

Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-1)
PHARMACEUTICS I - THEORY

Subject Code : BP-103T

M.Code : 74646

Date of Examination : 09-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION - A

1. Answer briefly :

- a) Define aromatic waters?
- b) What are lotions?
- c) Define syrup IP and mention its uses.
- d) Distinguish between evacuant and retention enemas.
- e) Mention the uses and advantages of glycerites.
- f) Mention the use of alcohol in liniments.
- g) What is displacement value?
- h) Give two examples of water soluble ointment bases.
- i) What is creaming in emulsions?
- j) Give two examples of dissolving suppository bases?

SECTION-B

2. What is a prescription? Describe various parts of a prescription and illustrate a typical prescription. Briefly discuss handling of prescriptions that may result in errors while dispensing medications.
3. Give a detailed account of the solubility enhancement approaches employed to increase the solubility of poorly water soluble drugs.
4. What are suppositories? Discuss the physiological and pharmaceutical advantages of dispensing drugs in suppository dosage forms.

SECTION-C

5. Write a note on non-melting suppository bases.
6. Classify the ointment bases and discuss absorption ointment bases.
7. Differentiate between flocculated and deflocculated suspensions.
8. How many grams of 2.5% zinc oxide cream should be mixed with 360 grams of 0.25% zinc oxide cream to make a 1.0% zinc oxide cream?
9. How many grams of sodium chloride should be used in preparing 500 ml of a stock solution such that 50 ml diluted to 1.0 litre will yield a 0.3% w/v sodium chloride solution?
10. What are mouthwashes? Enlist the ingredients of a mouthwash and mention their role.
11. Give a brief account of excipients used in liquid dosage forms.
12. What are effervescent powders? Discuss the ingredients used and method of preparation.
13. Enumerate the ethical principles to be followed by a pharmacist.

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B.Pharmacy (Sem.-1)
HUMAN ANATOMY AND PHYSIOLOGY-I
Subject Code: BP-101T
M.Code: 74644

Date of Examination: 11-06-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION - A

1. Answer the following questions:

- (a) Enlist various bones of the upper limb.
- (b) What is the difference between smooth and rough Endoplasmic reticulum?
- (c) What are afferent and efferent nerves?
- (d) What is neuromuscular junction?
- (e) Indicate various types of ribs.
- (f) What is megaloblastic and microcytic anemia?
- (g) What is angina? Indicate various types of angina.
- (h) What is the pigment present in the rod and cone cell?
- (i) Mention divisions of peripheral nervous system (PNS).
- (j) What is blood plasma?

SECTION-B

2. Classify various blood cells and discuss in detail about WBCs.
3. Classify tissues and give a detailed account on simple epithelial tissue.
4. Write an exhaustive note on physiology of cranial nerves.

SECTION-C

5. Discuss various functions of the blood.
6. Add a note on functional tissues of the heart.
7. Describe various events of a typical cardiac cycle.
8. Write a note on blood groups and its significance.
9. Draw a neat diagram of skin and indicate various functions of skin.
10. Add a note on mitotic cell division.
11. Add a note on sympathetic nervous system highlighting its various functions.
12. With the help of a neat diagram describe internal structure of human eye.
13. Indicate divisions of skeletal system with types of bones also highlight various functions of skeletal system.

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B.Pharmacy (Sem.-1)

PHARMACEUTICAL INORGANIC CHEMISTRY

Subject Code: BP-104T

M.Code: 74647

Date of Examination: 13-06-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A

1. Answer the following questions:

- Give one example of a pharmaceutical impurity and its possible source.
- Mention one pharmaceutical preparation where buffers are used.
- Why are isotonic solutions important in parenteral preparations?
- Why dithizone is used in limit test of lead?
- Give two examples of substances used in dentifrices.
- Name two commonly used emetic agents.
- Give an example of a systemic and a non-systemic antacid.
- Why is activated charcoal preferred over ordinary charcoal in medicine?
- Why cotton plug moistened with lead acetate is used in the limit test of arsenic?
- What is the main role of glucose in ORS formulation?

SECTION-B

2. What are residual solvents? Discuss sources and types of pharmaceutical impurities.
3. Differentiate between bactericidal and bacteriostatic agents with examples. Discuss activated clays.
4. Write in detail the principle and procedure of the limit tests for iron and sulphate.

