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PP—32—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Second Year) (Fourth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

PHARMACEUTICAL ORGANIC CHEMISTRY—III

Paper BP401T

(Wednesday, 27-12-2023)

Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours

Maximum Marks—75

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

(ii) Figures to the right indicate full marks.

(iii) Draw structures wherever necessary.

1. Solve *all* of the following :

2×10=20

(a) Define asymmetric synthesis.

(b) Draw structure of quinoline and give its numbering style.

(c) Write medicinal uses of azepines.

(d) Write any *one* preparation method of thiazole.

(e) Write nitration reaction of pyrrole.

(f) Write any *two* examples of distereomers.

P.T.O.

- (g) Write any *one* stereospecific reaction.
- (h) How to prepare thiophene (write any *one* method) ?
- (i) Enlist elements of symmetry.
- (j) Draw structure and give numbering style of Acridine.
2. Solve any *two* of the following : 2×10=20
- (a) Explain CIP system for nomenclature of optical isomers.
- (b) Write any *five* electrophilic substitution reactions of furan.
- (c) Write any *four* preparation methods of Indole.
3. Solve any seven of the following : 7×5=35
- (a) Explain mechanism of the following reactions :
- (i) Dakin reaction
- (ii) Wolff Kishner reduction.
- (b) Write definition and mechanism of Beckmann's rearrangement reaction.
- (c) Write any *two* preparation methods of pyrimidine.
- (d) Classify heterocyclic compounds with example.
- (e) Explain geometrical isomerism in detail.
- (f) Write a note on resolution of racemic mixture.

- (g) Explain conformational isomerism in *n*-butane with energy profile diagram.
- (h) Write a note on optical activity.
- (i) Draw structures of the following compounds :
- (i) Pyrazole
 - (ii) Isoquinoline
 - (iii) Purine
 - (iv) Oxazole
 - (v) Pyridine.

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FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (IV Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

MEDICINAL CHEMISTRY-I

Paper BP402T

(Friday, 29-12-2023)

Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours

Maximum Marks—75

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

(ii) Write figures and suitable example wherever necessary.

1. Answer all of the following :

10×2=20

- (a) What is biotransformation ?
- (b) Write structure and IUPAC name of dopamine.
- (c) Figure out antagonistic activity of morphine in narcotic analgesic.
- (d) Classify general anaesthetics.
- (e) What are sedative-hypnotics ?
- (f) Write structure and IUPAC name of propranolol.
- (g) What is partition coefficient ?
- (h) Enlist any *two* α -adrenergic blockers.
- (i) Define bioisosterism.
- (j) Give biosynthetic pathway of Ach.

P.T.O.

2. Solve any *two* of the following : 2×10=20
- (a) Write chemical classification of anti-inflammatory agents with at least *one* structure from each class.
 - (b) Explain in detail SAR of benzodiazepines.
 - (c) Write synthesis of phenytoin and carbamazepine.
3. Solve any *seven* of the following : 7×5=35
- (a) Explain biosynthesis and metabolism of noradrenalin.
 - (b) Explain phase I reactions of drug metabolism with a suitable example.
 - (c) Explain the role of ionisation and solubility in reaction to biological activity.
 - (d) Write the synthesis of salbutamol.
 - (e) Explain SAR of phenothiazines.
 - (f) Write the structure and IUPAC name of :
 - (i) Oxazepam
 - (ii) Piroxicam
 - (iii) Haloperidol.
 - (g) Write structure, IUPAC name, MOA and uses of esmolol.
 - (h) Explain the SAR of sympathomimetics.
 - (i) Write the synthesis of halothane and propranolol.

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FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (Second Year) (Fourth Semester) EXAMINATION

JANUARY, 2024

PHYSICAL PHARMACEUTICS - II

Paper-II(BP-403T)

(Monday, 01-01-2024)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

- N.B. :—**
- (i) All questions are compulsory.
 - (ii) Draw well labelled diagram wherever necessary.
 - (iii) Figures to the right indicate full marks.

1. Answer *all* the questions : 10×2=20
- (a) What are ideal solutions ?
 - (b) Enlist applications of colloids.
 - (c) What is sedimentation volume and degree of flocculation ?
 - (d) Differentiate between lyophilic colloids and lyophobic colloids.
 - (e) Define first order reaction with an example.
 - (f) What is Tyndall effect ?
 - (g) Define zeta potential with an example.
 - (h) What is Newton's law of flow ?
 - (i) Define viscosity along with its unit.
 - (j) Write a short note on thixotropy.

