FACULTY OF PHARMACY

Code. No: E-12411/PCI

B. Pharmacy V Semester (PCI) (Backlog) Examination, November 2023
Subject: Industrial pharmacy I

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

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. What is BCS classification of drugs? Write example of each class.
2. Enlist the methods to study particle size and shape of solids.
3. What is the use of glidant, lubricant and anti-adherent in tablet manufacturing?
4. Write the methods for pharmaceutical emulsion manufacturing.
5. Enlist the quality control tests for hard gelatin and soft gelatin capsules.
6. Give significance of pelletization.
7. Describe sterility test for eye ointments.
8. What are the different routes of administration for parenteral products?
9. Define and classify cosmetics.
10. Discuss the role of packaging in pharmaceuticals.

PART-B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. (a) Explain IPQC for uncoated tablets.
    (b) Write the significance of tablet coating. Describe the process of sugar coating.
12. (a) Explain official and non-official QC tests for glass as packaging material.
    (b) Discuss evaluation tests for pellets.
13. Discuss the components of aerosol with neat and labelled diagram. Add a note on types of propellant.

PART-C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Describe the methods to study solid forms.
15. Explain racemization and polymerization of API with examples.
16. Write a note on manufacturing of pharmaceutical suspensions.
17. Discuss tablet manufacturing defects and techniques to overcome them.
18. Describe steps involved in extrusion-spheronization.
19. Explain manufacturing of SGC.
20. Discuss the method of pyrogen testing for injections.
21. Describe manufacturing and evaluation of shampoo.
22. Explain the formulation and labelling requirements for ophthalmic products.

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Code No: E-12410/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, November 2023
Subject: Medicinal Chemistry - II

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

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Write the structures and uses of Triprolidine hydrochloride.
2. Write the MOA of Spironolactone.
3. Write the synthesis of Isosorbide dinitrite.
4. Explain the antithyroid drug with examples.
5. Write the uses and mechanism of action of Thiazolidinedione's.
6. Write the structure of Cortisone and Hydrocortisone.
7. Explain Anti-hyperlipidemic agents with examples.
8. What are proton pump inhibitors.
9. Write the structure and uses of nitro-glycerine, chlorthiazide.
10. Write the mechanism of action of Dibucaine.

PART-B

Note: Answer any two questions **(2 x 10 = 20 Marks)**

11. (a) Write short notes on drugs for erectile dysfunction.
    (b) Write the synthesis and uses of Tolbutamide.
12. Write the classification with one structure from each category of Diuretics. Explain the mechanism of action of each class.
13. Write a short notes on oral contraceptives.

PART-C

Note: Answer any seven questions **(7 x 5 = 35 Marks)**

14. Explain Antineoplastic agents with examples. Write the mechanism of action of Antimetabolite.
15. Write the MOA, uses and synthesis of metformin.
16. Write the classification of calcium channel blockers with structures.
17. Write the MOA and synthesis of Nitroglycerin.
18. Write a short notes on Anti-arrhythmic Drugs.
19. Write the SAR of local anaesthetic agents.
20. Explain the Nomenclature and Stereochemistry of steroids.
21. Write a short note on the alkylating agents.
22. Write the structure, uses and MOA of Omeprazole.

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Code No: E-12412/PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Backlog) Examination, November 2023
Subject: Pharmacology – II

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

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. What is arrhythmia? Mention two drugs used in its treatment.
2. Discuss the mechanism of antianginal effect of Glyceryl triturate.
3. What are fibrinolytics? Mention two examples.
4. Classify antidiuretics.
5. Describe the triple response of histamine.
6. What are the different uses of antihistaminics?
7. What are the adverse effects of Corticosteroids?
8. What are the therapeutic uses of T_3 & T_4?
9. Mention the uses of oral contraceptives.
10. Define bioassay. List out the types of bioassays.

PART-B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Explain the various methods of bioassay of oxytocin and d-tubocurarine.
12. (a) Classify the non-steroidal anti-inflammatory agents with examples.
    (b) Explain the mechanism of action, uses and adverse effects of salicylates.
    (c) Explain the mechanism of action, adverse drug reactions and uses of digoxin.

Note: Answer any seven questions **(7 x 5 = 35 Marks)**

13. Write short notes on oral anticoagulants.
14. Write the pharmacological actions and uses of prostaglandins.
15. Explain the pharmacology of Sodium nitroprusside.
16. Write the mechanism of action, adverse drug reactions and therapeutic uses of ACE inhibitors.
17. Explain the pharmacology and uses of vasopressin.
18. Write the pharmacology of allopurinol.
19. Write the mechanism of action, adverse drug reactions and uses of metformin.
20. What are the methods of bioassay of insulin? Discuss any one method in detail.
21. Write a brief note on oral contraceptives.

