Code No. H-8095/ PCI

FACULTY OF PHARMACY

M. Pharmacy (Pharmacology) II – Semester (PCI) (Main & Backlog) Examination,

December 2025

Subject: Pharmacological and Toxicological Screening Methods - II

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five following questions. **(5 x 15 = 75 Marks)**

1. Write a detailed note on determination of LD50 as per OECD-425 guideline.

2. Discuss in detail the OECD principles of Good Laboratory Practice (GCP) in drug development.

3. Write short notes on:
   a) Dermal irritation studies
   b) Skin sensitization studies
4. Define IND. Elucidate the importance and industry perspectives of IND enabling studies.

5. Write notes on:
   a) Principles of toxicokinetic studies
   b) Alternatives to animal toxicity testing

6. What is carcinogenesis? Explain the methods of testing the compound for carcinogenicity?

7. Write short notes on:
   a) Skin sensitization studies
   b) Acute eye irritation studies

8. Define safety pharmacology. Describe in detail the Tier1and Tier2 safety pharmacology studies.

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Code No: H-8098/ PCI

FACULTY OF PHARMACY

M. Pharmacy (Pharmacology) II - Semester (Main&Backlog) Examination, Dec 2025

Subject: Advanced Pharmacology - II

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five following questions. **(5X15=75 Marks)**

1. a) How are thyroid hormones synthesized and classify antithyroid drugs? (10+5)
   b) Write short notes on sex hormones.

2. a) Explain the mechanism of resistance of antimicrobial agents. (7+8)
   b) Classify antiviral drugs. Discuss the pharmacology of Nucleoside reverse transcriptase inhibitors.

3. a) Discuss about the alkylating agents used in cancer chemotherapy. (8+7)
   b) Write short notes on macrolide antibiotics.

4. a) What are -lactam antibiotics? Explain the mechanism of action, therapeutic uses and adverse effects. (8+7)
   b) Classify antifungal drugs. Discuss the pharmacology of amphotericin B.

5. a) Discuss about cellular and biochemical mediators involved in allergy and Inflammation. (10+5)
   b) Write in brief about NSAID's.

6. a) Write short notes on immunosuppressants. (7+8)
   b) Classify antiulcer drugs and explain about H_2 receptor antagonists.

7. a) What is chronotherapy? Discuss about the chronotherapy of diabetes. (8+7)
   b) Discuss about the treatment for diarrhoea.

8. a) Explain in detail about the generation of free radicals. (8+7)
   b) Discuss about the protective activity of certain important antioxidants.

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Code No: H-8097/ PCl

FACULTY OF PHARMACY

M. Pharmacy (Pharmacology) II - Semester (Main & Backlog) Examination, Dec. 2025

Subject: Clinical Research & Pharmacovigilance

Time: 3 Hours **Max. Marks: 75**

Note: Answer any Five following questions. **(5 x 15 = 75 Marks)**

1. Define Pharmacovigilance. Add a note on history and PV programs in India. 15

2. a) Describe the schedule Y guidelines for biomedical research. 8
   b) Explain the ethical principles governing informed consent process. 7

3. Explain in detail about Randomised Controlled Trail (RCT) and Non Randomised Controlled Trail (Non RCT). 15

4. What are the guidelines followed for the preparation of investigational brochure and report forms. 15

5. a) Write a note on Pharmacoeconomics. 8
   b) Write the importance of safety pharmacology. 7

6. Write about WHO international drug monitoring programme. 15

7. Explain in detail about Argus, Aris G Pharmacovigilance and Vigiflow. 15

8. What are the various guidelines followed for adverse drug reactions reporting. 15

9. What are the various statistical methods for evaluating medication safety data? 15

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Code No. H-8096/ PCI

FACULTY OF PHARMACY

M. Pharmacy (PCI) (Pharmacology) II - Semester (Main & Backlog) Examination, December 2025

Subject: Principles of Drug Discovery

Time: 3 Hours **Max. Marks: 75**

Note: Answer any Five following questions. **(5X15=75 Marks)**

1. a) Define the term target and write a note on type's target. (7)
   b) Describe about the economics of drug discovery. (8)

2. a) Write the importance of receptor screening in drug discovery. (7)
   b) Write the threading method for protein structure in prediction. (8)

3. a) Write a note on concept of virtual drug design. (7)
   b) Write a note on Pharmacophore based screening. (8)

4. a) Describe about the de-novo drug design. (7)
   b) Write the role of log-p value in QSAR. (8)

5. a) Explain the concept of free Wilson analysis (7)
   b) Write a note on type's prodrug design techniques. (8)

6. a) Explain in brief about significance of nucleic acid microarrays in drug discovery. (7)
   b) Write the concept of combinatorial synthesis and its advantages. (8)

7. a) Describe the application of NMR in protein structure prediction. (7)
   b) Write the role of stearic factors in QSAR. (8)

8. a) Explain the applications cell based assays in drug discovery. (7)
   b) Write a note on site specific prodrug delivery techniques. (8)

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Code No: G-13143/PCI

FACULTY OF PHARMACY

M. Pharmacy (PCI) II - Semester (Pharmacology) (Backlog) Examination, June 2025

Subject: Clinical Research & Pharmacovigilance

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five questions. All questions carry equal marks. (5 x 15 = 75 Marks)

1. (a) Describe the ICMR guidelines for biomedical research. (8)
   (b) Explain the ethical principles governing informed consent process. (7)

2. (a) Write the role of investigator and sponsor in clinical trials. (7)
   (b) Define clinical trials. Explain the different types of clinical trials. (8)

