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NM—01—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

MEDICINAL CHEMISTRY-II

(Thursday, 16-4-2026)

CBP 501T

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

Time—Three Hours

Maximum Marks—75

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

(ii) Answer to the point only.

(iii) Figures to the right indicate full marks.

(iv) Draw structure and chemical reactions wherever necessary.

1. Solve the following :

2×10=20

(a) What are proton pump inhibitors ?

(b) Draw the structure of mercaptopurine.

(c) Define and sketch cell cycle.

(d) What are thiazide diuretics ?

(e) Write structure and IUPAC name of nitroglycerine.

(f) Name the receptor target for statins.

(g) Write the structure of warfarin sodium.

(h) Differentiate cardenolides from bufadienolides.

(i) Write the structure of testosterone.

(j) Give structure of tolbutamide.

P.T.O.



7×5=35

2. Solve any seven of the following :

- (a) Explain the chemistry and SAR of H_1 receptor antagonist.
- (b) Write synthesis of mercaptopurine.
- (c) Explain chemistry and SAR of PPI.
- (d) Write chemical classification of antianginal agents with at least *one* structure from each class.
- (e) Write synthesis of acetazolamide.
- (f) Explain the SAR of cardiac glycosides.
- (g) What are oral contraceptives? Write classification of oral contraceptives.
- (h) Write chemical classification of oral hypoglycemic agents with at least *one* structure from each class.
- (i) Explain chemistry and SAR of local anaesthetic.

3. Solve any *two* of the following :

2×10=20

- (a) What are antihypertensive agents? Write chemical classification of antihypertensives with at least *one* structure from each class.
- (b) Explain the chemistry and SAR of insulin. Write chemical classification of local anaesthetics.
- (c) Explain the SAR of antigens.



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NM—05—2026

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Fifth Semester) EXAMINATION

APRIL/MAY, 2026

INDUSTRIAL PHARMACY-I

(Saturday, 18-04-2026) CBP 502T) Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

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

(ii) Draw a neat labelled diagram wherever necessary.

1. Answer all the following questions :

10×2=20

- (a) Define Bloom's strength.
- (b) Give classification of different types of tablets.
- (c) Differentiate between SVP and LVP.
- (d) Give the significance of pre-formulation.

P.T.O.



- (e) What are roles of BCS classification in therapeutic index of formulation ?
- (f) What are types of packaging in pharmacy ?
- (g) Define cratering and blistering tablet coating defects.
- (h) What are vanishing and cold creams ?
- (i) Why is isotonicity of parenteral formulation important ?
- (j) What is the application of propellants in pharmaceutical aerosols ?

2. Answer any *two* questions out of three : 2×10=20

- (a) Define tablets and write in detail about various tablet manufacturing defects.
- (b) What are aerosols ? Write in detail about different aerosol and its components.
- (c) Define pelletization. Write in detail about various methods used for pelletization.



7×5=35

3. Solve any seven :

- (a) What is hydrolytic resistance test for glass containers ?
- (b) Write a short note on quality control tests for parenteral products.
- (c) Give layout design and explain for parenteral products.
- (d) Discuss soft gelatin capsule manufacturing process.
- (e) Explain different types of gelatins and its manufacturing.
- (f) Write official friability and uniformity of weight test for compressed tablets.
- (g) What is desolution profiling in preformulation study ?
- (h) Discuss in brief about official test for weight variation for hard gelatin capsules.
- (i) Define and explain Car's index and Hausner's ratio.

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NM—09—2026

FACULTY OF PHARMACY

B.Pharm. (Fifth Semester) EXAMINATION

APRIL/MAY, 2026

PHARMACOLOGY-II

(Tuesday, 21-04-2026) (BP 503T) Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

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

(ii) Draw a neat labelled diagram wherever necessary.

(iii) Answer to the point only.

1. Answer *all* questions :

10×2=20

(a) Define the term Angina and CHF.

(b) Give the role of oxytocin.

(c) Define Autocoids with suitable examples.

(d) What are plasma volume expanders ?

(e) Define the term Bioassay.

P.T.O.



- (f) Enlist the drugs used in treatment of shock.
- (g) What are anti-platelets agents ? Give examples.
- (h) What are anti-Gout agents ? Give examples.
- (i) Give the role of Calcitonin.
- (j) Write therapeutic uses of Propranol.

2. Answer the following (any two) :

2×10=20

- (a) Define and classify antihypertensive agents. Write pharmacology of ACE inhibitors.
- (b) What are oral Hypoglycemics ? Classify it and write pharmacology of Insulin.
- (c) Explain in brief types of Bioassay and write the applications of Bioassay.

