

FIRST M.B., B.S. EXAMINATION, JUNE 1990

Semester I
BIOCHEMISTRY

Three hours

Maximum : 90 marks

- (i) Answer ALL the questions.
- (ii) Section A and Section B should be answered in separate answer books.
- (iii) Section C must be answered separately on the answer sheet placed inside the question booklet as per the instructions given on the first page.

SECTION A

Outline the steps involved in the β -oxidation of fatty acids. (15 marks)

Describe the sources, requirement, physiological functions and metabolism of calcium. (15 marks)

SECTION B

Write short notes :

- (a) Sources and daily requirement of Vitamin A with special reference to Rhodopsin Synthesis.
- (b) Isoenzymes.
- (c) G.L.T.T. (Glucose Tolerance Test).
- (d) Genetic code
- (e) Urea cycle.
- (f) Uric acid.

(6 × 5 = 30 marks)

November 1991

FIRST M.B.B.S. DEGREE EXAMINATION

First Semester

Part I

BIOCHEMISTRY

Time : Two and a half hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Draw diagrams wherever necessary

SECTION A - (2X15=30 marks)

1. Describe the metabolism of phenylalanine and tyrosine in the body. Add a note on the in born errors of metabolism associated with them.
2. Describe sources, requirement, chemistry, biochemical functions and deficiency manifestations of Vitamin A. Add a note on its hyper vitaminosis.

SECTION B - (6X5=30)

3. Write short note on:

- (a) Structure of proteins
- (b) Abnormal hemoglobins
- (c) Radio active isotopes
- (d) Absorption of Iron
- (e) Gluconeogenesis
- (f) Beta oxidation of fatty acids

[1003]

FIRST M.B., B.S. DEGREE EXAMINATION, MARCH 1992.

First Semester

BIOCHEMISTRY

Time : Three hours.

Maximum : 90 marks.

Answer ALL the questions.

Sections A, B and C should be answered in separate answer books.

SECTION A

1. Describe anaerobic glycolysis. Add a note on formation, disposal and importance of 2, 3 diphosphoglyceric acid (2, 3 DPG). (15 marks)
2. Describe the biosynthesis of cholesterol. Mention the important compounds produced from cholesterol. (15 marks)

SECTION B

Write short notes on :

- (a) Secondary structure of proteins
- (b) Isoenzymes
- (c) Glycogen storage diseases
- (d) Transamination.
- (e) Formation and disposal of bilirubin
- (f) Biological value of proteins.

(6 × 5 = 30 marks)

December 1992

[1093]

FIRST M.B., B.S. DEGREE EXAMINATION, DECEMBER 1992.

First Semester

Part I

BIOCHEMISTRY

Time : Three hours.

Maximum : 90 marks.

Answer ALL questions.

Section A and B should be answered in separate answer books.

SECTION A

1. How is urea formed in the body ? What is the normal blood urea level ? (15 marks)
2. Describe the sources, requirements, chemistry, biochemical functions and deficiency manifestations of Vitamin C. (15 marks)

SECTION B

3. Write short notes on :
 - (a) Abnormal Haemoglobins.
 - (b) Regulation of blood calcium level.
 - (c) Factors influencing enzyme action.
 - (d) Glycogenolysis.
 - (e) Absorption of fats.
 - (f) Structure of Immunoglobulins. (6 × 5 = 30)

NOVEMBER - 1993

[PR 103]

FIRST M.B.B.S. DEGREE EXAMINATION

First Semester

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

SECTION A - (2X15=30 marks)

1. What is 'Oxidative Phosphorylation'? Describe in detail how the reducing equivalents are oxidising in the body.
2. Describe in detail the cholesterol synthesis transport and excretion.

SECTION B - (6X5=30)

3. Write short note on:

- (a) Chromatography
- (b) Lactic acidosis
- (c) Galactosemia
- (d) Starvation syndrome
- (e) Oxidation of odd carbon fatty acids
- (f) Role of metal ions in enzymatic catalysis

April 1994

[VM 208]

FIRST M.B.B.S. DEGREE EXAMINATION

New Regulation

Paper III BIOCHEMISTRY

Time : Three hours

Maximum : 100 Marks

- (1) Answer All the questions
- (2) Sections A and B should be answered in separate answer papers.
- (3) Section C must be answered separately on the answer sheet placed inside the question paper booklet as per the instructions given on the first page.

SECTION A (2 × 15 = 30 Marks)

1. Describe the pentose phosphate pathway of glucose metabolism. What is its significance in
 - a) Liver
 - b) Erythrocyte(15)
2. Discuss the regulation of blood pH. (15)

3. Write briefly on:-

1. Neurotransmitters
2. Folate trap
3. Rhodopsin cycle
4. Source and functions of PUFA
5. Functions of calcium
6. Endemic goitre
7. Electrophoresis of serum proteins
8. Albinism (8 × 5 = 40)

NOVEMBER - 1994

ND 508]

FIRST M.B.B.S. DEGREE EXAMINATION.

(New Regulations)

Part I

Paper III — BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

- (1) Answer ALL questions.
- (2) Sections A and B should be answered in separate answer papers.
- (3) Section C must be answered separately on the answer sheet placed inside the question paper booklet as per the instructions given on the first page.

