APRIL 2001

[KD 228]

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

Branch III — Biochemistry

Final

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Discuss the different biological functions of Proteins. Narrate the various methods of separation and purification of proteins. (25)

2. How are carbohydrates classified? Discuss about Polysaccharides and their biological role. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Paper chromatography and its applications.

(b) Diagnostic and Therapeutic uses of Radio isotopes.

(c) Structure of RNA.

(d) Conjugated lipids.

(e) Osmosis and Osmotic pressure.

APRIL 2003

[KI 228] Sub. Code : 2966

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

Final

Branch III — Biochemistry

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Answer ALL questions.

1. Describe how electrophoresis combined with blot technique is useful in diagnosis of diseases. (25)

2. Describe the structure of Membranes. What is a fluid mosaic model? Classify the Glucose transporters and describe how they differ in different tissues. (25)

3. Write briefly on : (5 × 10 = 50)

(a) Polyisoprenoids in vitamin structure

(b) Alpha helix in proteins and the role of Histidine

(c) Structure of Proopiomelanocortin

(d) The role of Albumin in maintenance of Blood Volume

(e) Beta Counter.

APRIL 2004

[KK 228] **Sub. Code : 2966**

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

Final

Branch III — Biochemistry

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours — Maximum : 100 marks

Sec. A & B : Two hours and forty minutes — Sec. A & B : 80 marks

Sec. C : Twenty minutes — Sec. C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. Describe the structure of steroids. Add a note on the functions of cholesterol.

2. Write briefly about the coenzymes involved in oxidation reduction reaction.

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) Glycosidic bond

(b) Sphingo mylins

(c) Isoelectric point

(d) Folate trap

(e) Bile salts

(f) Acute intermittent porphyrias

(g) Wilsons disease

(h) Gastrin

(i) Dehydration

(j) Transamination.

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AUGUST 2004

[KL 228] **Sub. Code : 2966**

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

Branch III — Bio–Chemistry

Final

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. Write an account of the structure, functions and nomenclature of nucleotides. (15)

2. Give an account of the different types of immunoglobulins along with their functions. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) Iodine number.

(b) Zwitterion.

(c) Isozymes.

(d) Bence Jones proteins.

(e) ATP as energy currency.

(f) Replication fork.

(g) Gout.

(h) Buffers.

(i) Biological oxidation.

(j) Alkaptonuria.

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MARCH 2005

[KM 228] **Sub. Code : 2966**

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

Branch III — Biochemistry

Final

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. What are Nucleic Acids? Discuss the structure and functions of DNA. (15)

2. Classify Lipids. Discuss the structure and functions of Phospholipids. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write briefly on :

(a) Mitochondria.

(b) Electrophoresis and its application.

(c) Epimer.

(d) Structure of Hemoglobin.

(e) Correlation Coefficient.

(f) Purine Analogues.

(g) Essential fatty acids.

(h) Biologically important peptides.

(i) Sulfur containing aminoacids.

(j) Diffusion.

MARCH 2006

[KO 228] **Sub. Code : 2966**

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

Branch III — Biochemistry

Final

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

Sec. C : Twenty minutes Sec. C : 20 marks

Answer Sections A and B in the **SAME** answer book.

Answer Section C in the answer sheet provided.

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. Write in detail about the synthesis of Heme. How will you detect porphyrins in urine and faeces?

2. Write about the structure of Membranes. Add a note on Glucose transport.

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :

(a) Glycosylated haemoglobin

(b) Structure of collagen

(c) Synthetic nucleotides in cancer therapy

(d) ELISA

(e) Structure of insulin

(f) Bile salts

(g) Calcitriol

(h) Bohr effect

(i) Microtubules

(j) Calculation of standard deviation.

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[KR 228] **Sub. Code : 2966**

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

Final

Branch III — Biochemistry

Paper I — PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY

Time : Three hours | Maximum : 100 marks

Theory : Two hours and forty minutes | Theory : 80 marks

M.C.Q. : Twenty minutes | M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

(1) Explain the structure and functions of cell. Explain fractionation of microsomes and mitochondria. (20)

(2) Enumerate the different techniques available for the estimation of proteins. Explain the principle of any two. (15)

(3) Classification and functions of phospholipids. (15)

II. Short notes on : (6 × 5 = 30)

(a) Types of RNA.

(b) Vitamin D.

(c) Standard deviation and its application.

(d) Structural proteins.

(e) Dialysis and its applications.

(f) Classification of carbohydrates.

April 2012

[LA 0412] **Sub. Code: 1201**

M.Sc BIOCHEMISTRY DEGREE EXAMINATION

Candidates admitted from 2008-2009 batch

PAPER I – PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY, INSTRUMENTATION AND BIOCHEMICAL TECHNIQUES & BIOSTATISTICS

Q.P. Code : 281201

Time : Three hours **Maximum :100marks**

Answer All questions.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. What are carbohydrates? How are they classified? Explain different types of isomerism in glucose.	17	40	20
2. What is electrophoresis? Enumerate the types of electrophoresis? How Polyacrylamide gel electrophoresis is performed? How it is used in determining molecular weight?	17	40	20

II. Write notes on :

1. Explain Ion selective electrode, its principle and application with suitable example.	4	10	6
2. Subcellular organelles and their markers.	4	10	6
3. Random error and systemic error.	4	10	6
4. Mention the Different types of RNA & Structure of tRNA.	4	10	6
5. Different classifications of amino acids with colour reaction for aromatic amino acids.	4	10	6
6. Active membrane transport with illustration.	4	10	6
7. What are the different Secondary structures of protein what is the structure of collagen.	4	10	6
8. Homopolysaccharide.	4	10	6
9. Principles and instrumentation of Spectrophotometer.	4	10	6
10. How are amino acids separated by chromatography?	4	10	6

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