

M.D. DEGREE EXAMINATION, MARCH 1990.

Branch XIII — Biochemistry

CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours.

Answer ALL questions.

1. Discuss the general ways by which hormones regulate cellular metabolism. Give an example of a hormone in each case.
 2. (a) Discuss the utilization of metabolic fuels in liver, muscle and brain, highlighting the key enzymatic differences.
(b) Explain by giving examples the post-translational modification of proteins by vitamins.
 3. Write short notes on :
 - (a) Polyunsaturated fatty acids and risk factors of heart disease.
 - (b) Normal fate of dietary proteins.
 - (c) Biological antioxidants and their mechanism of action.
 - (d) Calmodulin.
-

M.D. DEGREE EXAMINATION, SEPTEMBER 1991.

Branch XIII — Biochemistry

Paper III — CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours.

Maximum : 100 marks.

Answer ALL the questions.

1. Discuss the various types of inborn errors in carbohydrate, protein and lipid metabolism. How can such cases be treated ? (25 marks)

2. Define the biological value of proteins and protein efficiency ratio. Discuss the role of proteins in human nutrition.

Name the various plasma proteins and describe their functions. (25 marks)

3. Write short notes on :

(a) The conditions associated with abnormal acid-base status of the body.

(b) The various thyroid function tests.

(c) The different hemoglobinopathies and Thalassaemic conditions.

(d) Biochemical abnormalities in diabetes mellitus.

(e) Biologically important amines.

(5×10=50 marks)

M.D. DEGREE EXAMINATION, MARCH 1992.

Branch XIII — Biochemistry

Paper III — CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours

Answer ALL the questions.

1. Describe the biosynthesis of heme and the biochemical abnormalities in porphyrias and jaundice. What are the usual types of hemoglobinopathies observed and how can you identify them?

2. Discuss the clinical conditions associated with folate and cobalamin deficiencies.

Outline the functions of the liver and how you will assess them.

3. Write short notes on :

- (a) Metabolic functions of various steroid hormones.
 - (b) Cholesterol transport in the blood and its disposal from the body.
 - (c) General mechanism of action of hormones.
 - (d) Kwashiorkor and Marasmus.
 - (e) Anti-metabolites and antibiotics.
-

M.D. DEGREE EXAMINATION, SEPTEMBER 1992

Branch XIII - Biochemistry

Paper III - CLINICAL BIOCHEMISTRY,
NUTRITION AND INVESTIGATION
ASPECTS

Time: Three hours

Maximum: 100 marks

Answer ALL questions

1. Discuss the water and electrolyte absorption and turnover in Gastro-Intestinal tract. (25 marks)
2. Describe the metabolism of Ethanol. Discuss the metabolic alterations in carbohydrate and lipid parameters in normal and diabetic person. (25 marks)
3. Write short notes on:
 - (a) Biochemistry of Hepatic COMA
 - (b) Glycogen storage diseases
 - (c) Protein metabolism in starvation
 - (d) Cardiac enzyme profile
 - (e) Renal tubular Acidosis

(5x10=50 marks)

March-1993

M.D. DEGREE EXAMINATIONS

Branch XIII-BIOCHEMISTRY

OLD/NEW REGULATIONS

Paper III - CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATIONS ASPECTS

Time: Three hours

Answer ALL questions

1. Describe the biosynthesis of heme and the biochemical abnormalities in porphyrias and jaundice. What are the usual types of hemoglobinopathies observed and how can you identify them. (25)
2. Discuss the interplay of hormones in the regulation of blood glucose level. (25)
3. Write short notes on:
 1. Enkephalins and Endorphins
 2. Nutritional considerations for vegetarians
 3. Cholesterol transport in the blood and its disposal from the body.
 4. Kwashiorkor and Marasmus
 5. Anti-metabolites and antibiotics.(5 x 10=50)

November-1993

[P R 3 9 4]

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Old/New Regulations)

CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Give an account of the biosynthesis and metabolic effects of the hormones of gonads and placenta. How are hormones used in family planning ? (25)
 2. (a) Briefly outline the various events of protein biosynthesis in prokaryotes.
(b) How do you calculate the energy and nutrients requirement in the diet of a pregnant woman ? (25)
 3. Write short notes on :
 - (a) Thyroid function tests.
 - (b) Xenobiotics.
 - (c) Calmodulin.
 - (d) Dialysis.
 - (e) Plasma proteins. (5 × 10 = 50)
-

April-1994

[VM 1097]

M.D. DEGREE EXAMINATION

Branch XIII — Biochemistry

(Old/New Regulations)

CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Describe the biosynthesis and metabolic effects of adrenal cortical hormones. Add a note on pathophysiology of adrenal cortex. (25)
 2. (a) Briefly outline the different liver function tests and their interpretation.
(b) How do you assess the biological value and efficiency ratio of a protein? (25)
 3. Write short notes on :
 - (a) Immunoglobulins.
 - (b) Mutation.
 - (c) Oncogenic viruses.
 - (d) Biological antioxidants.
 - (e) Dialysis. (5 × 10 = 50)
-

[ND 199]

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Old/New Regulations)

**CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the importance of trace elements in nutrition. (25)
 2. How will you investigate a case of Jaundice to ascertain and diagnose the type of Jaundice? (25)
 3. Write short notes on :
 - (a) Structure and electrophoretic separation of immunoglobulins.
 - (b) Folic Acid.
 - (c) Dietary fibre.
 - (d) Use of stable isotopes in investigative medicine.
 - (e) Urinary 16 ketogenic steroids. (5 × 10 = 50)
-

April-1995

[SB 199]

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Old/New Regulations)

CLINICAL BIOCHEMISTRY, NUTRITION AND
INVESTIGATION ASPECTS

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe with examples the concept and significance of
(a) clearance test, (b) tolerance test, and (c) load tests.
(25)
 2. Prescribe diet for an obese middle aged patient with mild diabetes mellitus.
(25)
 3. Write short notes on :
 - (a) Polyamines.
 - (b) Pitfalls in analytical procedures.
 - (c) Ion exchange chromatography.
 - (d) Respiratory Acidosis.
 - (e) GABA.

(5 × 10 = 50)
-

April-1997

MP 165

M.D. DEGREE EXAMINATION
Branch XIII - Biochemistry
(Revised Regulations)
Paper III - CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time: Three hours

Max.marks:100

Answer All Questions

1. Describe the mechanism of maintenance of normal pH of blood and the methods to determine acid-base status. (25)
2. What are the key investigations indicated in a patient of urolithiasis? Describe the methodology and interpretation of data to identify the type of urolithiasis. (25)
3. Write briefly on:
 - (a) Porphyria
 - (b) Gout
 - (c) Neonatal jaundice
 - (d) Thalassaemia
 - (e) Hypophysiotropic hormones.

(5x10=50)

October-1997

MS 163

M.D. DEGREE EXAMINATION
Branch XIII - Biochemistry
(Revised Regulations)
Paper III - CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time: Three hours

Max.marks:100

Answer All Questions

1. Mention types of diabetes mellitus and describe the biochemical changes in diabetes and resultant complications. (25)
2. Describe the methods to evaluate the thyroid gland function and outline their role in diagnosis of thyroid status. (25)
3. Write briefly on:
 - (a) Metabolic acidosis
 - (b) Haemoglobin S
 - (c) Gilbert syndrome
 - (d) Alkaptonuria
 - (e) Plasma clearance tests in assessment of renal function.

(5x10=50)

M.D. DEGREE EXAMINATION
Branch XII - Biochemistry
(Revised Regulations)

Paper III - CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time: Three hours

Max. marks:100

Answer All Questions

1. What are the key investigations indicate in a patient of hyperlipidaemia? Describe the methodology and interpretat of data to identify the type of hyperlipidaemia. (25)
2. Enumerate the biochemical changes in chronic renal failure and discuss the mechanisms involved. (25)
3. Write briefly on:
 - (a) Microalbuminuria
 - (b) Lead poisoning
 - (c) α_2 -macroglobulin
 - (d) β - NAG (Beta N-acetyl glucosamine)
 - (e) Ketoacidosis in new born.

(5x10=50)

[SG 174]

Sub. Code : 2051

M.D. DEGREE EXAMINATION.

Branch XIII — Biochemistry

(Revised Regulations)

Paper III — CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Classify and discuss the various causes of hyperlipidemias. What are the investigations done in a suspected patient of hyperlipidemia? (25)

2. Mention the risk factors of myocardial infraction. What are the biochemical changes taking place in the cardiac muscle during myocardial infraction? With the help of a graph, represent the alteration of serum enzyme patterns following a myocardial infraction. (25)

3. Write briefly on : (5 × 10 = 50)

- (a) Renal tubular acidosis.
 - (b) Factors affecting the plasma potassium concentration.
 - (c) Hypoglycaemia.
 - (d) Laboratory investigations of amenorrhoea.
 - (e) Paraproteinemia.
-

October-1999

[KA 174]

Sub. Code : 2051

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch XIII — Biochemistry

Paper III — CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. What are tissue markers? Discuss in detail the markers used to assess myocardial damage. (25)
 2. How do you investigate a case of polyuria and polydypsia? (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Glycosylated haemoglobin
 - (b) Vitamin D resistant rickets
 - (c) Renal tubular acidosis
 - (d) Pentosuria
 - (e) Orotic aciduria.
-

[KB 174]

Sub. Code : 2073

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch XIII — Biochemistry

Paper III — CLINICAL BIOCHEMISTRY AND
DIAGNOSTIC TECHNIQUES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Explain the biochemical basis of various types of jaundice. How will you distinguish different types of jaundice using biochemical tests for urine and blood? Write the principle of Vanden Bergh test. (25)
 2. Explain how acid base balance is maintained in the body. Give the normal level of sodium, potassium, chloride and bicarbonate in the blood. Explain metabolic and respiratory acidosis with two examples each. (25)
 3. Write briefly on : (5 × 10 = 50)
 - (a) Nutritional deficiency anaemias
 - (b) Regulation of pyrimidine biosynthesis and disorders
 - (c) Diagnostic applications for CSF analysis
 - (d) Regulation of blood calcium level
 - (e) Diabetes Ketoacidosis.
-