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Code. No: E-12413/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, November 2023

Subject: Pharmacognosy & Phytochemistry-II

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

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define primary and secondary metabolites and write two examples.
2. What are cardiac glycosides?
3. Define glycosides and give classification of glycosides with examples.
4. Give biological source, chemical constituents and uses of Asafoetida.
5. Give the biological source, chemical constituents and uses of *Curcuma longa*.
6. How will you identify menthol?
7. Write a biological source, and uses of artemisinin.
8. Write application of HPTLC in phytochemistry.
9. Give biological source and chemical constituents and uses of Cinnamon and Bitter almond.
10. Write the application of electrophoresis

PART-B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Write a descriptive note on Shikimic acid pathway.
12. (a) Give the method of isolation for Atropine.
    (b) How will you estimate sennosides?
13. Write a descriptive note on industrial production of podophyllotoxin as anticancer agent.

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Discuss the chemistry of digitalis.
15. Write a note on tracer techniques in biogenetic study.
16. Give the estimation and utilization of Caffeine.
17. How will you isolate, identify and analyse the Citral.
18. Write a principle and application of TLC.
19. Define volatile oil. Give various methods used for isolation of volatile oil.
20. Write the biological source, structures of chemical constituents & uses of Digitalis.
21. Give biological source, chemical constituents and uses of Opium and Clove.
22. Define tannins and write a note on Catechu.

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Code. No: E-12414/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, November 2023
Subject: Pharmaceutical Jurisprudence

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

PART-A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define Drug and Cosmetic according to drugs and cosmetics act 1940.
2. Differentiate wholesale and retail sale.
3. What is Schedule P?
4. List the central drugs laboratories in India.
5. Write the objective of Medicinal and Toilet Preparation Act 1955.
6. How is sale and export of Opium controlled?
7. What is the constitution of Institutional Animal Ethics Committee?
8. List the classes of exempted advertisements.
9. Define Intellectual Property Rights.
10. Write the purpose of Hathi committee.

PART-B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Describe Administration of Drugs and Cosmetics Act 1940, and its rules 1945.
12. Describe the salient features, prohibited advertisements, exempted advertisements of drugs and magic remedies act.
13. Explain in detail about Pharmacy Act 1948.

PART-C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. What are the requirements for manufacture of schedule X drugs?
15. Write a note on Schedule U.
16. Describe Manufacture In bond and Outside bond.
17. Write the Constitution and Functions of narcotic & Psychotropic Consultative Committee
18. What are the general labelling requirements for drugs and cosmetics?
19. Write a note on Code of Pharmaceutical Ethics.
20. Explain CPCSEA guidelines for animal experiments.
21. Write a note on right to information act.
22. Write a note on National list of Essential Medicined (NLEM).

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Code No. D-8247/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, August 2022
Subject: Industrial Pharmacy - I

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

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1 What is Racemization? Give example.
2 Write the methods to study of solid forms of a substance.
3 Explain friability test for tablets.
4 What are the tests used for detecting type of emulsion?
5 Write the differences between type A and type B gelatin.
6 Write the advantages of pellets.
7 Explain the concept of aseptic processing.
8 Plastic bottles are preferred over glass bottles for saline. Justify.
9 Write the type of glass with their uses for pharmaceutical products.
10 Define cosmetics and give classification of cosmetics with examples.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 (a) Discuss about crystallinity of solid substances.
(b) Describe the chemical reactions involved in degradation of API.

12 Explain in detail about manufacturing of hard gelatin capsules and soft gelatin capsules.

13 (a) Describe the components of aerosol system with the help of a neat diagram.
(b) Discuss the types of aerosol system.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Explain the techniques for solubilization of API.
15 Discuss the steps involved in sugar coating of tablets.
16 Describe the evaluation of liquid orals as per pharmacopoeia.
17 Explain in detail about extrusion-spheronization technique.
18 Elaborate the parenteral additives with their examples.
19 What are pyrogens? Discuss the progeny test for injectables.
20 Write the differences between flocculated and deflocculated suspensions.
21 Elaborate water attack test USP and powder glass test USP for packaging glass.
22 Discuss the manufacturing, and uses of cold cream and vanishing cream.

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Code No: D-8246/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, August 2022

Subject: Medicinal Chemistry - II

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

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1 Write the structure and uses of omeprazole.
2 Write the mechanism of action of antimetabolites.
3 Outline the synthesis of isosorbide dinitrite.
4 Discuss the mechanism of action of ACE inhibitors.
5 Outline the synthesis of warfarin.
6 Define antiarrhythmics.
7 What are oral contraceptives? Give examples.
8 Write the structures of testosterone and oestradiol.
9 Discuss the mechanism of action of glucosidase inhibitors.
10 Write about structure of insulin.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 (a) What are H_2-antagonists? Outline the synthesis of cimetidine.
(b) Classify anti-neoplastic agents with two structures from each class.

