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OM—08—2026

FACULTY OF SCIENCE AND TECHNOLOGY

M.Pharm (Second Semester) EXAMINATION

July, 2026

ADVANCED PHARMACOLOGY-II

(MPL-201T)

(Thursday, 2-7-2026) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

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

(*iii*) Answer to the point only with appropriate charts/diagrams.

1. Answer all the questions : 10×2=20

(*a*) Define chemotherapy.

(*b*) What is helminthiasis ?

(*c*) Enlist various cellular and biochemical mediators of immune response.

(*d*) Define chronopharmacology.

P.T.O.

(e) What do you mean by neurodegenerative disease ?

(f) What is Constipation ? Write drugs used in constipation.

(g) What is circadian rhythm ?

(h) What are free radicals ?

(i) Write role of prolactin.

(j) Enlist reasons for multi-drug treatment for TB.

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

(a) Define and classify antifungal drugs. Write cellular and molecular mechanism of action and resistance of antifungal drugs.

(b) Define immunopharmacology. Discuss :

(i) Immunosuppressants

(ii) Immunostimulants.

(c) What is Ulcer ? Classify anti-ulcer drugs. Discuss pharmacology of cimetidine.

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

(a) Discuss role of free radicals in etiopathology of Alzheimer's disease.

(b) Discuss applications of chronotherapy in diabetes.

(c) Discuss pharmacology of Macrolide antibiotics.

(d) Discuss pharmacology of male sex hormones.

(e) Describe drugs affecting calcium regulation.

(f) What is Cancer ? Write pharmacology of vincristine.

(g) Write pharmacotherapy of COPD.

(h) Discuss actions of growth hormone.

(i) Discuss oral contraceptives.

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OM—22—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

APRIL/MAY, 2026

PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING METHODS-II

(MPL-202-T)

(Saturday, 4-7-2026) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

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

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

(*iii*) Answer to the point only.

1. Answer the following : 10×2=20

(*a*) Define IND.

(*b*) Define genotoxicity studies.

(*c*) Define schedule Y.

(*d*) Enlist Alternative methods to animal toxicity testing.

P.T.O.

(e) Write importance of safety pharmacology.

(f) Define Toxicokinetics.

(g) What is GLP ?

(h) What is ICH ?

(i) Give importance of drug development.

(j) What is Ames test ?

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

(a) What is Toxicokinetics ? Write on toxicokinetic evaluation in pre-clinical studies and write its applications.

(b) Write in detail on Tier-1-CVS, CNS and respiratory safety pharmacology.

(c) Define IND and explain its importance along with list of studies needed for IND submission.

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

(a) Give OECD principles for Good Laboratory Practice (GLP).

(b) Write a note on skin sensitization toxicity studies.

(c) Write a note on EPA.

(d) Write on risk assessment in male reproductive toxicity.

(e) Discuss the importance of safety pharmacology.

(f) Discuss genotoxicity studies.

(g) Write on inhalation studies as per OECD guidelines.

(h) Define toxicology and explain its various types.

(i) Write a note on chromosomal aberration studies.

This question paper contains 3 printed pages]

OM—36—2026

FACULTY OF SCIENCE AND TECHNOLOGY

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

July, 2026

PRINCIPLES OF DRUG DISCOVERY

MPL-203T

(Tuesday, 7-7-2026) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *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.

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

(*a*) Write the difference between target identification and target validation.

(*b*) What is the role of high throughput screening in drug discovery ?

(*c*) What is a protein domain ?

(*d*) Define a pharmacophore.

(*e*) What is 'Manual Docking' ?

P.T.O.

(f) Define the term Prodrug.

(g) What does 3D-QSAR refer to ?

(h) What is Hansch analysis ?

(i) How does bioinformatics assist in target identification ?

(j) What is the 'lock-and-key' model as it relates to drug design ?

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

(a) Describe the steps involved in modern drug discovery. Explain each step with examples.

(b) Discuss the role of molecular docking in rational drug design and why knowledge of the targets 3D structure is important.

(c) Discuss ethical, regulatory and practical considerations in using transgenic animal for drug target validation.

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

(a) Explain the significance of bioinformatics in target identification.

(b) Give an account of how proteomics (including protein-protein interactions) aids in target validation.

(c) Explain how a knockout transgenic animal model can help to validate a drug target.

(*d*) Explain how NMR spectroscopy can be used in protein structure determination and write its advantages.

(*e*) Explain the importance of assay validation in the hit identification phase of lead screening.

(*f*) Compare CoMFA and CoMSIA approaches in 3D-QSAR. What are the similarities and key differences ?

(*g*) What are the rationales for using prodrugs to improve drug absorption and distribution ?

(*h*) Write the basic step involved in In silico drug discovery.

(*i*) Give detail on docking scoring and reverse docking.