SECTION-C

5. Add advantages and limitations of using radiopharmaceuticals.
6. Compare saline cathartics with irritant cathartics.
7. Add note on the ideal properties of an antacid.
8. Describe the role of fluorides in the treatment of dental products.
9. Add the composition and uses of Oral Rehydration Solution (ORS).
10. Add note on hematinics and expectorants.
11. Add uses of Zinc sulphate and potash alum as astringents.
12. Classify antidotes with examples. Add note on cyanide poisoning.
13. Discuss the pharmaceutical importance of physiological acid-base balance.

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B. Pharmacy (Sem.-1)
PHARMACEUTICAL ANALYSIS-I
Subject Code: BP-102T
M.Code: 74645
Date of Examination: 16-06-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION-A

1. Answer the following:

- (a) Calculate the pH of a 1 M solution of sodium acetate (pK_a of acetic acid = 4.75).
- (b) Name the reversible indicators used in KIO_3 titrations.
- (c) What is a buffer solution? How does it act?
- (d) Why eosin cannot be used in estimation of chloride ion by Fajan's method?
- (e) Give different types of solvents used in non-aqueous titrations.
- (f) Differentiate between accuracy and precision.
- (g) Calculate the amount of Na_2CO_3 required to prepare 100 ml of 0.2 M solution.
- (h) What is the principle of conductometric titrations?
- (i) Give balanced chemical equations for reaction between perchloric acid and sodium benzoate.
- (j) Recall methods of end point detection by potentiometry.

SECTION-B

2. What are various methods of end point detection in precipitation titrations. Describe in detail the method that involves formation of colored solution.
3. Describe the Ostwald and chromophore theories of indicators with examples.
4. What is the principle of polarographic analysis? Give a detailed account on its instrumentation, limitations and applications.

SECTION-C

5. Write a note on different types of complexometric titrations with examples.
6. Give the principle, balanced chemical equations and general calculations for the standardization of sodium thiosulphate.
7. Write a comparative account on iodimetric and iodometric titrations with suitable examples.
8. What are mixed and universal indicators. Give their specific examples and applications.
9. Describe the principle and applications of conductometric method of analysis.
10. Give the method of preparation and standardization of 0.2 M solution of sodium methoxide.
11. Write an account on different indicator electrodes used in potentiometry.
12. Give principle, chemical equations, method and general calculations for estimation of magnesium sulphate by complexometric titrations.
13. Differentiate between co-precipitation and post-precipitation. How these can be minimized?

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B.Pharmacy (Sem.-2)

BIOCHEMISTRY

Subject Code: BP-203T

M.Code: 74969

Date of Examination: 16-05-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Attempt all questions:

- (a) Define endergonic and exergonic reactions with one example.
- (b) Write the biological significance of ATP
- (c) What is G6PD deficiency?
- (d) Differentiate between glycogenesis and glycogenolysis.
- (e) Write a note on oxidative phosphorylation.
- (f) Define hyperuricemia.
- (g) Write two therapeutic applications of enzymes.
- (h) Name any two coenzymes and their functions.
- (i) Define the term energy-rich compound with an example.
- (j) Difference between essential and non-essential amino acids.

SECTION-B

2. Explain the structure of DNA and RNA with functions and mechanisms of DNA replication.
3. Discuss β -oxidation of palmitic acid and its significance in energy production.
4. Explain the glycolysis pathway along with its energetics and biological significance.

SECTION-C

5. Write a note on the HMP shunt and its significance.
6. Explain the electron transport chain with its mechanism.
7. Write a short note on ketone body formation.
8. Explain the catabolism of phenylalanine and its metabolic disorders.
9. Discuss enzyme inhibition with suitable examples.
10. Discuss the Krebs cycle.
11. Write the synthesis and significance of dopamine.
12. Draw the urea cycle with its significance.
13. Give the biological significance of cholesterol.

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B.Pharmacy (Sem.-2)

PHARMACEUTICAL ORGANIC CHEMISTRY-I

Subject Code : BP-202T

M.Code : 74968

Date of Examination : 09-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Briefly write about the following:

- Why are alkanes referred to as "paraffins"?
- Draw the structure of Hexamine and state its medicinal use.
- Compare the boiling points of n-pentane and neopentane. Explain the difference.
- Define hyperconjugation with a suitable example.
- Why is trichloroacetic acid more acidic than acetic acid?
- Identify the monomeric units of Paraldehyde.
- What is the "peroxide effect" in the addition of HBr to propene?
- Arrange the following in increasing order of SN2 reactivity: 1-bromobutane, 2-bromobutane, 2-bromo-2-methylpropane.
- Explain why benzyl alcohol does not undergo the same oxidation reactions as aliphatic alcohols.

