DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Supplementary Semester Examination – Winter 2023

Date: 02/01/2024

Course	**:**	**B. Pharmacy**	**Sem:**		IV
Subject Name	**:**	Pharmaceutical Organic Chemistry-III	**Subject Code**	**:**	BP401T
Max Marks	**:**	**75**	**Duration**	**:**	**3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) Define isomerism. Enlist it classification.

ii) Calculate optical isomers of compound having 2 chiral carbon atoms.

iii) Differentiate between stereospecific and stereoselective reaction.

iv) Define cis and trans isomers with example.

v) Draw the structure of furan. Give any two medicinal uses with example.

vi) Write any one chemical reaction of thiophene.

vii) Draw the structure and write any two medicinal uses of purine.

viii) Write any one method of synthesis of Imidazole.

ix) Define Oppenauer oxidation reaction with example.

x) Define Clemmensen reduction reaction with general reaction.

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Explain pyrrole in detail.

ii) Discuss synthesis, reactions and medicinal uses of thiazole.

iii) Explain the concept of optical isomer with its nomenclature systems.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Illustrate the concept of resolution of racemic mixture with its methods.

ii) Write a note on atropisomerism.

iii) Explain determination of configuration of geometrical isomer.

iv) What is conformer? Explain cofirmational isomerism in Cycloalkane.

v) Discuss relative aromaticity of pyrole, furan and thiophene.

vi) Outline the methods of synthesis of quinoline.

vii) Comment on basicity of pyridine.

viii) Explain principle, reaction and mechanism of Wolf Kishners reduction.

ix) Give the reaction and mechanism of Metal hydride reduction.

-----END OF THE PAPER-----

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Supplementary Winter 2023

Date: 04/01/2024

Course	**:**	**B. Pharmacy**	**Sem: IV**		
Subject Name	**:**	**Medicinal chemistry I**	**Subject Code**	**:**	**BP402T**
Max Marks	**:**	**75**	**Duration**	**:**	**3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) Write about Partition coefficient in relation to biological action.

ii) Define bio-isosters and classify with examples.

iii) Draw structure and write mechanism of action and medicinal uses of Phenylephrine.

iv) What are cholinolytic agents write mechanism of action with example.

v) Write the MOA of Neostigmine.

vi) What are adrenergic receptors? How will you classify them?

vii) Outline the synthesis of Salbutamol.

viii) Discuss alpha adrenergic antagonists with examples.

ix) Write mechanism of action with example of solaneaceous alkaloids and analogs.

x) Draw structure and write mechanism of action of Chlorpromazine hydrochloride.

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) What is epilepsy? Classify anticonvulsants with examples. Discuss Hydantoins as anticonvulsants and outline synthesis of Phenytoin.

ii) Elaborate on biosynthesis, catabolism of Acetylcholine. Draw synthesis and write mechanism of action of carbachol.

iii) What are catecholamines? Outline biosynthetic and metabolism pathway of catecholamines in body.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Explain with examples Cholinesterase enzyme inhibitors.

ii) Write a note on importance of stereo chemistry in drug action.

iii) What are different factors affecting drug metabolism.

iv) Write in detail about SAR and mechanism of Phenothiazine as Antipsychotics with examples.

v) What are sedatives and hypnotics? Write SAR of Benzodiazepines.

vi) Explain the Mechanism of action and classification of General anaesthetics and draw synthesis of Halothane.

vii) Write a note on Beta blockers with examples.

viii) Explain in detail chemistry and Mechanism of action of non narcotic anti-inflammatory agent with examples.

ix) Explain classification of opioid analgesics. Explain SAR and therapeutic uses of Mepiridine analogs.

------END OF THE PAPER------

DR BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Supplementary Examination- Winter-2023

Date : 06/01/2024

Course : B.Pharmacy **Semester: IV**

Subject Name: Physical Pharmaceutics II **Subject Code: BP403T**

Max Marks : 75 **Duration: 3Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams/figures wherever necessary**
3. **Figures to right indicate full marks**

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1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20 Marks**

i. Define peptization with example.
ii. State Bancroft's rule. Draw HLB scale.
iii. Differentiate molecular dispersion and colloidal dispersion with example.
iv. What do you mean by "Pseudo-Zero Order Kinetics"?
v. Draw rheograms of thixotropic material showing bulge and spur.
vi. Define angle of repose and give its importance.
vii. Define porosity. Give applications in Pharmacy.
viii. Distinguish between flocculated and deflocculated suspension.
ix. Explain the need for stability testing?
x. Define Viscosity and Fluidity with examples.

2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20 Marks**

i. Define first order reaction. Deduce an equation for determining the rate constant, half life and shelf-life of a zero order reaction.
ii. Explain in detail about plastic flow, pseudo-plastic flow and dilatant flow with suitable graph.
iii. Describe types of physical instability in emulsion. Differentiate between wet and dry gum methods for preparation of emulsion.