12 (a) Explain the mechanism of action of anti-arrhythmic drugs with examples.
(b) Outline the synthesis of chlorothiazide and furosemide.

13 (a) Classify oral hypoglycemic drugs with one structure from each class.
(b) Discuss SAR of local anesthetics.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Outline the synthesis of Diphenhydramine hydrochloride and promethazine hydrochloride.
15 Classify calcium channel blockers with one structure from each class.
16 Classify anti-hypertensives with one structure from each class.
17 Give an account on agents used in treating congestive heart failure.
18 Write in detail about oral contraseptives with structures.
19 Write a note on thyroid and anti-thyroid drugs.
20 Discuss mechanism of action of any two categories of diuretics with examples.
21 Classify local anesthetics with structures.
21 Outline the synthesis of tolbutamide and benzocaine.

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Code No.D-8249/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, September 2022
Subject: Pharmacognosy & Phytochemistry - II

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

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1 Give various application of radioisotopes.
2 How will you introduce radiolabelled compounds in plant?
3 Define glycoside and give its classification with examples.
4 Give the special test for identification of aloe.
5 Give the structure and uses of rutin.
6 How will you isolate menthol?
7 Write about important applications of diosgenin.
8 How will you estimate caffeine?
9 Give biological source and uses of digitalis.
10 Write about biological source and uses of cinnamon.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Explain in detail the biosynthesis of any one secondary metabolite through acetate mevalonate pathway.

12 Explain in detail method of isolation, identification and analysis of reserpine.

13 Write a note on various chromatographic techniques used in identification and purification of phytoconstituents.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Explain Shikimic acid pathway.
15 What are alkaloids? Give general method of isolation for alkaloids.
16 Write a note on method of isolation and identification of podophylotoxin.
17 Give the method of estimation for sennoside.
18 Write about biological source, chemical constituents and uses of fennel and catechu.
19 Write a note on method of isolation and identification of atropine.
20 Explain the Isolation, identification and analysis of artemisin.
21 What do you mean by tannins? Give its classification and general tests for identification of tannins.
22 Write a brief note on modern method for extraction of phytoconstituents.

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Code No: D-8250/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, September 2022

Subject: Pharmaceutical Jurisprudence

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

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1 Write any three classes of drugs and cosmetics which are prohibited from import.
2 Define drug according to D & C Act.
3 What are the labeling instructions for Schedule X drugs?
4 Write the functions of government drug analyst.
5 Explain the terms In bond and Outside bond according to Medicinal and Toilet preparation Act 1955.
6 What is the eligibility criterion for registration as a pharmacist?
7 Write the formula for calculating retail price of formulations.
8 Write the constitution of Institutional Animal Ethics Committee.
9 Define ethics.
10 Define Intellectual Property Rights.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Enlist the objectives of Pharmacy Act 1948. Write about the constitution and functions of state pharmacy council.

12 Explain the legal procedure for cultivation, production, manufacturing and sale of opium.

13 Explain requirements for manufacture of drugs for test, examination and analysis. Add a note on loan license and repacking license.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 What are the objectives of Drugs and Cosmetics Act 1940?
15 Write a note on central drugs laboratory.
16 Write a note on Schedule Y.
17 Discuss the layout and construction of bonded and non bonded laboratory.
18 Write a note on pharmaceutical ethics to be followed by a pharmacist.
19 Define trademarks, copyrights and patents.
20 Write a short note on Drug Enquiry Committee.
21 What are the salient feature of Drugs and Magic Remedies Act?
22 Write a note on Drug Price Control Order.

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Code No.D-8248/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Backlog) Examination, September 2022
Subject: Pharmacology - II

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

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1 Explain the mechanism of anti-arrhythmic action of lidocaine.
2 What is arrhythmia? Mention two drugs used in its treatment.
3 What are fibrinolytics? Mention two examples.
4 Mention the uses of vasopressin analogues.
5 Classify autacoids with examples.
6 What is rheumatism? Mention the drugs used in rheumatism.
7 What are anabolic steroids? Write their uses.
8 Explain about hormonal regulation of plasma calcium levels.
9 Write the mechanism of action of glucocorticoids.
10 Define bioassay. Mention its applications.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Explain the various methods of bioassay of insulin and digitalis.

12 (a) Classify the non-steroidal anti-inflammatory agents with examples.
(b) Explain the mechanism of action, uses and adverse effects of salicylates.

13 (a) What is congestive heart failure? Classify the drugs used for its treatment.
(b) Explain the mechanism of action, adverse drug reactions and uses of digoxin.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Write short notes on pharmacology vitamin B_{12}.
15 Classify anticoagulants. Mention the pharmacological actions of heparin.
16 What is angina pectoris? Classify antianginal drugs.
17 Write the mechanism of action, adverse drug reactions and therapeutic uses of ACE inhibitors.
18 Explain about histamine receptors and drugs acting on them.
19 Write the pharmacology of allopurinol.
20 Write the mechanism of action, adverse drug reactions and uses of metformin.
21 Write the pharmacological actions and therapeutic uses of thyroxine.
22 Write a brief note on oral contraceptives.