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j) State the use of Dimethyl phthalate in pharmacy.

SECTION – B

2. Discuss the kinetics, stereochemistry, and orientation (Saytzeff's rule) of E1 and E2 reactions. Explain why secondary alkyl halides can undergo both.
3. Explain the mechanism of Aldol Condensation and Crossed Aldol Condensation. Why do aldehydes without α -hydrogens undergo the Cannizzaro reaction instead?
4. Compare SN1 and SN2 mechanisms. Discuss how the nature of the solvent and the structure of the substrate dictate which pathway is followed.

SECTION - C

5. Explain the Diels-Alder reaction using 1,3-butadiene and ethene as examples.
6. Discuss the Inductive Effect and its role in determining the basicity of aliphatic amines.
7. Describe the qualitative tests used to identify Carboxylic Acids and Amides.
8. Write the structure and specific pharmaceutical uses of Chloral Hydrate and Iodoform.
9. Explain sp^3 hybridization in methane with a diagram of orbital overlapping.
10. What is Allylic Rearrangement? Explain with the example of a conjugated diene.
11. Give the structure, IUPAC name, and uses of Lactic acid and Citric acid.
12. Illustrate Structural Isomerism in organic compounds with five carbons (C_5H_{12}).
13. Explain the mechanism and importance of Ozonolysis in locating double bonds.

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B.Pharmacy (Sem.-2)
HUMAN ANATOMY AND PHYSIOLOGY-II
Subject Code BP-201T
M.Code : 74967
Date of Examination: 12-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly:
 - a) What is residual volume and inspiratory reserve volume?
 - b) What is GIT? Enlist various parts of GIT.
 - c) What are accessory organs of the digestive system?
 - d) Highlight any two functions of the cerebellum.
 - e) Highlight functions of the spleen.
 - f) What is a brush border enzyme?
 - g) What is BMR?
 - h) What is goiter?
 - i) What do you mean by gametogenesis?
 - j) What is transcription and translation?

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SECTION - B

2. How do you define respiration? Discuss in detail the mechanism of respiration and the regulation of respiration.
3. What are endocrine glands? Explain why the pituitary gland is called the master of all glands; discuss its secretions and their functions.
4. What is the nervous system? Classify it and explain the distribution and functions of each division.

SECTION - C

5. Write a note on the hypothalamus and its functions.
6. Add a note on the conduction of nerve impulses.
7. Draw a neat and labeled diagram of a nephron.
8. Write a note on the physiology of menstruation.
9. Write a note on the small intestine.
10. Discuss various functions of the liver.
11. Write a note on protein synthesis.
12. Add a note on the formation of ATP.
13. Write a note on chromosomes.

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May - 2026

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Total No. of Questions : 13

Date of Examination: 19-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly:
- a) Define rheumatoid and osteoarthritis.
 - b) What is diabetes mellitus? Mention various types of DM.
 - c) Define Hyperplasia and hypertrophy.
 - d) What is psychosis?
 - e) Define angina? Mention various types of angina.
 - f) What is syphilis?
 - g) What is Grandmal epilepsy and absence seizure?
 - h) Define hypertension. What is primary and secondary hypertension?
 - i) Define anemia and indicate its various types.
 - j) What is AIDS? How is it transmitted?

SECTION - B

2. How do you define inflammation? Discuss various cellular events occurring in the process of inflammation.
3. How do you define cell necrosis and cell apoptosis? How do they differ from each other morphologically and biochemically?
4. Write a critical note on the pathophysiology of depression.

SECTION - C

5. Write a brief note on the process of wound repair.
6. Add a note on peptic ulcer.
7. Write a note on congestive heart failure and its pathophysiology.
8. Add a note on COPD.
9. Add a brief note on acute renal failure.
10. Add a short note on the pathophysiology of Alzheimer's disease.
11. Write a note on urinary tract infections.
12. What is tuberculosis? Add a note on the pathophysiology of TB.
13. Write a note on liver cirrhosis.

