) What is the diagnosis in this case? (b) Which enzyme is defective in the case? (c) What will be the physiological consequence of the disease?(d) Why it should be detected & treated as early as possible?

b) Biochemical basis of Lesch-Nyhan syndrome.

c) Biochemical explanation of maple syrup

urine disease.

3. Write short notes (answer any three) (18)

a) t RNA

b) Importance of dietary fibre.

c) Laboratory diagnosis of AIDS.

d) Anti oxidant enzymes.

4. Answer in 2-3 lines (give biochemical justification) five out of six (10)

a) Regulation of messenger RNA stability provide a control mechanism of gene expression.

b) Glycemic index.

c) Marcophages shows beneficial effects by generating free radicals.

d) RNA editing mechanism is responsible for Apo B48 synthesis in intestine.

e) Hartnup's disease give rise to pellagra like syndrome.

f) Vitamin K deficiency is responsible for hemorrhagic disease of new born.

Section 2

5. Answer any one (10)

a) Write the various forms, dietary source, deficiency disorder and daily requirement of Vitamin A. Write briefly about the biochemistry of vision.

b) Describe the steps of catabolism of tyrosine. Write the inborn errors of metabolism associated with this pathway.

6. Answer any two (case based scenario/applied short notes) (12)

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a) Sources of ammonia and its metabolism

a) Sources of milk fever.

b) Important compounds synthesized from glycine.

c) Okazaki fragments.

7. Write short notes (answer any three) (18)

a) G proteins

b) Beriberi

c) Structure of collagen

d) Wilson's disease

8. Answer in 2-3 lines (give biochemical justification) five out of six (10)

a) Proteins do not migrate in electric field at their iso electric pH

b) Vitamin B6 deficiency in children causes

convulsion.

c) Differential splicing generates different protein.

d) Folic acid deficiency causes neural tube defect.

e) Ammonia is an excellent vehicle for excretion of H+ ion.

f) Carbohydrate rich food induces sleep while protein rich food causes alertness.