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Code No. D8175/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (MAIN & BACKLOG) Examination, February / March 2022

Subject: Pharmaceutical Jurisprudence

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

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 Define misbranded and spurious drugs according to drugs and cosmetics act 1940.
2 What do you understand by loan license and repacking license?
3 What is Schedule H?
4 What is the role of drug inspectors?
5 Write the constitution of state pharmacy council.
6 Define narcotic drugs and psychotropic substances.
7 What are the objectives of drug price control order?
8 List the classes of exempted advertisements.
9 Define Patents.
10 What for schedule M, N, X and Y?

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Describe schedule M with regard to requirements for manufacturing of a drug.

12 Describe the salient features, prohibited advertisements, exempted advertisements of drugs as per magic remedies act.

13 Explain in detail about pharmaceutical ethics.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 What are the requirements for manufacture of schedule X drugs?
15 Describe the classes of drugs and cosmetic prohibited from import according to D & C Act.
16 Describe wholesale, retail and restricted licenses for sale of drugs.
17 Write the constitution and responsibility of drug technical advisory board.
18 What are the objectives and functions of Pharmacy Act 1948?
19 Describe the procedure for manufacture and export of alcoholic preparations.
20 How do you calculate retail and ceiling price of scheduled formulations?
21 Explain CPCSEA guidelines for animal experiments.
22 Write a note on right to information act.

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Code No. D-8174/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (MAIN & BACKLOG) Examination, February / March 2022

Subject: Pharmacognosy & Phytochemistry - II

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

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 What do you mean by radioisotope? Give some examples of radioisotopes used in tracer techniques.
2 Define primary and secondary metabolites and give examples.
3 What is cardiac glycoside?
4 Define alkaloids and give its classification with examples.
5 Give structure and uses of Caffeine.
6 How will you isolate curcumin from turmeric?
7 Write about important applications of Sennoside.
8 Give the structure and uses of Artemisinin.
9 Give the biological source and uses ginger.
10 Give chemical tests for identification of tannins.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 Explain in detail the biosynthesis of any one secondary metabolite through Shikimic acid pathway.

12 Explain in detail method of isolation, identification and analysis of Glycyrrhezitinic acid.

13 Write a descriptive note on various techniques used for extraction of phytoconstituents.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Write a note on tracer techniques.
15 Write about biological source, chemical constituents and uses of opium and aloe.
16 Write a note on method of isolation and identification of quinine.
17 Give the method of estimation for vincristine and vinblastine.
18 Write about biological source, chemical constituents and uses of coriander and benzoin.
19 Write a note on method of isolation and identification of podophylotoxin.
20 Explain the Isolation, identification and analysis of citral.
21 What do you mean by volatile oil? Give its classification and method of isolation.
22 Write a brief note on Electrophoresis.

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Code No. D-8173/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (MAIN & BACKLOG) Examination, February 2022

Subject: Pharmacology - II

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

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 What is hyperlipidemia? Mention two drugs used in hyperlipidemia.
2 Elucidate the mechanism of antianginal effect of Glyceryl trinitrate.
3 What are antiplatelet drugs and write their therapeutic uses?
4 What are the applications of plasma volume expanders?
5 Describe the triple response of histamine.
6 What is gout? Mention the drugs used in gout.
7 What are the therapeutic uses of T_3 and T_4?
8 Enlist the actions of insulin.
9 Define bioassay. List out the types of bioassays.
10 Mention the uses of tocolytics.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 (a) Classify Diuretic agents.
(b) Explain the pharmacology of Loop diuretics.

12 Define antihypertensives. Classify with examples. Write the mechanism of action, adverse drug reactions and therapeutic uses of ACE inhibitors.

13 (a) Define and classify Oral Hypoglycemic agents.
(b) Write the pharmacology of Biguanides.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Explain about oxytocics.
15 What are the methods of bioassay of d-tubocurarine? Discuss any one method in detail.
16 Write short notes on oral contraceptives.
17 Discuss the pharmacology of corticosteroids.
18 Classify NSAIDs with examples. Explain the mechanism of action of aspirin.
19 Write the pharmacological actions and uses of prostaglandins.
20 Write short notes on oral anticoagulants.
21 Discuss briefly about anti-platelet drugs.
22 What is arrhythmia? Classify antiarrhythmic drugs.

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Code No. D8172/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (Main & Backlog) Examination,
February 2022

Subject: Industrial Pharmacy - I

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

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 What is the need of preformulation studies in pharmaceutical product development?
2 Write the differences between crystalline and amorphous forms of solid.
3 Explain the importance of enteric coating of tablet.
4 Describe the granulation methods for tablet manufacturing.
5 Outline the steps of manufacturing of hard gelatin capsule SHELL.
6 Enlist the pelletization techniques.
7 What is tonicity? Explain its importance for parenteral products.
8 Write the principle involved in LAL test for injectables.
9 Illustrate the components of aerosol system with the help of neat diagram.
10 How sunscreen products help to protect skin against UV radiation?

