
**B. Pharmacy 5th
Semester
Question Paper
2017-2018**

Odd Semester Examination, 2017-18**B.PHARMA. (SEMESTER-V)****PHARMACEUTICAL TECHNOLOGY-I****Time: 03:00 Hours****Max Marks : 100****Note :** Attempt **all** five questions, each question carry **equal** marks.

1. Attempt **any four** : (5x4=20)
 - (a) Define preformulation. Write protocol of preformulation solubility studies.
 - (b) Define polymorphism. Discuss the role of polymorphism during preformulation study.
 - (c) Explain the role of particle size and dissociation constant with respect to preformulation study.
 - (d) Define partition coefficient and discuss the significance of partition coefficient with respect to bioavailability.
 - (e) Discuss Carr's index, Hausner's ratio, dielectric constant and their significance.
2. Attempt **any four** : (5x4=20)
 - (a) Define suspensions. Discuss the manufacturing of pharmaceutical suspensions.
 - (b) Define emulsion. Discuss various methods for the preparation of pharmaceutical emulsions.
 - (c) Write a detailed note on methods of liquid formulation filling.
 - (d) Enlist and discuss various evaluation parameters of pharmaceutical suspensions.
 - (e) Classify various categories of additives used in liquid formulations with examples.
3. Attempt **any two** : (10x2=20)
 - (a) Write short note on the various types of semisolid bases.
 - (b) Discuss in brief various factors affecting percutaneous absorption.

- (c) Discuss various types of semisolid formulations. Briefly explain evaluation of semisolid dosage form.

4. Attempt **any two** : (10x2=20)

- (a) Explain the requirements for an ideal suppository base and describe the types of suppository bases.
- (b) Write a note on formulation and evaluation of suppositories.
- (c) Write a detailed note on packaging and stability of suppositories.

5. Attempt **any two** : (10x2=20)

- (a) Define aerosols and write a short note on propellants and selection of ingredients for aerosol formulation.
- (b) Explain the formulation, evaluation and packaging of aerosols.
- (c) Discuss composition and uses of a cold creams and vanishing creams.

Odd Semester Examination, 2017-18

B.PHARMA. (SEMESTER-V)

PHARMACEUTICAL CHEMISTRY-VI

(MEDICINAL CHEMISTRY-I)

Time: 03:00 Hours

Max Marks : 100

Note : Attempt all questions.

1. Answer **any four** out of five : (4×5=20)
- (a) Define Bioisosters. Discuss the concept of Bioisosterism in drug design.
 - (b) Explain the effect of Geometrical isomerism of drug molecules on biological action.
 - (c) Classify sedative and hypnotics with suitable examples.
 - (d) Give the chemical synthesis and therapeutic uses of carbamazepine and caffeine.
 - (e) Draw the chemical structure with IUPAC name of ethosuximide and chlordiazepoxide. Write their mode of action.
2. Answer **any four** out of five : (4×5=20)
- (a) Give structural classification of the antipsychotics with appropriate examples.
 - (b) Write the chemical synthesis and therapeutic uses of salbutamol and thiopental
 - (c) Write the Chemical structure with IUPAC name, chemical synthesis, mode of action and therapeutic uses of phenobarbitone.
 - (d) Write in brief about anticholinesterases. Support with suitable examples.
 - (e) Write the mode of action and therapeutic uses of pentazocine and atropine.
3. Attempt **any two** out of three : (2×10=20)
- (a) Classify structural classification of the anticonvulsant drugs. Discuss the SAR of hydantoin derivatives with appropriate examples.

(b) How will you distinguish general anaesthetics from local anaesthetics. Classify local anaesthetics including their chemical structures. Give therapeutic uses of general as well as local anaesthetics.

(c) Discuss in detail about the various forces involved in drug receptor interactions.

4. Attempt **any two** out of three : (2×10=20)

(a) Discuss the SAR of phenothiazines with suitable examples. Draw the chemical structures with IUPAC name of chlorpromazine and haloperidol and discuss mode of action and therapeutic uses of these.

(b) Draw the chemical structure with IUPAC name of ephedrine, diazepam, lignocaine and adrenaline. Write the chemical synthesis and therapeutic uses of all of these.

(c) Classify the antidepressant drugs in detail. Give the mode of action, chemical synthesis and therapeutic use of amitriptyline and fluoxetine.

5. Attempt **any two** out of three : (2×10=20)

(a) Classify the cholinergic and anticholinergic drugs with suitable examples. Give the SAR of adrenergic drugs with suitable examples.

(b) Discuss in detail note on the prodrugs with suitable examples. How does optical isomerism elicit its effect on biological action of the drug.

(c) Write the chemical structure with IUPAC name, category, mode of action and therapeutic use of Gallamine and methadone. Write a short note on antiparkinson's drugs with suitable examples.

Odd Semester Examination, 2017-18

B.PHARMA. (SEMESTER-V)

PHARMACOLOGY-I

Time: 03:00 Hours

Max Marks : 100

Note : Attempt all questions.

