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IM—01—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Fifth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2025

MEDICINAL CHEMISTRY

Paper II (BP501T)

(Tuesday, 11-11-2025)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (1) Figures to the right indicate full marks.

(2) Draw structure and write chemical reaction whenever necessary.

1. Answer the following : 10×2=20

- (a) Explain the chemistry of Histamine.
- (b) Outline the synthesis route of ISDN.
- (c) Draw the structure and give the IUPAC name of procaine.
- (d) Why DES shows estrogenic activity ?
- (e) Outline the synthesis of Benzocaine.
- (f) Draw the structure of piperazine containing H₁-receptor antagonist.
- (g) Define anti-thyroid drug. Classify with suitable example.

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- (h) Give the difference between Cardenolides and Bufadienolides.
- (i) Draw the structure and give the therapeutic uses of cimetidine.
- (j) Define anti-arrhythmic and anti-hyperlipidemic agents with suitable example.

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

- (a) What are anti-hypertensive agents ? Classify with at least one structure from each class.
- (b) What are steroids ? Explain nomenclature and stereochemistry of steroids.
- (c) What are local anaesthetics ? Discuss the SAR of local anaesthetics in detail.

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

- (a) Define OHA. Classify with suitable example.
- (b) Explain the SAR of calcium channel blockers.
- (c) Define anti-neoplastic agent. Classify it with at least one structure from each class.
- (d) Write a brief note on oral contraceptives.
- (e) Explain the SAR of H^1 and H^2 receptor antagonist.
- (f) What are diuretics ? Explain the SAR of thiazide diuretics.



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- (g) Outline the synthetic scheme of :
- (i) Tolbutamide
 - (ii) Mercaptopurine.
- (h) Write a note on corticosteroids and draw the structure of the following drugs :
- (i) Cortisone
 - (ii) Hydrocortisone
 - (iii) Prednisolone
 - (vi) Betamethasone
 - (v) Dexamethasone.
- (i) What are coagulant and anti-coagulant ? Outline the synthetic scheme of Warfarin.

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FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm. (Fifth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2025

INDUSTRIAL PHARMACY-I

(Thursday, 13-11-2025) (BP502T) Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

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

(2) Draw proper diagram wherever necessary.

1. Solve the following : 10×2=20
- (a) Define bulk density.
 - (b) Give types of capsule.
 - (c) Define preformulation.
 - (d) What are ointments ?
 - (e) What is emulsion ?
 - (f) Differentiate between Flocculated and Deflocculated suspension.
 - (g) Give advantages of Tablet.

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- (h) Give ideal properties of pellets.
- (i) What is SVP ?
- (j) Draw a well labelled diagram of an eye.

2. Solve any *two* of the following :

2×10=20

- (a) Write a detailed note on aerosol and give its types.
- (b) How to prepare soft gelatin capsule manufacturing ?
- (c) Explain wet granulation method.

3. Solve any *seven* of the following :

7×5=35

- (a) Explain different evaluation test of tablet.
- (b) Write short note on different methods of pelletization.
- (c) Explain hard gelatin capsule manufacturing process.
- (d) Give formulation of emulsion.
- (e) Explain different tablet coating defects.
- (f) Define packaging and explain plastic container.
- (g) Discuss quality control test of parenterals.
- (h) Explain about creams and give its types.
- (i) Describe ophthalmic inserts (ocuserts).

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IM—09—2025

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Fifth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2025

PHARMACOLOGY

Paper II (BP503T)

(Saturday, 15-11-2025)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

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

(2) Answer to the point only.

(3) Illustrate your answer with neat sketch wherever necessary.

1. Answer the following questions :

10×2=20

(a) Define angina pectoris and CHF.

(b) Write mechanism of action of HMGCO-A inhibitors.

(c) Enlist drugs used in the treatment of shock.

(d) What are autocoids ? Give its types.

P.T.O.



- (e) What are antiplatelet drugs ? Give its examples.
- (f) Give therapeutic uses of calcitonin.
- (g) What is bioassay ?
- (h) Classify antianginal drugs.
- (i) Write biosynthesis of thromboxane.
- (j) Write therapeutic uses of mineralocorticoids.