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B.Pharmacy (Sem.-3)
PHARMACEUTICAL ORGANIC CHEMISTRY-II

Subject Code : BP-301T

M.Code :75105

Date of Examination : 08-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A

1. Answer briefly:

- a) Define Resonance in benzene.
- b) Draw the structure of DDT and give its medicinal use.
- c) Define Huckel's Rule of aromaticity with an example.
- d) What is the effect of an electron-donating group on the basicity of Aniline?
- e) Why is acetic anhydride preferred over acetyl chloride in Friedel-Crafts Acylation?
- f) Explain why Benzoic acid is stronger than Acetic acid.
- g) What is nitration of benzene? Write the reaction.
- h) What is angle strain? How is it calculated for cyclopropane?
- i) Write the reaction for the formation of Benzenediazonium chloride.
- j) What is the significance of the Reichert-Meissl (RM) value?

SECTION-B

2. Explain Friedel-Crafts acylation with mechanism and advantages over alkylation.
3. Explain Sachse-Mohr theory and Coulson-Moffitt modification for stability of cycloalkanes.
4. Discuss the synthesis, chemical reactions, and medicinal uses of any two polynuclear hydrocarbons.

SECTION-C

5. Discuss the basicity of aromatic amines.
6. Explain the significance of acid value, iodine value, and saponification value.
7. Describe the structure and medicinal/chemical uses of Saccharin, BHC and Chloramine.
8. Discuss the structure and reactivity of diphenylmethane and triphenylmethane.
9. Discuss the effect of electron withdrawing groups on the acidity of phenols.
10. Describe the synthetic utility of aryl diazonium salts.
11. Explain the chemistry of fats and oils. Explain the term 'Drying Oils' with an example.
12. Write the structure, preparation and uses of resorcinol, cresols and naphthols.
13. Explain the effect of substituents on reactivity of monosubstituted benzene.

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B.Pharmacy (Sem.-3)
PHYSICAL PHARMACEUTICS-I
Subject Code: BP-302T
M.Code: 75106
Date of Examination: 10-06-2026

Time: 3 Hrs.

Max. Marks: 75

SECTION B

2. Draw and explain phase diagram of water.
3. What are applications of liquid crystals and supercritical fluids in pharmacy.
4. Draw various adsorption isotherms and explain their behaviour.

SECTION C

INSTRUCTIONS TO CANDIDATES:

- INSTRUCTIONS TO CANDIDATES:**
1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
 2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
 3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION A

1. Answer the following questions:

- (a) Define dielectric constant.
- (b) What is critical temperature and critical pressure.
- (c) Differentiate between amorphous and crystalline solids.
- (d) Define latent heat of fusion.
- (e) What are isotonic solutions.
- (f) Give two examples of semi-polar solvent.
- (g) What is meant by surface excess.
- (h) What do you mean by triple point of water.
- (i) Define solubility.
- (j) Define contact angle.

5. Define HLB. Explain the Griffin scale of HLB.
6. Explain various types of metal ion complexes with suitable examples.
7. Write a note on protein binding.
8. Derive expression for spreading coefficient.
9. How is optical rotation measured.
10. Explain any one method for analysis of complexation.
11. What is critical solution temperature. What is its application.
12. Write a note on aerosols.
13. Write a note on NaCl equivalent method for adjusting isotonicity.

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B.Pharmacy (Sem.-3)
PHARMACEUTICAL ENGINEERING

Subject Code : BP-304T

M.Code : 75108

Date of Examination : 12-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION - A

1. Write short notes on :

- a) Bernoulli theorem
- b) Impact as a method of size reduction
- c) Sieves
- d) Fourier's Law
- e) Evaporating still
- f) Corrosion
- g) Rate of drying
- h) Centrifugal effect
- i) Relative volatility
- j) Filter cake

SECTION-B

2. Describe the construction and working of double cone blender and sigma blade mixer.
3. Describe various factors affecting selection of material for plant construction. Highlight the importance of material handling in Pharmaceutical Industry.
4. Write an explanatory note on heat exchangers and heat interchangers.

SECTION-C

5. Write a note on various mechanisms of size reduction.
6. Discuss the construction and working of rotary drum filters.
7. Discuss the principle and construction of orifice meter.
8. Write a note on semicontinuous centrifuges.
9. Describe construction and working of spray dryers.
10. Write a note on multiple effect evaporation.
11. Discuss the principle of steam distillation.
12. Write a note on ribbon mixers.
13. Describe the various factors affecting evaporation.