3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35 Marks**

i. Discuss different tests to evaluate the flowability of powder
ii. Write in detail about the formulation of suspension.
iii. Differentiate between lyophilic and lyophobic Colloids.
iv. Explain sedimentation method of particle size determination alongwith its advantages and disadvantages.
v. Explain the preventive measures for chemical degradation due to hydrolysis and oxidation.
vi. Define :1.Surface diameter,2.Volume diameter,3.Projected diameter 4.Stoke's diameter & 5. Sieve diameter
vii. Explain determination of viscosity by using multi point viscometer.
viii. Describe Optical and Kinetics properties of colloids.
ix. State Hooke's law.Differentiate between strain and stress.

----------END OF THE PAPER----------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Supplementary Winter 2023

Date:09/01/2024

Course:	B. Pharmacy	**Sem:**	IV
Subject Name:	Pharmacology-I	**Subject Code:**	BP404T
Max Marks:	75	**Duration:**	3 Hr.

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams/figures wherever necessary**
3. **The figures to the right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) Define prodrug. Give examples of prodrugs.
ii) Enlist the drugs used in glaucoma.
iii) What is the dose-response relationship? What are its advantages?
iv) What is Drug addiction?Give examples.
v) Name and role of excitatory neurotransmitters present in CNS.
vi) Define Synergism Classify it with examples.
vii) Differentiate between Enzyme Induction and Enzyme Inhibition.
viii) Define –i) Agonist ii) Antagonist
ix) Define –i) Sedative ii) Hypnotics
x) Define bioavailability and clearance.

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Classify parasympathomimetics with examples. Write the pharmacology of Acetylcholine.
ii) Define Receptor. Classify Receptors and explain G-Protein coupled receptors with signaling transduction mechanisms.
iii) Define Parkinsonism. Classify antiparkinson drugs with examples. Write the mechanism of action and therapeutic uses of MAO inhibitors.

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Compare the Merits and Demerits of oral and Parenteral routes of administration.
ii) Classify Sedative-Hypnotics with examples. Explain the mechanism of action, adverse effects, and uses of diazepam.
iii) Write About the Mechanism and stages of general anesthesia.
iv) Define Myasthenia gravis. Enlist the drugs Used in its treatment.
v) Write about various phases of clinical Trials.
vi) Write a note on Phase –I Biotransformation Reactions with Examples.
vii) Discuss Pharmacokinetics drug interactions with suitable examples.
viii) Mention Mechanism of action and uses of Local anesthetic agents.
ix) Discuss in detail about pharmacological actions of Morphine.

-----END OF THE PAPER-----

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Supplementary Winter 2023

Date: 11/01/2024

Course	**: B. Pharmacy**	**Sem: IV**	
Subject Name	**: Pharmacognosy & Phytochemistry I**	**Subject Code**	**:BP405T**
Max Marks	**: 75**	**Duration**	**: 3 Hr.**

Instructions:

1. **All questions are compulsory**
2. **Draw diagrams / figures wherever necessary**
3. **Figures to right indicate full marks**

Q. 1. Objective Type Questions (Answer all the questions) **(10 x 2) = 20**

i) What are alkaloids

ii) Enlist the different methods and significance of drying method?

iii) What are edible vaccines?

iv) Define pharmacognosy. Who coined the term pharmacognosy?

v) Mention any two drugs from Protein and proteolytic enzyme category.

vi) Define Stomatal Number with Ex.

vii) Explain any two chemical tests for Flavonoids.

viii) Explain the MOA of Gibberellins

ix) State any four Traditional Chinese Medicine therapies.

x) State the biological source of cotton?

Q. 2. Long Answers (Answer 2 out of 3) **(2 x 10) = 20**

i) Classify the crude drugs on the basis of their morphology, Pharmacological activity with numerous examples.

ii) What are the methods of adulterations involved in crude drug? Write a detailed note on physical evaluation of crude drugs.

iii) What is PTC? Discuss the various nutritional requirements of plant tissue culture?

Q. 3. Short Answers (Answer 7 out of 9) **(7 x 5) = 35**

i) Explain the Ayurvedic system of medicine and its role in pharmacognosy.

ii) Discuss pharmacognostic profile of Tragacanth

iii) Define Tannins? Give its classification

iv) Explain novel medicinal plants from marine sources

v) Explain the specific chemical test for Anthraquinone and Cardiac glycosides.

vi) Write the short note on Natural allergens.

vii) Define Alkaloids and Give its classification and identification tests.

viii) Define Ash value. Explain the determination of Ash value

ix) Write the biological source, chemical constituents and uses of bees wax and honey

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