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

- (a) Define antihypertensive agents. Classify it with suitable examples. Write pharmacology of β -blocker (propranolol).
- (b) What are oral hypoglycemics ? Write mechanism of action, pharmacological actions and therapeutic uses of biginides.
- (c) What are NSAIDs ? Classify it and write pharmacology of Aspirin.

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

- (a) Explain in detail about RAAS.
- (b) What are diuretics ? Give pharmacological account of thiazide diuretics.
- (c) Discuss in detail pharmacology of glucocorticoids.



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- (d) What are antihyperlipidemic agents ? Give mechanism of action and therapeutic uses of clofibrate.
- (e) Write pharmacological account of Heparin.
- (f) Discuss about bioassay of histamine.
- (g) Explain in detail pharmacology of serotonin.
- (h) Discuss in brief about oral contraceptives.
- (i) Explain in detail pharmacology of thyroid hormones.

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IM—13—2025

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (Third Year) (Fifth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2025

PHARMACOGNOSY AND PHYTOCHEMISTRY

Paper II (BP504T)

(Tuesday, 18-11-2025)

Time : 10.00 a.m. to 1.00 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 the following :

10×2=20

(a) Write the chemical test for myrrh.

(b) Give identification test for sennoside.

(c) Define resin with example.

(d) Write a note on umbeliferous fruit.

P.T.O.



- (e) Give the adulterant of clove bud.
- (f) Write chemical structure of Caffeine and Reserpine.
- (g) Define chromatography and write its principles.
- (h) Explain Kellers Killani Test.
- (i) Give biological source, chemical constituent of Tea.
- (j) Define alkaloids with example.

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

- (a) What are cardiac glycoside ? Give the pharmacognosy of digitalis in detail.
- (b) What is microwave assisted extraction ? Describe its process, advantage and disadvantage.
- (c) Explain in detail about Ergot.

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

- (a) Trace out Shikimic acid pathway.
- (b) Explain chemical classification of alkaloid.
- (c) Describe microscopy of clove with neat labelled diagram.



- (d) Give biological source, chemical constituent and uses of coriander and belladonna.
- (e) Differentiate between pale and black catechu.
- (f) Explain method of isolation and estimation of curcumin.
- (g) Describe estimation of vincristine and caffeine.
- (h) Write a note on radio-isotopes and their application in biogenetic studies.

(i) Discuss isolation, identification & analysis of quinine.



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FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Fifth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2025

PHARMACEUTICAL JURISPRUDENCE

(Thursday, 20-11-2025) (BP 505T) Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

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

(2) Draw neat labelled diagram wherever necessary.

(3) Figures to the right indicate full marks.

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

(a) By providing a specimen label, show the key labelling requirements for ophthalmic preparations.

(b) Define cosmetics, as per D&C Act.

(c) Define Illicit traffic.

(d) What are the qualifications required to become Govt. Drug Analyst ?

P.T.O.



- (e) Give full form of NLEM & DPCO.
- (f) Define Registered Pharmacist.
- (g) What is Schedule 'H' ?
- (h) Describe places where pregnancy may be terminated.
- (i) Define Copyright.
- (j) What is Drugs Consultative Committee (DCC) ?

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

- (a) Analyze the requirements of Schedule 'M', for the manufacture of pharmaceutical products.
- (b) Give the design of bonded laboratory. Discuss in detail about manufacturing of alcoholic preparations in bonded laboratory
- (c) Write in brief about constitution of PCI. What are education regulations ?

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

- (a) Explain the different classes of drugs prohibited to import into India, and provide examples of each class.
- (b) Describe the role of pharmacist in relation to his profession.



- (c) Write a detail about preparation of 1st register.
- (d) Explain the key provisions of schedule 'F' of D&C Act.
- (e) Write a note on D.T.A.B.
- (f) Define the term Magic Remedies. Discuss the classes of prohibited advertisement.
- (g) Write a brief note on Medical termination of Pregnancy Act.
- (h) What are the main objectives of Pharmacy Act, 1948 ?
- (i) What is the significance of DPCO ?