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 (a) Describe the compression cycle for tablet manufacturing.
(b) Explain in process quality control tests for tablet compression.

12 (a) Describe sterility test procedures as per official books.
(b) Discuss formulation considerations for ophthalmic products.

13 (a) Elucidate the manufacturing of lipstick.
(b) What are the possible interactions between content and packaging material?

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 What is BCS classification? Discuss its importance.
15 Discuss the tablet additives with examples of each class.
16 Describe the importance of fine particle characterization in preformulation Studies.
17 Discuss the method for preparation of emulsion.
18 Describe the manufacturing defects of hard gelatine capsules.
19 Explain powder and liquid layering methods for pelletization, with a note on Equipment used for the same.
20 Discuss quality control of parenteral products.
21 Describe ingredients for toothpaste manufacturing.
22 Explain the criteria for selection of packaging material.

Code No.D8171/PCI

FACULTY OF PHARMACY

B. Pharmacy V Semester (PCI) (MAIN & BACKLOG) Examination,
February / March 2022

Subject: Medicinal Chemistry - II

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

PART - A

Note: Answer all questions. **(10 x 2 = 20 Marks)**

1 Write about histamine receptors and their distribution in the body.
2 Outline the synthesis of mercaptopurine.
3 Classify antianginals with examples.
4 Outline the synthesis of chlorthiazide.
5 What are coagulants? Give examples.
6 Describe HMGCoA reductase inhibitors.
7 Write the structures of oestrone and oestrous.
8 What are thyroid drugs? Give examples.
9 Discuss the mechanism of action of biguanides with examples.
10 Write the structures of procaine and benzocaine.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11 (a) Classify H_1-antagonists with two structures from each class.
(b) Classify alkylating agents. Explain the mechanism of action and synthesis of meclorethamine.

12 Discuss in detail about the mechanism of action of the following classes of diuretics:
(a) Carbonic anhydrase inhibitors.
(b) Potassium sparing diuretics
(c) Loop diuretics.

13 (a) Classify local anesthetics with structures.
(b) Write the mechanism of action and synthesis of disopyramide phosphate.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14 Discuss the mechanism of action of proton pump inhibitors.

15 Write the mechanism of action of vasodilators and outline the synthesis of nitroglycerin.

16 Classify anti-hyperlipidemic agents with one structure from each class.

17 Give an account on anticoagulants. Give the synthesis of warfarin.

18 Write a note on drugs used in congestive heart failure.

19 Classify sex hormones with examples.

20 Explain in detail about corticosteroids.

21 Write a note on insulin preparations.

22 Discuss SAR of local anesthetics.

Code No. 12327/PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Backlog) Examination, September 2021

Subject: Medicinal Chemistry – II

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7 x 3 = 21 Marks)

1 Write about histamine receptors and their distribution in the body.
2 Outline the synthesis of mechlorethamine.
3 Classify vasodilators with examples.
4 Outline the synthesis of furosemide.
5 What are coagulants? Give examples.
6 Discuss the mechanism of action of HMGCoA reductase inhibitors.
7 Write the structures of oestrione and diethylstilbestrol.
8 What are anti-thyroid drugs? Give examples.
9 Discuss the mechanism of action of glucosidase inhibitors with examples.
10 Write the structures of lidocaine and dibucaine.

PART – B (1 x 14 = 14 Marks)

11 (a) Classify H_1-antagonists with two structures from each class.
(b) Classify antimetabolites. Explain the mechanism of action and synthesis of methotrexate.

12 Discuss in detail about the mechanism of action of the following classes of diuretics:
(a) Carbonic anhydrase inhibitors
(b) Thiazides
(c) Loop diuretics

13 (a) Classify anti -arrhythmic drugs with structures.
(b) Write the mechanism of action and synthesis of tolbutamide.

PART – C (5 x 8 = 40 Marks)

14 Discuss the mechanism of action of omeprazole.
15 Write the mechanism of action of vasodilators and outline the synthesis of Isosorbide dinitrite.
16 Classify anti-hypertensive agents with one structure from each class.
17 Give an account on anticoagulants. Give the synthesis of warfarin.
18 Write in detail about stereochemistry of steroids.
19 Explain oral contraceptives with structures of drugs.
20 Write a note on insulin preparations.
21 Discuss SAR of local anesthetics.
22 Outline the synthesis of benzocaine and procaine.