3. What are the guidelines followed for the preparation of investigational brochure and report forms. (15)

4. Define Pharmacovigilance. Add a note on history and PV programs in India. (15)

5. Explain in detail about Argus, Aris G Pharmacovigilance and Vigiflow. (15)

6. (a) Write the importance of safety pharmacology. (7)
   (b) Write a note on Pharmacoeconomics. (8)

7. Define ADR. Explain the detection and reporting methods of ADRs. (15)

8. Write about WHO international drug monitoring programme. (15)

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Code No: G-13140/PCI

FACULTY OF PHARMACY

M. Pharmacy (PCI) II - Semester (Pharmacology) (Backlog) Examination, June 2025

Subject: Advanced Pharmacology- II

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five questions. All questions carry equal marks. (5 x 15 = 75 Marks)

1. (a) Explain the synthesis, storage and release of thyroid hormones.
   (b) Write short notes on oral contraceptives. (8+7 Marks)
2. (a) Explain the mechanism of resistance of antimicrobial agents.
   (b) Classify antiviral drugs. Discuss the pharmacology of Nucleoside reverse Transcriptase inhibitors. (7+8 Marks)
3. (a) Discuss about the antimetabolites used in cancer chemotherapy.
   (b) Write short notes on antifungal drugs. (8+7 Marks)
4. (a) Discuss about the alkylating agents used in cancer chemotherapy.
   (b) Write short notes on macrolide antibiotics. (8+7 Marks)
5. (a) Explain the biochemical mediators of inflammation.
   (b) Write the Pharmacotherapy of asthma and COPD. (7+8 Marks)
6. (a) Classify allergic or hypersensitivity reactions. (7+8 Marks)
   (b) Discuss about bronchodilators and drugs used in treatment of COPwD.
7. (a) What is chronotherapy? Explain the chronotherapy of diabetes.
   (b) Discuss about the treatment for constipation. (8+7 Marks)
8. (a) Explain in detail about the generation of free radicals.
   (b) Discuss about the protective activity of certain important antioxidants. (8+7 Marks)

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5/6/2025

Code No: G-13141/PCI

FACULTY OF PHARMACY

M. Pharmacy (PCI) II - Semester (Pharmacology) (Backlog) Examination, June 2025
Subject: Pharmacological and Toxicological Screening Methods – II

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five questions. All questions carry equal marks. (5 x 15 = 75 Marks)

1. Explain the regulatory requirements of ICH for the new drug safety assessment. (15)

2. Discuss in detail the OECD principles of Good Laboratory Practice (GLP) in drug development. (15)

3. Write short notes on:
   (a) Genotoxicity studies (8)
   (b) Teratogenicity studies (7)

4. Define IND. Elucidate the importance and industry perspectives of IND enabling studies. (15)

5. Write notes on:
   (a) Principles of toxicokinetic studies (7)
   (b) Alternatives to animal toxicity testing (8)

6. Define safety pharmacology. Describe in detail the Tier1and Tier2 safety pharmacology studies. (15)

7. Write short notes on:
   (a) Skin sensitization studies (7)
   (b) Acute eye irritation studies (8)

8. What is carcinogenesis? Explain the methods of testing the compound for carcinogenicity? (15)

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Code No: G-13142/PCI

FACULTY OF PHARMACY

M. Pharmacy (PCI) II - Semester (Pharmacology) (Backlog) Examination, June 2025

Subject: Principles of Drug Discovery

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five questions. All questions carry equal marks. (5 x 15 = 75 Marks)

1. (a) Give an overview of modern drug discovery process. (8+7M)
   (b) Describe in detail about role of protein microarray in target discovery.

2. (a) Write a note on lead identification and optimization in drug discovery process. (8+7M)
   (b) Describe about role of antisense technology in target identification and validation.

3. (a) Explain in brief about motifs and folds in protein structures. (7+8M)
   (b) Explain in detail about virtual screening techniques.

4. (a) Describe in brief about free Wilson analysis. (8+7M)
   (b) Write a note on 3D-QSAR models.

5. (a) Describe in detail de novo drug design. (8+7M)
   (b) Explain about High Throughput Screening and its importance.

6. (a) What is the role of siRNA and nucleic acid micro array in target discovery and validation. (8+7M)
   (b) Write a note on site specific prodrug delivery techniques.

7. (a) Describe the application of X-Ray crystallography in protein structure prediction. (8+7M)
   (b) Write a note on molecular docking.

8. (a) Write the importance of cell based assays in drug discovery. (8+7M)
   (b) Write a note on role of transgenic animals in target validation.

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Code No. G-13162

FACULTY OF PHARMACY

M. Pharmacy II - Semester (PCI) (Pharmacy Practice) (Backlog) Examination, June 2025

Subject: Principles of Quality use of Medicines

Time: 3 Hours **Max. Marks: 75**

Note: Answer any five questions. All questions carry equal marks.

1. Explain the responsibilities of each partner involved in QUM. Add a note on the five princ underlying the quality use of medicines. (15

2. a) Explain the steps involved in the process of evidence-based medicine. (10
   b) Write a short note on QUM evaluation strategy. (5

3. Explain the consequences of irrational use of medicines. What is the role of pharmacist in rat drug use? (1

4. Define essential drugs and briefly elucidate its concept. Write short notes on (5+5+5)
   a) National essential drug policy
   b) Essential drugs list

5. a) Describe the quality use of medicine in ambulatory and hospital settings. (8
   b) Explain the special prescribing consideration for geriatrics and pediatrics. (7

6. (a) Explain the regulatory aspects of QUM for complementary and OTC medicines. (10
   (b) Write a brief note on cost-effective prescribing. (5)

7. a) Explain the WHO-UMC causality assessment scale. (7)
   b) Discuss the mechanisms involved in different types of adverse drug reactions. (8)

8. Define and classify medication errors. Explain the causes, detection and prevention of medica errors. (15

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