P.T.O.

2. Solve any *two* of the following :

2×10=20

- (a) Explain in detail the working principle of cup and bob and cone and plate viscometer with its advantages and disadvantages.
- (b) Explain different methods of preparation and purification of colloids.
- (c) What is accelerated stability study ? Give in detail its advantages and disadvantages.

3. Solve any *seven* of the following :

7×5=35

- (a) Describe electrical properties of colloids.
- (b) Explain theories of emulsification.
- (c) Write the principle and working of coulter counter method to determine particle size with a neat diagram.
- (d) Discuss briefly the concept of DLVO theory.
- (e) Write a note on derived properties of powder.
- (f) Explain principle and working of Ostwald's viscometer.
- (g) Give the difference between flocculated and deflocculated suspension.
- (h) Write about physical degradation pathway of pharmaceutical product.
- (i) What is porosity ? Give its application in pharmacy.

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FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Fourth Semester) EXAMINATION

JANUARY, 2024

PHARMACOLOGY-I

(BP-404T)

(Wednesday, 03-01-2024)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

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

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

(iii) Figures to the right indicate full marks.

1. Answer the following :

20

(a) Define the term pharmacokinetics and pharmacodynamics.

(b) Write the advantages and disadvantages of sublingual route of drug administration.

(c) Define the term idiosyncrasy and tachyphylaxis.

(d) Mention drug used in the treatment of Myasthenia gravis.

(e) Write mechanism of action of benzodiazepine

(f) Write therapeutic uses of Adrenaline.

P.T.O.

- (g) Classify local anaesthetics with a suitable example.
- (h) Define Nootropics and write its *two* examples.
- (i) Define the terms anti-manics and hallucinogens.
- (j) Enlist the drug used in the treatment of Parkinsons disease.

2. Answer the following (any *two*) : 20

- (a) Define and classify parasympathomimetics agents and write pharmacological accounts of Acetylcholine.
- (b) Define and classify sedative and hypnotics and write pharmacological accounts of barbiturates.
- (c) Classify anti-depressants and write pharmacological account of SSRI.

3. Answer the following (any *seven*) : 35

- (a) Classify anti-epileptic agents and write mechanism of action of phenytoin.
- (b) Write the neurohumoral transmission in CNS.
- (c) Write pharmacological action of alcohol.
- (d) Define drug excretion and write factors affecting drug excretion.
- (e) Write pharmacological account of Adrenaline.
- (f) Write the factors affecting drug absorption.

- (g) Write the phases of clinical trials.
- (h) Define drug interaction and write the mechanism of drug interaction.
- (i) Classify anti-anxiety agents and write the pharmacology of diazepam.



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FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (Fourth Semester) EXAMINATION

JANUARY, 2024

PHARMACOGNOSY AND PHYTOCHEMISTRY-I

(BP-405T)

(Friday, 05-1-2024)

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 all the following questions :

10×2=20

(a) Define pharmacognosy and phytochemistry.

(b) Enlist sources of crude drug with examples.

(c) Differentiate between organized and unorganized crude drugs.

(d) Define drug adulteration and drug evaluation.

(e) Define polyploids and mutation.

(f) Define plant tissue culture and give its types.

(g) Give biological source and chemical constituents of cotton.

P.T.O.

- (h) Define Glycosides and tannins.
- (i) Give Goldbeater's skin test.
- (j) Write a note on method of preparation of Honey.
2. Answer any *two* of the following questions : 2×10=20
- (a) Write history, scope and development of pharmacognosy.
- (b) Write a short note on crude drug adulteration and any *two* methods of drug evaluation.
- (c) Write synonym, biological source, chemical constituents, chemical test and uses of acacia and gelatin.
3. Answer any *seven* of the following : 7×5=35
- (a) Classify crude drugs on the basis of Alphabetical and pharmacological classification.
- (b) Write a note on factors influencing on cultivation of medicinal plants.
- (c) Discuss in brief on historical development of PTC. Give nutritional requirement of PTC.
- (d) Write about Ayurveda and Unani system of medicine.
- (e) Give biological source, chemical constituent and uses of wool fat and bees wax

- (f) Write a note on novel medicinal agents from marine sources.
- (g) Give biological source, chemical constituent and uses of tragacanth and honey.
- (h) Write a note on Hallucinogens and tetragens.
- (i) Give classification and general identification test for alkaloid and volatile oil.

