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Paper Code: MBBS -105

Roll No. | | | | | | | | | | |

MBBS

First Professional Examination, Aug 2016

Biochemistry –I

Time: Three Hours] *[Maximum Marks: 50*

Note: Attempt all questions. Use separate answer sheets for part A & Part B. Parts of a question must be attempted in sequence. Draw well labeled diagram wherever necessary.

Section –A

1. Discuss the steps of β-oxidation of lipids.. [4]

2. Describe- [2×2]
   a. Type I hypersensitivity
   b. Isomerism in carbohydrates

3. Discuss the steps of glycogen breakdown. Discuss Von Gierke's disease. [4]

4. Write short notes on- [2x4]
   a. PDH complex & its coenzymes
   b. Hepatic jaundice
   c. Acute intermittent porphyria
   d. Cyanide poisoning

Section –B

5 Discuss the two primary causes of Ketoacidosis. Discuss the reason for ketone body generation in each. Enumerate the steps of ketone body synthesis & mention the rate limiting step. How do you detect ketone bodies in urine? [8]

6 Discuss the oxygen dissociation curve of haemoglobin & myoglobin with the help of a graph. What is meant by the T & R form of haemoglobin? Name factors that shifts the curve to the left or right. [8]

7 What are isoenzymes? Discuss their role, with the help of examples, in disease diagnosis, with particular emphasis on myocardial infarction. [4]

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MBBS

First Professional Examination, Aug 2016

Biochemistry –II

Time: Three Hours] *[Maximum Marks: 50*

Note: Attempt all questions. Use separate answer sheets for part A & Part B. Parts of a question must be attempted in sequence. Draw well labeled diagram wherever necessary.

Section –A

1. What are porphyrias? Why do some porphyrias result in abdominal pain while others present with cutaneous symptoms? [4]
2. Describe – [2x2]
   a. Factors affecting enzyme activity
   b. Role of glutamine in excretion of nitrogenous waste
3. Name the ketone bodies. What are the causes of ketoacidosis. Describe the biochemical basis of any one of them. [4]
4. Answer briefly: [2x4]
   a. Importance of HDL in cholesterol transport
   b. Biochemical basis of sickle cell anemia
   c. Antimalarials may cause hemolysis in G6PD deficient patients
   d. Why eating a lot of carbohydrates make a person fat

Section –B

5 Discuss the steps of urea cycle. What is the biochemical basis of hyperammonemia. [8]

6 Discuss the steps of prokaryotic replication. Discuss post transcriptional modifications in eukaryotes. [8]

7 Mention the various levels of organization of a protein molecule & briefly describe them with examples. [4]

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MBBS

First Professional Examination (supple), Dec 2016

Biochemistry –I

Time: Three Hours] *[Maximum Marks: 40*

Note: Attempt all questions. Use separate answer sheets for part A & Part B. Parts of a question must be attempted in sequence. Draw well labeled diagram wherever necessary.

Section –A

1. Discuss the structure and bio-medical importance of hetero-polysaccharides.. [4]

2. Describe- [2×2]
   a. Severe combined immunodeficiency (SCID)
   b. Isomerism & its significance in drug design

3. Discuss the significance of eicosanoids. Name two inhibitors of their biosynthesis. [4]

4. Write short notes on- [2x4]
   a. Impact of fast food on ATP generation
   b. Glycosylated haemoglobin & its applied importance
   c. Lactose intolerance
   d. Uncouplers of oxidative phosphorylation

Section –B

5 Discuss the diagnostic criteria for Diabetes mellitus. How is Oral glucose tolerance test performed? What is the biochemical basis for diabetic ketoacidosis? [8]

6 Define & classify lipids. Draw the sketch of a typical lipoprotein. Discuss reverse cholesterol transport. [8]

7 Discuss factors that influence enzyme activity. Discuss competitive inhibition with special reference to drug therapy for gout. [4]

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MBBS

First Professional Examination (supple), Dec 2016

Biochemistry –II

Time: Three Hours] *[Maximum Marks: 40*

Note: Attempt all questions. Use separate answer sheets for part A & Part B. Parts of a question must be attempted in sequence. Draw well labeled diagram wherever necessary.

Section –A

1. Describe the overall process of aminoacid catabolism. Discuss the role of coenzymes in the process. [4]
2. Describe – [2x2]
   a. Xenobiotic metabolism
   b. Mechanism of action of insulin
3. Describe the different steps involved in post transcriptional processing of hn RNA [4]
4. Answer briefly: [2x4]
   a. Significance of glycogen as a storage compound
   b. Western blotting
   c. Chemiosmotic theory of oxidative phosphorylation
   d. Secondary active transport

Section –B

5 Discuss the synthesis, transport & fate of Ammonia. What is the biochemical basis for Ammonia toxicity. [8]

6 Describe protein synthesis in prokaryotes. Highlight the sites where different classes of antibiotics act & inhibit it. [8]

7 Trace the metabolic fates of acetyl CoA. [4]

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