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Code No. 12328/PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Backlog) Examination, September 2021

Subject: Industrial Pharmacy – I

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7 x 3 = 21 Marks)

1 Define Polymorphism.
2 Classify tablets and give ideal characteristics of tablets.
3 Give formulation of suspension.
4 Write a note on sizes of hard gelatin capsules.
5 What are pellets? Give advantages of pellets.
6 Mention different evaluation tests for parenterals.
7 What are Tonicity modifiers?
8 What is the use of Abrasives in the formulation of tooth pastes?
9 What is Orange peel effect in tablet coating?
10 What are the unofficial tests for evaluation of tablets?

PART – B (1 x 14 = 14 Marks)

11 Explain the study of physical characteristics during preformulation.

12 (a) Explain perforated coating pans.
(b) Write a brief note on filing of capsules.

13 (a) Explain pyrogen test for parenterals.
(b) Discuss about the formulation of pharmaceutical aerosols.

PART – C (5 x 8 = 40 Marks)

14 How flow properties of powders are measured?
15 Explain about hardness and friability testing of tablets.
16 Write a brief note on manufacturing defects in tablet coating.
17 Explain formulation considerations of liquid dosage forms.
18 Explain weight variation test and content uniformity test for capsules.
19 Enlist techniques of pelletization. Explain advantages of pallets over conventional dosage forms.
20 Write a brief note on sterile powders.
21 Explain Draize eye test for opthalmics.
22 Explain the factors affecting selection of pharmaceutical packaging materials.

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Code No. 12330/PCI

FACULTY OF PHARMACY

B.Pharmacy V Semester (PCI) (Backlog) Examination, September 2021

Subject: Pharmacognosy and Phytochemistry - II

Time: 2 Hours **Max. Marks: 75**

PART - A

Note: Answer any seven questions. **(7 x 3 = 21 Marks)**

1 Write the biological sources, chemical constituent names of senna.
2 What is the difference between TLC and PC?
3 Write the biological source and uses of sennosides and Atropine.
4 Write one chemical test for detection of flavonoids and alkaloids.
5 Write applications of UV spectroscopy in analysis of crude drugs.
6 Write the source, active constituents and uses of Liquorice.
7 Explain concept of microwave assisted extraction.
8 What are resins? Give five examples.
9 Give structure and uses of Digoxin.
10 Write the active constituents in clove and cinnamon.

PART - B

Note: Answer any one question. **(1 x 14 = 14 Marks)**

11 Write a detailed note on super critical fluid extraction.
12 Write a procedure for isolative and estimation cur cumin.
13 Write about precursor-product and sequential analysis methods in tracer technique.

PART - C

Note: Answer any five questions. **(5 x 8 = 40 Marks)**

14 Write the biological source and therapeutic uses of
(a) Liquorice (b) Ginger (c) Artemesia.
15 Write a note on electrophoresis.
16 Draw structure and write procedures for isolation of menthol.
17 Discuss chemistry and identification tests for Opium alkaloids.
18 Write commercial applications of eugenol, gentian and vinca alkaloids.
19 Write source, active constituents and uses of guggul and digitalis.
20 Write procedures for industrial production of sennosides.
21 Enlist modern extraction techniques. Write in detail about any one technique.
22 Write biological sources, chemistry and uses of lignans.

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Code No. 12329/PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Backlog) Examination, September 2021

Subject: Pharmacology – II

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7 x 3 = 21 Marks)

1 Define and classify Autocoids.
2 Write the differences between COX-I and COX-II.
3 Write the mechanism of action of Streptokinase.
4 What are the adverse effects of Corticosteroids?
5 Define Bioassay. Write the applications of Bioassay.
6 What are different waves and segments of ECG? Write their significance.
7 Classify antidiuretics?
8 Explain the mechanism of action of Quinidine.
9 Mention various Anterior Pituitary Hormones.
10 Write the functions of Insulin and Glucagon.

PART – B (1 x 14 = 14 Marks)

11 (a) Define and classify diuretics.
(b) Write in detail about Loop Diuretics.

12 (a) Classify Anticoagulants.
(b) Explain the pharmacology of Heparin and Warfarin.

13 Write the Pharmacology and uses of Eicosanoids

PART – C (5 x 8 = 40 Marks)

14 Explain about oxytocic agents.
15 Write the bioassays of Insulin.
16 Write the pharmacology of ACE Inhibitors.
17 Explain the pharmacological actions of histamine and mention H2 antagonists and their uses.
18 Write a note on HMG-CoA reductase inhibitors.
19 Explain the pharmacology of Sodium nitroprusside.
20 Write a note on biguanides.
21 Classify antithyroid agents. Write about thyroid hormone inhibitors.
22 Explain the mechanism of action and adverse effects of Digoxin.

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Code No. 12331/PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Backlog) Examination, September 2021

Subject: Pharmaceutical Jurisprudence

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7 x 3 = 21 Marks)

1 Define registered pharmacist under pharmacy act 1948.
2 Define drugs and cosmetics as per D and C act.
3 Define opium and coca leaves.
4 Write the difference between adulterated and spurious drug.
5 Write the formula to calculate retail price of formulation.
6 Write the objectives of the medical termination of pregnancy.
7 What are schedule X and H drugs?
8 Differentiate between laws and ethics.
9 What is loan license?
10 Write the functions of the government analyst.