3. Answer the following (any seven) :

7×5=35

- (a) Explain in detail Renin-Angiotensin Aldosterone system.
- (b) Write about bioassay of digitalis.
- (c) Explain in detail pharmacology of Glucocorticoids.



- (d) What are diuretics ? Write Pharmacology of loop diuretics.
- (e) What are anti-coagulants ? Write pharmacology of Heparin.
- (f) Discuss in brief about pharmacology of Aspirin.
- (g) What are Anti-histaminics agents ? Classify it with suitable examples.
- (h) Explain in detail Pharmacology of Thyroid Hormone.
- (i) Write a short note on oral contraceptives.

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NM—13—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

PHARMACOGNOSY AND PHOTOCHEMISTRY—II

(Thursday, 23-4-2026) (BP504T) 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) Figures to the right indicate full marks.

1. Answer the following :

10×2=20

(a) Define Radioactive isotopes with examples.

(b) Write biological source and uses of Asafoetida.

(c) Define extraction. Mention the methods of extraction.

(d) Give the significance of Shikimic acid Pathway.

(e) Write the chemical constituents and uses of Mentha.

P.T.O.



- (f) Draw the neat labelled diagram of T.S. of fennel.
- (g) Write the identification test for tannins.
- (h) What are secondary metabolites ? Give the examples.
- (i) Define carotenoids and give the examples.
- (j) Give the commercial applications of vinca and liquorice.

2. Answer any *two* :

2×10=20

- (a) Discuss the industrial production, estimation and utilization of vincristin.
- (b) Discuss Shikimic acid pathway in detail.
- (c) Give the pharmacognostic account of Digitalis.

3. Answer any *seven* :

7×5=35

- (a) Discuss the isolation, identification and analysis of glycyrrhizic acid.
- (b) Write the biological source, chemical constituents and uses of :
 - (i) Rauwolfia
 - (ii) Cinnamon.
- (c) Discuss supercritical fluid extraction with suitable example.
- (d) Write the identification test for podophyllotoxin curcumin, mentha and rutin.



- (e) Write the pharmacognostic account of opium.
- (f) Discuss HPLC in detail.
- (g) Define glycosides and classify them on the basis of linkage with suitable example.
- (h) Explain maceration and percolation technique with suitable example.
- (i) Give the biological source, chemical constituents, uses and adulterants of clove.

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NM—17—2026

FACULTY OF PHARMACEUTICAL SCIENCES

B.Pharm. (Fifth Semester) EXAMINATION

APRIL/MAY, 2026

PHARMACEUTICAL JURISPRUDENCE (Theory)

BP-505T

(Saturday, 25-4-2026)

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

Time—3 Hours

Maximum Marks—75

N.B. :- (i) Figures to the right indicate full marks.

(ii) All questions are compulsory.

1. Solve the following questions :

10×2=20

- (a) Define cosmetics as per Drugs and Cosmetics Act 1940.
- (b) What are objectives of NDPS Act ?
- (c) Define pharmaceutical ethics.
- (d) Mention functions of Right to Information Act.
- (e) Define trademark as per IPR Act.
- (f) Mention ex-officio members of PCI.
- (g) Define Magic Remedies.

P.T.O.



- (k) Define registered pharmacist.
- (i) What are the following schedules stands for :
- (i) Schedule N
- (ii) Schedule Y
- (j) What are labelling conditions for schedule 'X' drugs ?
2. Solve the following questions (any two) : 2×10=20
- (a) What are conditions for the grant of license to manufacture drugs other than those specified in Schedule C and C1 of D and C Rules 1945 ?
- (b) Describe Schedule M with regards to requirements for manufacture of a drug.
- (c) Differentiate between bonded and non-bonded manufactory. Explain in detail about construction of bonded laboratory.
3. Solve the following questions (any seven) : 7×5=35
- (a) Explain the offences and penalties as per NDPS Act.
- (b) Define the term Advertisement. Explain prohibited advertisement as per Act.
- (c) How is DTAB constituted ? Write its functions.
- (d) Explain role of pharmacist in relation to his job as per code of pharmaceutical ethics.



- (e) Explain CPCSEA guidelines for laboratory animals.
- (f) Describe the method of calculating retail price of formulation.
- (g) Explain qualification and powers of drug inspector under D & C Act.
- (h) Define :
 - (i) Spurious drug
 - (ii) Misbranded drugs
 - (iii) Adulterated drugs.
- (i) Write a note on Intellectual Property Rights (IPR).