APRIL 1991

412

(Non-Clinical Subjects)

M.Sc. DEGREE EXAMINATION IN THE FACULTY OF MEDICINE FOR SCIENCE GRADUATES, APRIL 1991.

Branch III — Biochemistry

Final

Paper II — ENZYMES, INTERMEDIARY METABOLISM AND NUTRITION

Time : Three hours.

Answer any FIVE questions.

All questions carry equal marks.

1. Describe the mechanism of action of enzymes and effects of various factors that influence their action. Discuss enzyme inhibition.

2. Discuss the formation of ATP in the body. How is the high energy in ATP utilised ?

3. Write briefly on :

   (a) Na-K ATPase.

   (b) HMG-CoA.

   (c) Porphyrins.

   (d) TPP.

4. Discuss the disposal of Nitrogen from the body.

5. Discuss the metabolism and Nutritional significance of

   (a) Iron.

   (b) Calcium.

6. Discuss the metabolism of cholesterol. How is the cholesterol transported in blood ?

7. Discuss the role and regulation of

   (a) Phosphofructokinase.

   (b) Fatty acid synthetase.

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MARCH 1992

412

M.Sc. DEGREE EXAMINATION, MARCH 1992.

(Non-Clinical — Subjects for Science Graduates)

Branch III — Biochemistry — Final

Paper II — ENZYMES, INTERMEDIARY METABOLISM AND NUTRITION

Time : Three hours. Maximum : 100 marks.

Answer any FIVE questions.

All questions carry equal marks.

1. Discuss the process of Gluconeogenesis. How is this regulated ? Discuss the importance of gluconeogenesis.

2. Describe the metabolism of ketone bodies. Discuss the regulation of ketogenesis. Outline their metabolic significance in (*a*) Starvation (*b*) Diabetes Mellitus.

3. Describe the formation of the following in the body :

   (*a*) Uric acid.

   (*b*) Nicotinic acid.

   (*c*) Adrenaline.

   (*d*) Testosterone.

4. Describe the formation and breakdown of glycogen. How are they regulated ? Name the glycogen storage diseases.

5. Write notes on :

   (*a*) Congulation of Blood.

   (*b*) Biochemistry of Muscle contraction.

6. Describe the role of B group of vitamins in metabolism.

7. Describe the requirements of a normal healthy diet.

APRIL 1993

1188

M.SC. (NON-CLINICAL) DEGREE EXAMINATION

FINAL BR III BIOCHEMISTRY

PAPER II ENZYMES INTERMEDIATRY METABOLISM AND NUTRITION

Time: Three hours Max.marks:100

Answer ALL questions

All questions Carry Equal marks

1. Describe the various metabolic adaptations that take place in the body from fully fed state to starvation. Add a note on the role of various hormones in it. (25)

2. Describe the post-translational modifications with suitable examples. (25)

3. How are the enzyme inhibitors classified. Describe the methods available for estimation of KI. Add a note on the use of inhibitors in biochemistry and medicine. (25)

4. Write notes on: (5 x 5 = 25)

   1. limiting aminoacid

   2. Tyrosine kinase

   3. Proton pump

   4. Cyclic G.M.P.

   5. Spectrin

NOVEMBER 1993

PR 464

M.SC (NON CLINICAL) DEGREE EXAMINATION

FINAL BRANCH III BIOCHEMISTRY

PAPER II ENZYMES INTERMEDIATRY METOBOLISM AND NUTRITION

Time: Three hours Max.marks:100

Answer All Questions

All Questions Carry Equal Marks

1. Give in detail the metabolism of branched chain amino acids. What are the diseases associated with it? (25)

2. Describe in detail the Calcium homeostasis in the body.(25)

3. Describe the various theories regarding oxidative Phosphoryla Add a note on uncouplers. (25)

4. Write notes on:

   a. Eicosonoids
   b. Proenzymes
   c. s D.N.A
   d. 2, 3 diphosphoglycerate
   e. Endothelin (5 x 5 =25)

APRIL 1995

SB 325

M.Sc. (Non-Clinical)DEGREE EXAMINATION
FINAL
Branch III BIOCHEMISTRY
Paper II - Enzymes , Intermediary Metabolism and Nutrition.

Time: Three hours Max. Marks: 100

Answer All Questions

1.Decribe in detail the metabolism of sulphur-containing amino acids. Add a note on the inborn errors of metabolism associated with it. (25)

2.Describe the pathway of denovo synthesis of purine nucleotides. How is the pathway regulated ? (25)

3.Write short notes on :

a) Gamma glutamyl cycle
b) Protein Kinases
c) Lecithin cholesterol acyl transferase
d) Biological amines
e) Pyruvate dehydrogenase complex

(5 X 10 =50)

APRIL 1997

MP 287

M.Sc.(Non-clinical) DEGREE EXAMINATION

Final - Branch III - Biochemistry

Paper II - ENZYMES, INTERMEDIARY METABOLISM AND NUTRITION

Time: Three hours Max.marks:100

Answer All Questions

1. Describe in detail the metabolism of Indole-containing amino acids, pointing out the disorders associated with it. (25)

2. Give in detail the steps involved in the biosynthesis of protein. How is the synthesis regulated? (25)

3. Write briefly on:

   (a) Substrate level phosphorylation

   (b) Michaelis constant and its importance

   (c) SDA of food stuffs

   (d) Essential fatty acids

   (e) Phosphorylases.

(5x10=50)

APRIL 2000

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M.Sc. (Non-Clinical) DEGREE EXAMINATION.

Final — Branch III — Biochemistry

Paper II — ENZYMES, INTERMIDIARY METABOLISM AND NUTRITION

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the source, absorption, biochemical function of the Fat soluble vitamin A. How is it estimated? (25 marks).

2. Discuss the factors known to affect enzyme action. What is km and V_{max} of an enzyme and their importance. Give the various types of enzyme inhibition and their biological importance. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Metabolism during short and long periods of starvation

(b) Biochemical importance of basal metabolic rate and the factors affecting it

(c) Various types of detoxification reactions with two example for each type

(d) Structure and functions of immunoglobulins

(e) The genetic code and its salient features.
