Date: 19-08-2024

0824E 209

First Year MBBS Examination

I MBBS Biochemistry Paper 2

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. Structured Long Question (Any 1

out of 2) (10)

a) Write about Prokaryotic transcription. Add a note on inhibitors of transcription.

b) Write about the steps and applications of Recombinant DNA technology.

2. Case based/Applied short notes (Any 2 out of 3) (6)

a) A 12 year old male child presented with complaints of back pain and knee pain. Urine turns black after few hours of exposure to atmospheric oxygen, his ear pinna showed black pigmentation. What is the diagnosis? Explain the cause of symptoms and

sign. Name the pathway involved Enumerate the other metabolic errors in this pathway along with the respective enzyme deficient. (1+1+2+2=6)

b) A 46 years old man, a chronic alcoholic and smoker, came to hospital with a complaint of severe pain in the great toe. On examination his first metatarsophalangeal joint was inflamed. Laboratory investigation shows an increased level of serum Uric acid =10mg/dl.(1+3+2=6):What is the probable diagnosis? What is the underlying biochemical mechanism? Which drug and life style changes are preferred for the treatment of disease?

c) A one year old boy brought to the

paediatric OPD with complaints of one episode of generalized fits 2 days ago and developmental delay. On examination he had faircomplexion and corneal golden/Green ring Biochemical investigations were - serum Copper = 45 mg/dl (70-155me/dl), serum ceruloplasmin - 37 mg/dl (185-300 mg/dl) (1+3+2=6) 1. What is the possible diagnosis? 2. Whichenzymes are affected in this disorder?. Justify the sign and symptoms. 3. Write absorption and transport of the deficient molecule.

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

(3x6 marks = 18 marks)

a) ACPCR

and its applications.

b) Protein energy malnutrition.

c) Antioxidants and their examples.

d) Mechanism of starvation.

4. Answer only In 2-3 sentences (Any 5 out of 6) (10)

a) Lesch Nyhan syndrome.

b) ABR and factors affecting BMR.

c) Integration of metabolism.

d) Diagnostically important nucleotides.

e) Enumerate type and functions of RNA.

f) Genetic code.

Section 2

5. Structured long question (Any 1 out of 2) (5x2 marks = 10 marks) (10)

a) Write RDA, Sources, biochemical functions and deficiency manifestations of Vitamin C. (1+1+4=4=10)

b) Describe the metabolism of Phenylalanine and tyrosine. Add a note on inborn errors related to them.

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

a) Functions and deficiency manifestations of Vitamin- A.

b) Biochemistry of AIDS.

c) PP Plasma proteins and their functions.

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

a) Explain important transamination reactions with examples.

b) Mechanism of hormone action.

c) Deficiency manifestations of Calcium.

d) Structure of protein.

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

a) A Enlist two important functions of sodium (Na'*)

b) Enumerate four Diagnostically important peptides.

c) Enumerate four important products formed by transmethylation reaction.

d) Important functions of Niacin.

e) Denaturation of proteins.

f) Functions of Zinc.