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B. Pharmacy (Sem.-3)
PHARMACEUTICAL MICROBIOLOGY

Subject Code : BP-303T

M.Code : 75107

Date of Examination: 15-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly:

- (a) Explain Stab
- (b) Explain Culture Media
- (c) Explain Staining
- (d) Explain Zone of inhibition
- (e) Explain sterilization
- (f) Differentiate between Toxin and Toxoid
- (g) Differentiate between Prokaryotes and Eukaryotes
- (h) How following materials tested for sterility: 5% w/v, 500ml Dextrose injection and 2ml WFI ampoule
- (i) How Petri plates and pipettes sterilized.
- (j) Give procedure for the autoclaving of petriplates



SECTION-B

2. Explain the Principle, construction, working and validation of Autoclave
3. Explain the methods for the sterilization of formulation and glassware.
4. Write short note on:
 - (a) Efficiency of sterilization process
 - (b) Classification of disinfectants

SECTION-C

5. Give morphological classification of Bacteria with example of each.
6. Explain the different types of microscopes.
7. Explain construction and working of laminar air flow device.
8. Explain the morphology and cultivation of fungi
9. Explain general method of microbial assay with examples?
10. Explain the steps involve in the subculturing process.
11. Explain the factors effecting microbial spoilage.
12. Explain the evaluation of microbial stability of formulations.
13. Explain the methods for the standardization of Vitamin B12.

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Pharmaceutical Chemistry-IV (Sem.-3)

ORGANIC CHEMISTRY-II

Subject Code : BPHM-306

M.Code : 46226

Date of Examination : 19-06-2026

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of FIFTEEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains FOUR questions carrying TEN marks each and students have to attempt any THREE questions.

SECTION - A

1. Write briefly :

- a) What is a disaccharide?
- b) What is Michael addition reaction?
- c) What is a glycolipid?
- d) Define electrophilic addition reaction.
- e) Draw structure of xanthene.
- f) Describe synthesis of pyrrole.
- g) Describe electrophilic addition reaction.
- h) Define iodine values.
- i) What is a nucleoside? Draw structure of cytosine.
- j) Draw structure of lactose.
- k) What is reducing sugar?
- l) Which glycosidic linkage is found in maltose?

m) What is an amino acid? Write down the name of 5 essential amino acids.

n) Discuss Grignard reagent with an example.

o) Draw the structure of quinoline.

SECTION-B

2. Describe Killiani-Fischer synthesis of D-mannose.
3. Discuss structural determination of sucrose and cellobiose.
4. Discuss xanthine derivatives such as caffeine and theophylline.
5. What is a peptide? Draw structure and synthesis of glycine.
6. Give brief detail on the Sandmeyer reaction along with reaction mechanism and example.

SECTION-C

7. Discuss the nomenclature, structure, reaction, and synthesis of oxazole and thiazole.
8. Discuss the structure, properties, and synthesis of amino acids and peptides.
9. Discuss in brief about nucleophilic aromatic substitution reactions with examples and mechanism of each reaction.
10. Discuss carbohydrates with Ruff degradation. Discuss conversion of aldopentose to aldohexose.

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B.Pharmacy (Sem.-4)
PHYSICAL PHARMACEUTICS-II
Subject Code : BP-403T
M.Code : 75845
Date of Examination : 11-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly:

- a) Define Hydrolysis.
- b) Define peptization.
- c) Write the Heckel equation and explain the terms.
- d) Define flocculated suspension.
- e) Write any two importances of HLB.
- f) Define distribution.
- g) Name the methods used to determine particle size.
- h) What do you mean by a second-order reaction?
- i) Define shelf life.
- j) Define chemical degradation.

SECTION - B

2. Define order of a reaction. Derive an equation for the rate and half-life for zero and first-order reactions.
3. Discuss in detail about Colloids.
4. Write a note on
 - (a) deflocculated suspensions.
 - (b) Stability of emulsion.