PART – B (1 x 14 = 14 Marks)

11 What is “manufacture of drugs”? Explain in detail about procedure to obtain license for manufacture of drugs belonging to schedule C, C_1 and X.
12 What do you mean by patent? Discuss the various intellectual property rights.
13 Differentiate between bonded and non-bonded manufactory. Write the objectives of Medicinal and Toilet preparation Act 1955. Explain in detail about construction of bonded laboratory.

PART – C (5 x 8 = 40 Marks)

14 Define the term advertisement and magic remedies. Explain prohibited advertisement as per act.
15 Write the objectives of pharmacy act. Explain the constitution of PCI.
16 How is DTAB constituted? Write its functions.
17 Explain the general labelling requirement for drug and cosmetics. Write the labelling requirements for an ophthalmic preparation.
18 Write the qualification, duties and power of drug inspector.
19 Explain CPCSEA guidelines for breeding and stocking of animals.
20 Explain in detail about the code of pharmaceutical ethics of pharmacist in relation to his job.
21 Define Narcotic drugs and psychotropic substances as per Act. Explain the offence and penalties as per act.
22 Discuss the various aspects of Indian Pharmaceutical Legislation.

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Code No. 12073 / PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Main & Backlog) Examination, March 2021

Subject: Medicinal Chemistry – II

Time : 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7x3=21 Marks)

1 Give the structures of omeprazole and lansoprazole.
2 Write the mechanism of action of anticancer plant products.
3 Outline the synthesis of nitroglycerin.
4 Discuss the mechanism of action of ACE inhibitors.
5 Outline the synthesis of warfarin.
6 Outline the synthesis of disopyramide phosphate.
7 What are oral contraceptives? Give examples.
8 Write the structures of testosterone and oestradiol.
9 Discuss the mechanism of action of biguanides.
10 Write about structure of insulin.

PART – B (1x14=14 Marks)

11 (a) What are H_2-antagonists? Outline the synthesis of cimetidine.
(b) Classify anti-neoplastic agents with two structures from each class.

12 (a) Explain the mechanism of action of anti-arrhythmic drugs with examples.
(b) Outline the synthesis of chlorothiazide and furosemide.

13 (a) Classify oral hypoglycemic drugs with one structure from each class.
(b) Discuss SAR of local anesthetics.

PART – C (5x8=40 Marks)

14 Outline the synthesis of triprolidine hydrochloride and promethazine hydrochloride.
15 Classify calcium channel blockers with one structure from each class.
16 Classify anti-hyperlipidemics with one structure from each class.
17 Give an account on agents used in treating congestive heart failures.
18 Write in detail about corticosteroids with structures.
19 Write a note on thyroid and anti-thyroid drugs.
20 Discuss mechanism of action of sulfonylureas and thiazolidinediones with examples.
21 Classify local anesthetics with structures.
22 Outline the synthesis to tolbutamide and procaine.

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Code No. 12077 / PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Main & Backlog) Examination, March 2021

Subject : Pharmaceutical Jurisprudence

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7x3=21 Marks)

1 Write the functions of DTAB.
2 Define Narcotic drugs and Psychotropic substances as per Act.
3 Write the functions of government analyst.
4 Define registered pharmacist under pharmacy act 1948.
5 Explain Education regulation.
6 Define cosmetic as per D & C act.
7 What is the instruction to be followed for schedule X and G drugs?
8 Differentiate between laws and ethics.
9 What is restricted license?
10 Define drugs and cosmetics as per D & C act.

PART- B (1x14=14 Marks)

11 Explain the legal procedure for cultivation, production, manufacturing and sale of opium.

12 Write the objectives of pharmacy act. Explain the constitution and functions of pharmacy council.

13 How will you differentiate between bonded and non-bonded manufactory? Write the objectives of Medicinal and Toilet preparation Act, 1955. Explain in detail about construction of bonded laboratory.

PART- C (5x8=40 Marks)

14 Explain in detail the classes of drugs whose import is prohibited as per D & C Act.

15 Explain the terms trademarks, patent and copy right as per act.

16 Write a short note on Central drug Laboratory.

17 Define the terms Advertisement and Magic remedies. Explain prohibited advertisement as per act.

18 Write the conditions for termination of pregnancy and admission register.

19 Write the qualification, duties and power of drug inspector.

20 Explain CPCSEA guidelines for Laboratory animals.

21 Explain in detail about the code of pharmaceutical ethics of pharmacist in relation to his job.

22 Describe the method of calculating the retail price of formulation.

Code No. 12076 / PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Main & Backlog) Examination, March 2021

Subject: Pharmacognosy & Phytochemistry – II

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one questions from Part – B and any five question from Part – C.

