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Reg. No.....

Name.....

M.Sc. (MEDICAL BIOCHEMISTRY) DEGREE EXAMINATION

SEPTEMBER 2026

Fourth Semester

MEDICAL BIOCHEMISTRY

(2024 Admissions— Regular / 2020-2023 Admissions — Supplementary / 2019 Admissions - First Mercy Chance / 2018 Admissions - Second Mercy Chance, 2016-17 Admissions - Final Mercy Chance)

Time : Two Hours and a Half | Maximum Marks : 80

Answer **all** *questions.*

Draw diagrams wherever necessary.

I. Write about renal, gastric, pancreatic and intestinal function tests. (20)

II. Explain biochemical testing of psychoactive drugs and antineoplastic drugs (10)

III. Describe biochemical analysis of pleural and peritoneal fluids. (10)

IV. Write short notes on :

1) Hepatitis.
2) Cardiac biomarkers.
3) Testing for insecticides.
4) Pediatric phlebotomy.
5) Tumour associated markers.
6) Blood gas and electrolyte analysis.
7) Geriatric biochemical changes.
8) Detection of arsenic and cyanide.

(8 × 5 = 40)

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Reg. No.....

Name.....

M.Sc. (MEDICAL BIOCHEMISTRY) DEGREE EXAMINATION

SEPTEMBER 2026

Fourth Semester

INHERITED METABOLIC DISORDERS

(2024 Admissions — Regular / 2020-2023 Admissions — Supplementary / 2019 Admissions - First Mercy Chance / 2018 Admissions - Second Mercy Chance, 2016-17 Admissions - Final Mercy Chance)

Time : Two Hours and a Half

Maximum Marks : 80

Answer **all** *questions.*
Draw diagrams wherever necessary.

I. Write an account on inherited disorders of protein metabolism.

(20)

II. Explain any two inherited disorders of carbohydrate metabolism.

(10)

III. Explain hyper and hypo lipoproteinemia. Point out the symptoms and causes.

(10)

IV. Write short notes on :

1) Hyperoxaluria.

2) Hemoglobinopathies.

3) Hyperoxaluria.

4) Alkaptonuria.

5) Lesch-Nyhan syndrome.

6) An inherited disease associated with iron metabolism.

7) Tay-Sach's disease.

8) Sickle cell anemia.

(8 × 5 = 40)

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Reg. No.....

Name.....

M.Sc. (MEDICAL BIOCHEMISTRY) DEGREE EXAMINATION

SEPTEMBER 2026

Fourth Semester

ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY

(2024 Admissions— Regular / 2020-2023 Admissions — Supplementary / 2019 Admission - First Mercy Chance / 2018 Admissions - Second Mercy Chance, 2016-17 Admissions - Final Mercy Chance)

Time : Two Hours and a Half | Maximum Marks : 80

All Questions are compulsory.

Draw diagrams wherever necessary.

I. Describe the signal transduction pathways involving G-proteins and calcium as second messengers. How do these pathways contribute to cellular responses, and what is their relevance in endocrine signaling ?

(20)

II. Describe the mechanism of insulin receptor signaling and its role in glucose metabolism. How does its dysfunction lead to diabetes mellitus ?

(10)

III. Explain the role of protein kinases in cell signaling and their association with cancer progression.

(10)

IV. Write short notes on :

1 Regulation of spermatogenesis.

2 Differentiate between nuclear and cell surface hormone receptors.

3 Biochemical markers for detecting fetal lung maturity.

4 How do growth factor receptors contribute to cell proliferation and survival?

5 The pharmacological approaches to enhance male fertility.

6 Functions of the placenta as an endocrine organ.

7 Role of testosterone in male reproductive physiology.

8 Differentiate between paracrine and autocrine secretions.

(8 × 5 = 40)