1. Attempt **any four** questions :

[5x4=20]

- (a) Discuss the factors modifying drug action.
- (b) Explain Dose response relationship and therapeutic window.
- (c) Discuss various route of drug administration.
- (d) Discuss Phase reactions of biotransformation in detail.
- (e) Write briefly about receptors and functions in drug mechanism.

2. Attempt **any four** questions :

[5x4=20]

- (a) Explain elimination kinetics in detail.
- (b) What are principles of drug action?
- (c) Explain the terms synergism and antagonism in detail.
- (d) Discuss the pharmacology of drug used in Glucoma.
- (e) Discuss the mechanism and pharmacology of NSAIDS.

3. Attempt **any four** questions :

[5x4=20]

- (a) Write the steps involved in neurohumoral transmission.
- (b) Explain Pilocarpine as cholinomimetic drug.
- (c) Write cholinergic receptors in details.
- (d) Give a note on Anti-cholineesterase poisoning.
- (e) Explain therapeutic uses of Anti-cholinergic drugs.

4. Attempt **any two** questions :

[2x10=20]

- (a) Write the pharmacological actions of Sympathomimetics and explain pharmacology of Ethyl alcohol.
- (b) Discuss mechanism of Benzodiazepines and explain any of its antagonists and give pharmacology of Levodopa.
- (c) Classify Anti-epileptic drugs and explain pharmacology of Phenytoin.

5. Attempt **any two** questions :

[2x10=20]

- (a) Give the mechanism of Neuromuscular blocking agents and Classify General Anaesthetics with mechanism.
- (b) Classify Anti-Depressants and signify the role of MAO-inhibitors and explain "cheese reaction" and give pharmacology of Chlorpromazine.
- (c) Classify Anti- Psychotics and give pharmacology of Chlorpromazine and clinical uses of Local Anaesthetics.

Odd Semester Examination, 2017-18

B.PHARMA. (SEMESTER-V)

PHARMACEUTICAL MICROBIOLOGY

Time: 03:00 Hours

Max Marks : 100

Note : Attempt all questions, each question carries equal marks.

1. Attempt any four question : (5x4=20)

- (a) What are the different types of microscopes used to study microorganisms?
- (b) Differentiate eukaryotes and prokaryotes.
- (c) Draw a neat labeled diagram of a typical bacterial cell.
- (d) Write about the life-cycle of virus.
- (e) Discuss the scope of microbiology.

Attempt any four question : (5x4=20)

- (a) How will you prepare and sterilize media for aerobic bacteria.
- (b) Define the term stain. Give various method of staining. Write in details about Gram staining.
- (c) Describe the nutritional requirement of bacteria.
- (d) Discuss the growth curve of bacteria.
- (e) Discuss the cultivation and isolation of virus.

3. Attempt any two question : (10x2=20)

- (a) Define sterilization. What are the different methods of sterilization? Discuss any one method in details.
- (b) Write about the evaluation of antiseptics.
- (c) Discuss the dynamics of disinfection.

4. Attempt **any two** question

(10x2=20)

- (a) Explain physical and chemical methods to control microbes.
- (b) Write a note on importance of humidity equilibrium in microbiological testing.
- (c) Write about the media used in "test for sterility" as per I.P.

5. Attempt **any two** question

(10x2=20)

- (a) Discuss the microbiological assay of Vitamin Niacin.
- (b) Discuss the microbiological assay of Vitamin B₁₂.
- (c) Discuss the methods used for assay of antibiotics with examples.

Odd Semester Examination, 2017-18

B.PHARMA. (SEMESTER-V)

PHARMACEUTICAL CHEMISTRY-V

(BIOCHEMISTRY)

Time: 03:00 Hours

Max Marks : 100

Note : Attempt **all** the questions, each question carry **equal** marks.

1. Attempt **any four** questions (5x4=20)
 - (a) Define enzyme. Classify enzymes with suitable example.
 - (b) Write a note on enzyme inhibition.
 - (c) Define coenzyme. How vitamin act as a coenzyme.
 - (d) Write a short note on isoenzyme.
 - (e) Discuss enzyme kinetics.
2. Attempt **any four** question : (5x4=20)
 - (a) Biosynthesis of purine.
 - (b) Metabolism of aromatic amino acids.
 - (c) Discuss DNA replication.
 - (d) Metabolism of sulfur containing amino acid.
 - (e) Biosynthesis of pyrimidine.
3. Attempt **any two** questions: (10x2=20)
 - (a) Enumerate citric acid cycle reactions and ATP production.
 - (b) Write in detail about glycogenolysis.
 - (c) Biosynthesis of amino acid.

4. Attempt **any two** questions :

(10x2=20)

- (a) Describe gluconeogenesis in detail
- (b) Write in detail about pentose phosphate pathway and its significance.
- (c) Write in detail about metabolism of galactose.

5. Attempt **any two** questions:

(10x2=20)

- (a) Discuss in detail about oxidation of fatty acids
- (b) Describe electron transport chain.
- (c) Biosynthesis of ketone bodies and significance of ketone bodies.