PART – A (7x3=21 Marks)

1 Define radioactive isotopes and give its applications.
2 Write the difference between Primary and Secondary metabolites.
3 Write the Biological source, Chemical constituents and uses of Cinnamon.
4 Write about Borntragers and modified Borntragers test.
5 Define Glycosides and write about cardenolides.
6 Write the Biological source, chemical constituents and uses of
a) Opium b) Pterocarpus
7 Write any two identification test for alkaloids.
8 Explain Keller – kilani test.
9 Write the Chemical constituents and the therapeutic uses of
a) Tea b) Asafoetida.
10 Give the Biological source and use of Artemisia and Rauwolfia.

PART – B (1x14=14 Marks)

11 Explain the biosynthesis of secondary metabolite through Shikimic acid pathway.
12 Describe the applications of chromatographic techniques with special emphasis on isolation and purification of Phytoconstituents in crude drugs.
13 Describe in detail the Biological source, macroscopy, microscopy, chemical constituents, Chemical tests and therapeutic uses of
a) Fennel b) Coriander

PART – C (5x8=40 Marks)

14 Explain Autoradiography.
15 Write about Acetate malonate pathway.
16 Give the Biological source, chemical constituents, macroscopy, chemical test and therapeutic uses of Liquorice.
17 Explain the microscopy of Digitalis leaf with a neat labelled diagram.
18 Describe the isolation and analysis of menthol.
19 Write about the estimation and utilization of Diosgenin.
20 Explain the isolation, purification and identification of Phytoconstituents by Electrophoresis.
21 Explain the Biological source, Chemical Tests, Chemical constituents, microscopy and therapeutic uses of Benzoin.
22 Explain the Isolation, identification and analysis of Atropine.

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Code No. 12075 / PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Main & Backlog) Examination, March 2021

Subject: Pharmacology – II

Time : 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7x3=21 Marks)

1 Define haematinics and give examples.
2 Explain the uses of antihistaminics and give examples
3 Write a note on Allopurinol.
4 What are the uses of Plasma volume expanders?
5 Write a note on Spironolactone.
6 What are different uses of 5-HT antagonists?
7 What are the adverse effects of Corticosteroids?
8 Explain the mechanism of action of Statins.
9 Write about the steps of thyroid hormone synthesis.
10 What are anabolic steroids? What are their uses?

PART- B (1x14=14 Marks)

11 (a) Define and classify Oral Hypoglycemic agents.
(b) Write in detail about Sulphonylureas.

12 (a) Classify Diuretic agents.
(b) Explain the pharmacology of Thiazide diuretics.

13 Explain various methods of bioassays of Insulin and Oxytocin.

PART-C (5x8=40 Marks)

14 Explain about tocolytic agents.
15 Define Bioassay. What are different types of Bioassays?
16 Write the pharmacology of COX-II Inhibitors.
17 Classify antiarrhythmics. Add a note on class II antiarrhythmics.
18 Write a note on hormonal contraceptives.
19 Write the pharmacological actions and uses of prostaglandins.
20 Explain the pharmacology of Oxytocin.
21 Define Coagulants. Add a note on fibrinolytics.
22 Write a note on Calcium regulation in body.

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Code No. 12074 / PCI

FACULTY OF PHARMACY

B. Pharmacy V-Semester (PCI) (Main & Backlog) Examination, March 2021

Subject: Industrial Pharmacy – I

Time: 2 Hours **Max. Marks: 75**

Note: Answer any seven questions Part – A, any one question from Part – B and any five questions from Part – C.

PART – A (7x3=21 Marks)

1 Define pharmagel A and Pharmagel B.
2 What are the special instructions to be printed on the eye drop container according to drugs and cosmetics act?
3 Define enteric coating and give its advantages.
4 Mention different sealing methods for hard gelatin capsules.
5 Define preformulation studies.
6 Write the BCS classification of drugs.
7 Write the significance of isotonicity in parenterals.
8 Define Base adsorption.
9 What are the different materials used for packaging?
10 Define Propellant.

PART – B (1x14=14 Marks)

11 Write a note on production facilities required for parenteral preparations.

12 (a) Write in brief about the manufacture of Aerosols.
(b) Explain about the defects in capsules.

13 (a) Explain about disintegration and dissolution test for tablets.
(b) Write in detail about evaluation of containers.

PART – C (5x8=40 Marks)

14 Explain polymorphism.
15 Explain sugar coating of tablets.
16 Write a brief note on filling and packaging of oral liquids.
17 Explain method of preparation of heard gelatin capsule shell.
18 Write in detail about solution layering.
19 Explain the process of freeze drying.
20 Explain sterility test for ophthalmic products.
21 Define and classify cosmetics and give their uses.
22 Write a brief note on propellants in Aerosols.

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