



This question paper contains 3 printed pages]

IM—35—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

FEBRUARY, 2026

PHARMACEUTICAL ORGANIC CHEMISTRY

Paper I (BP202T)

(Friday, 27-2-2026)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

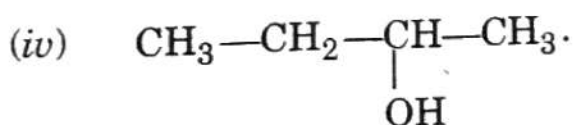
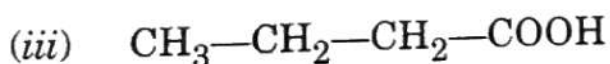
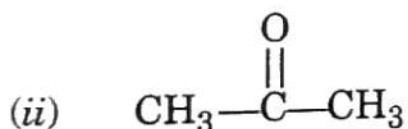
(2) *Figures to the right indicate full marks.*

(3) *Draw neat and labelled diagram/reactions wherever necessary.*

1. Answer the following questions : 10×2=20

(a) What is meant by structural isomerism ?

(b) Write IUPAC name for :



P.T.O.

- (c) What is meant by hybridization in alkane ?
- (d) Draw the structure and write the uses of chloroform.
- (e) Comment on "acidity of carboxylic acid".
- (f) What is Cannizzaro reaction ?
- (g) Draw the structure of the following compounds :
- (i) Benzyl alcohol
 - (ii) Glycerol
 - (iii) Methanol
 - (iv) Propylene glycol.
- (h) What is Markovnikov rule ?
- (i) Comment on "Nucleophilic addition reaction".
- (j) What is peroxide effect ?

2. Answer any *two* of the following :

2×10=20

- (a) Discuss in detail E_1 and E_2 elimination reaction with example.
- (b) Explain Aldol condensation and crossed aldol condensation reaction.
- (c) Describe the differentiation reactions for primary, secondary and tertiary alcohol.



IM—35—2025

7×5=35

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(3)

3. Answer any seven of the following :

- (a) Explain the classification of organic compounds.
- (b) Describe stability of conjugated dienes.
- (c) Discuss S_N1 reaction with example.
- (d) Write in detail about electrophilic addition reaction of alkene.
- (e) Discuss methods of preparation of aldehyde.
- (f) Explain inductive effect in carboxylic acid.
- (g) Describe the mechanism of Perkin condensation reaction.
- (h) Explain the basicity of aliphatic amines
- (i) Comment on "Tautomerism and Metamerism".



This question paper contains 3 printed pages

IM—39—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

FEBRUARY/MARCH, 2026

BIOCHEMISTRY

(Monday, 2-3-2026)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

(2) *Figures to the right indicate full marks.*

(3) *Answer to the point only.*

1. Solve *all* the following :

10×2=20

(a) What are biomolecules ? Give its examples.

(b) Enlist purines and pyrimidines.

(c) What are essential and non-essential amino acids ?

(d) Draw the structure of ATP.

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(2)

IM—39—2025

- (e) Enlist the identification tests for carbohydrates.
- (f) Give the biological role of proteins.
- (g) Draw the structure of D-glucose and L-glucose.
- (h) Give the significance of cholesterol.
- (i) What are polysaccharides ?
- (j) What are nucleotides ?

2. Answer any *two* of the following :

2×10=20

- (a) Discuss in detail β -oxidation of fatty acid.
- (b) Explain in detail semiconservative replication of DNA.
- (c) Define carbohydrates. Discuss in detail classification of carbohydrates.

3. Solve any *seven* of the following :

7×5=35

- (a) Discuss in detail Gluconeogenesis.
- (b) Explain the factors affecting enzyme activity.
- (c) Describe in detail disorders of lipid metabolism.
- (d) Describe the synthesis of cholesterol.
- (e) Give the structural classification of Amino acids.



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(3)

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- (f) Discuss in detail ETC with its significance.
- (g) Give the significance of ATP and cAMP.
- (h) Write notes on :
 - (i) Jaundice
 - (ii) Obesity.
- (i) Explain in detail properties of enzymes.
- (j) Explain in detail 'Glycolysis' with its energetics.



This question paper contains 3 printed pages|

IM—31—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

FEBRUARY, 2026

HUMAN ANATOMY AND PHYSIOLOGY

Paper II (BP-201T)

(Wednesday, 25-2-2026)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

(2) *Figures to the right indicate full marks.*

(3) *Answer to the point only.*

(4) *Draw necessary diagram wherever necessary.*

1. Solve *all* the following :

10×2=20

(a) Function of CSF.

(b) Draw a labelled diagram of liver.

(c) Define bioenergetics and neurons.

P.T.O.

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(2)

IM-31-2025

- (d) Function of hypothalamus (any *four*).
- (e) Draw a neat labelled diagram of L.S. Kidney.
- (f) Define inheritance and chromosomes.
- (g) Function of parathyroid gland.
- (h) Write the function of ATP.
- (i) Mention any *four* functions of pancreas.
- (j) Define spermatogenesis and parturition.

2. Solve any *two* of the following :

2×10=20

- (a) Explain in detail the functional areas of cerebral cortex.
- (b) Describe in detail anatomy and physiology of urine formation.
- (c) Draw a neat labelled diagram of digestive system. Discuss in detail pancreas and liver.

3. Solve any *seven* of the following :

7×5=35

- (a) Give the structure and functions of cerebrum.
- (b) Discuss in detail large intestine and small intestine.
- (c) Explain the structure and functions of Adrenal gland.



- (d) Describe the anatomy and physiology of kidney and role of kidney in acid-base balance.
- (e) Discuss in detail mechanism of respiration.
- (f) Structures and function of spinal cord.
- (g) Explain male reproductive system.
- (h) Explain menstrual cycle.
- (i) Explain chromosomes and protein synthesis.



This question paper contains 3 printed pages|

IM—43—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (First Year) (Second Semester) EXAMINATION

FEBRUARY/MARCH, 2026

PATHOPHYSIOLOGY

Paper BP204T

(Thursday, 5-3-2026)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (1) *All questions are compulsory.*

(2) *Answer to the point only.*

(3) *Figures to the right indicate full marks.*

1. Answer the following :

10×2=20

(a) What is hypoxia ?

(b) Enlist various inflammatory mediators.

(c) Write a note about Gout.

(d) Define the term pathophysiology.

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(2)

- (e) Enlist various vitamin deficiency diseases.
- (f) Explain Hypertrophy.
- (g) Define Homeostasis.
- (h) Enlist sign and symptoms of Epilepsy.
- (i) Write a note on COPD.
- (j) Give an account of Gonorrhea.

2. Answer any *two* of the following : 2×10=20

- (a) Enlist various cardiovascular diseases. Explain in detail about Hypertension.
- (b) What is Cancer ? Give its clinical signs and symptoms, pathogenesis and treatment.
- (c) Discuss in detail about Inflammatory Bowel disease.

3. Answer any *seven* of the following : 7×5=35

- (a) Give a detailed account of peptic ulcer.
- (b) Explain pathophysiology of tuberculosis.
- (c) What is Parkinson's disease ? Give its sign and symptoms and treatment.



(3)

- (d) Write in detail about Alcoholic Liver disease.
- (e) What is diabetes ? Give its pathophysiology.
- (f) Write pathophysiology of Atherosclerosis.
- (g) What is anemia ? Explain in detail megaloblastic anemia.
- (h) Explain positive and negative feedback mechanism.
- (i) Write a short note on acidosis and alkalosis.