SECTION A — (2 × 15 = 30 marks)

Write an essay on ketone bodies synthesis and utilisation. How are these processes regulated? Add a note on the clinical significance of Ketone bodies. (15)

How is protoporphyrin III synthesised in the body? How is it regulated? Add a note on porphyrias. (15)

SECTION B — (8 × 5 = 40 marks)

Answer briefly.

- (a) Regulation of enzyme activity.
- (b) Glycogen storage diseases.
- (c) Metabolic acidosis.
- (d) Vitamin 'K' cycle.
- (e) Biochemical role of 1, 25, dihydroxy cholecalciferol.
- (f) Renal function Tests.
- (g) Transmethylation.
- (h) Genetic code.

SB 503]

APRIL - 1995

FIRST M.B.B.S. DEGREE EXAMINATION

(Old Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

SECTION A - (2X15=30 marks)

- 1. Name the aromatic amino acids. Describe the metabolism of any one of them. Indicate the genetic errors in this pathway.**
- 2. Write an essay on Vitamin D, indicating its chemical nature, formation, biochemical roles, physiological functions, deficiency manifestations, sources and requirements.**

SECTION B - (8X5=40)

3. Write short note on:

- (a) Metabolic role of glutamine**
- (b) Electron transport chain**
- (c) Biological value of proteins**
- (d) Metabolic acidosis**
- (e) Chromatography**
- (f) Renal function tests**

APRIL - 1995

SB 508]

FIRST M.B.B.S. DEGREE EXAMINATION

(New Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

SECTION A - (2X15=30 marks)

1. Name the aromatic amino acids. Describe the metabolism of any one of them. Indicate the genetic errors in this pathway.
2. Write an essay on Vitamin D, indicating its chemical nature, formation, biochemical roles, physiological functions, deficiency manifestations, sources and requirements.

SECTION B - (8X5=40)

3. Write short note on:

- (a) Metabolic role of glutamine
- (b) Electron transport chain
- (c) Biological value of proteins
- (d) Metabolic acidosis
- (e) Chromatography
- (f) Renal function tests
- (g) Define K_m value and
- (h) Rhodopsin cycle

NOVEMBER - 1995

MB 503]

FIRST M.B.B.S. DEGREE EXAMINATION

(Old Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

SECTION A - (2X15=30 marks)

1. Give a concise account of the formation, fate and metabolic role of cysteine.
2. Describe in detail the formation, fate and functions of bile acids.

SECTION B - (8X5=40)

All questions carry equal marks

3. Write short note on:

- (a) What is competitive inhibition? Give examples
- (b) Ketosis
- (c) Serotonin
- (d) Anabolic and catabolic functions of TCA cycle
- (e) Biochemical functions of ascorbic acid
- (f) Respiratory acidosis

NOVEMBER - 1995

MB 508]

FIRST M.B.B.S. DEGREE EXAMINATION

(New Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per
the instructions given on the first page

SECTION A - (2X15=30 marks)

1. Give a concise account of the formation, fate and metabolic role of cysteine.
2. Describe in detail the formation, fate and functions of bile acids.

SECTION B - (8X5=40)

All questions carry equal marks

3. Write short note on:

- (a) What is competitive inhibition? Give examples
- (b) Ketosis
- (c) Serotonin
- (d) Anabolic and catabolic functions of TCA cycle
- (e) Biochemical functions of ascorbic acid
- (f) Respiratory acidosis
- (g) Replication
- (h) Synthesis of adrenaline

APRIL - 1996

AK 508]

Sub. Code : 4008

FIRST M.B.B.S. DEGREE EXAMINATION

(New Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Two and a half hours

Section A and B : 70 marks

for section A and B

Answer ALL the questions

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

SECTION A - (2X15=30 marks)

1. Outline the synthesis of Urea. Mention the metabolic disease of urea cycle.
2. Name the active form of Vitamin D. How is it synthesized the body? Add a note on its functions, requirements and deficiency inanifestations.

SECTION B- (8X5=40)

3. Write short note on:

- (a) What is competitive inhibition give examples
- (b) Phospholipids
- (c) Carnitine
- (d) Enterohepatic circulation of bile acids
- (e) Melatonin
- (f) Role of lungs in acid base balance
- (g) Oxidative Phosphorylation
- (h) Plasma proteins

APRIL '97

MP 503]

FIRST M.B.B.S. DEGREE EXAMINATION

(Old Regulations)

Part I

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

provided as per the instructions given on the first page

Illustrate your answers with diagrams and

flow charts wherever appropriate

Answer ALL the questions

SECTION A - (30 marks)

1. Name the various pathways for glucose metabolism. Give in detail the tricarboxylic Acid Cycle and mention its metabolic significance (15)
2. Write short notes on:
 - (a) Plasma lip proteins
 - (b) Trace elements
 - (c) Coenzyme functions of Folic Acid

SECTION B- (35 marks)

3. Name the fat soluble vitamins. Describe the sources, daily requirements, functions and deficiency manifestations of Vitamin A. (15)
4. Write notes on: (3X5=15)
 - (a) Structure of immunoglobulins
 - (b) Formation and secretion of bile pigment
 - (c) Use of Radio active Isotopes in medicine

APRIL - 1997

MP 515]

Sub. Code : 4015

FIRST M.B.B.S. DEGREE EXAMINATION

(Common to NR/RR)

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Two and a half hours
for Section A and B

Section A and B : 70 marks

Section C : 30 marks

Separate answer books must be used for Section A and B.

Section C must be answered separately on the answer sheet
provided as per the instructions on the first page.

Answer ALL questions

SECTION A - (35 marks)

1. Give the classification of enzymes. Mention the enzymes of clinical importance. (20)

2. Write short notes on: (3X5=15)

- (a) Galactosemia
- (b) Immunoglobulins
- (c) Gout

SECTION B - (35 MARKS)

3. Name the pathways available for glucose metabolism in the body. Enumerate the steps of aerobic metabolism of glucose and give its energetics. (20)

4. Write notes on: (3X5=15)

- (a) BMR
- (b) Nitrogen balance
- (c) Physiological jaundice

APRIL - 1998

SV 515]

Sub. Code : 4015

FIRST M.B.B.S. DEGREE EXAMINATION

(Common to New/Revised Regulations)

Paper III -BIOCHEMISTRY

Time : Three hours

Maximum : 90 marks

Two and a half hours

Section A and B : 70 marks

for section A and B

Section C : 30 marks

Sections A and B should be answered in separate answer papers

Section C must be answered separately on the answer sheet

placed inside the question paper booklet as per

the instructions given on the first page

Answer ALL the questions

SECTION A

1. Describe how calcium is maintained within a narrow in plasma. What are the functions of intracellular and extracellular calcium? (20)

2. Write briefly on: (3X5=15)

(a) Ketosis

(b) Active methionine

(c) Genetic code

SECTION B

3. Write in detail the sources, daily requirement, benzene formation and functions and deficiency manifestations of Vitamin Niacin. (20)

4. Write briefly on: (3X5=15)

(a) Glucose Tolerance Test

(b) Electron Transport Chain

(c) Plasma enzymes in Myocardial infarction

NOVEMBER '98

SM 515]

Sub. Code : 4015

FIRST M.B.B.S. DEGREE EXAMINATION

(Common to Revised/New Regulations)

Paper III - BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Two and a half hours
for Section A

Section A : 70 marks

Section C : 30 marks

Separate answer books must be used for Sec.A and B

Section C must be answered separately on the answer sheet
provided as per instructions on the first page

Answer ALL the questions

SECTION A

1. Write in detail the source for and the pathway of coneogenesis. How is this pathway controlled? What is the significance of Cori cycle? (20)

2. Write short answers on: (3 x 5 = 15)

- (a) Structure and functions of tRNA
- (b) Isoenzymes and their importance in clinical chemistry
- (c) Prostaglandins

SECTION B

3. Define enzymes. What is the mechanism of their action? Describe in detail the factors influencing the enzyme action. (20)

4. Write short answers on: (3 x 5 = 15)

- (a) Creatine and creatinine synthesis
- (b) Wilson's Disease
- (c) Specific Dynamic Action

APRIL - 1999

[SG 515]

Sub. Code : 4015

FIRST M.B.B.S. DEGREE EXAMINATION

(Common to New/Revised Regulations)

Paper III — BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Two and a half hours

Sec. A & Sec. B : 70 marks

for Sec. A and Sec. B

Section C : 30 marks

Separate answer books must be used for

Sections A and B.

Section C must be answered separately on the answer sheet provided as per the instructions on the first page.

Answer ALL questions.

SECTION A

1. What is transamination and what is its significance? Write the steps of urea cycle and discuss its control. Describe the enzyme defects in urea synthesis and their consequences. (20)

2. Write briefly on : (3 × 5 = 15)

(a) Enzyme inhibition.

(b) Control of glycogen breakdown.

(c) Phospholipases.

SECTION B

3. Describe the structure of Ribonucleic acids and discuss their functions. (20)

4. Write short notes on : (3 × 5 = 15)

(a) Functions of Tocopherol.

(b) Kwashiorkor.

(c) Glucose Tolerance Test.

APRIL - 2000

[KB 515]

Sub. Code : 4015

FIRST M.B.B.S. DEGREE EXAMINATION.

Part I

Paper III — BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Two and a half hours Sec. A & Sec. B : 70 marks
for Sec. A and Sec. B Section C : 30 marks

Answer Sections A and B in separate Answer books.

Answer Section C in the answer sheet provided.

SECTION A

Answer ALL questions.

1. Describe in detail Hexose Monophosphate shunt and write its significance. (20)
2. Write briefly on : (3 × 5 = 15)
 - (a) β oxidation of fatty acids
 - (b) tRNA
 - (c) Creatine.

SECTION B

Answer ALL questions.

3. Write an account of Protein Synthesis. (20)
4. Write short notes on : (3 × 5 = 15)
 - (a) Ascorbic acid
 - (b) Bile pigments
 - (c) Chromatography.