SECTION - C

5. Give an account of the interfacial properties of suspended particles.
6. What are non-Newtonian systems? Discuss briefly.
7. Write the general properties of colloids.
8. Describe the preservation of emulsions.
9. State and explain the Langmuir adsorption isotherm.
10. Discuss in brief the stabilization of medicinal agents against hydrolysis.
11. Write a note on mean particle size in micromeritics.
12. Draw a neat labelled diagram and discuss the Bob viscometer.
13. Write a short note on Porosity.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharma (Sem.-4)
MEDICINAL CHEMISTRY-I

Subject Code : BP-402T

M.Code : 75844

Date of Examination : 08-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly:

- a) Why are Phase II reactions generally detoxifying?
- b) Why is Salbutamol selective for beta-2 receptors?
- c) Write the chemical synthesis of Ethosuximide.
- d) Write the structure and use of Clonidine.
- e) Define chelation and its pharmaceutical importance.
- f) Differentiate muscarinic versus nicotinic receptors.
- g) What structural feature is essential in benzodiazepines?
- h) What are the medicinal uses of Sodium salicylate?
- i) Give the structure and medicinal uses of Naloxone.
- j) Define dissociative anesthetic with an example.

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SECTION – B

2. Compare barbiturates, succinimides, and hydantoins as anticonvulsants.
3. Explain the medicinal chemistry of phenothiazine with SAR and mechanism.
4. Discuss in detail inhalation anesthetics, highlighting the role of halogen substitution.

SECTION – C

5. Give an account on the SAR of benzodiazepines.
6. Write in detail the SAR of morphine analogues as narcotic analgesics.
7. Write a brief note on solanaceous alkaloids and analogues.
8. Describe the SAR of aryl acetic acid derivatives with special reference to Indomethacin.
9. Write a detailed note on Clozapine and Risperidone as antipsychotics.
10. Write down the synthesis of Carbamazepine, Tolazoline, and Phenylephrine.
11. Write a note on amino alcohol esters as anticholinergic drugs.
12. Explain how ionization, solubility, and hydrogen bonding affect drug action.
13. Discuss the types of Phase I reactions with suitable examples.

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Total No. of Questions : 13

PHARMACEUTICAL ORGANIC CHEMISTRY-III

M Code : 75843

Date of Examination : 14-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION-A

1. Write short notes on:

- What is E and Z nomenclature?
- Give a comparative note on the aromaticity of pyrrole, furan, and thiophene.
- Draw the eclipsed and staggered conformations of ethane.
- Differentiate between D and L configuration.
- What is partial asymmetric synthesis?
- Give the structure of Quinoline and Indole.
- What is the Clemmensen reaction?
- Give any two reactions of thiophene.
- What is the Schmidt rearrangement?
- What are azepines? Give their uses.

SECTION-B

2. What are optical isomers? Explain the concept of enantiomerism and diastereomerism.

Discuss different systems of nomenclature for optical isomers.

3. Enumerate various steps involved in the synthesis of the following:

- (a) Quinoline
(b) Pyrimidine
(c) Oxazole
(d) Acridine

4. Discuss various methods for the synthesis of Furan and write down its chemical reactions.

SECTION-C

5. What is conformational isomerism? Comment upon the isomerism present in cyclohexane.
6. Justify the orientation of electrophilic substitution in pyrrole. Give any two examples of E.S. reactions.
7. Discuss various elements of symmetry and how they are important in the determination of optical activity?
8. Explain the reduction reactions carried out by utilizing different types of metal hydrides.
9. What are Racemic mixtures? How do we resolve them?
10. Comment upon the reactions and medicinal uses of Imidazole and Thiazole.
11. Discuss in detail the nomenclature of six-membered heterocyclic rings containing one and two heteroatoms.
12. Comment upon D/L and d/l systems of assigning configuration to optical isomers.
13. What is Atropisomerism? Explain with the help of examples.

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Total No. of Pages :03

PHARMACOGNOSY & PHYTOCHEMISTRY-I

M.Code :75847

Max. Marks : 75

Time : 3 Hrs.

INSTRUCTIONS TO CANDIDATES :

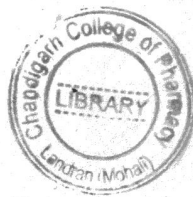
- INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
 2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
 3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly :
 - a) How can you define pharmacognosy? What are primary and secondary metabolites?
 - b) What are the sources of Tulsi and honey?
 - c) Which of the following are organized and unorganized drugs: Isabgol, Castor oil, Beeswax, gum Acacia?
 - d) A sample of honey contains corn syrup – what type of adulteration is this?
 - e) Give 2 uses of Auxins and Cytokinins.
 - f) What are the advantages and limitations of collecting medicinal plants from cultivated sources?
 - g) What are different methods of conservation of medicinal plants?
 - h) What are edible vaccines?
 - i) Give 2 differences between traditional and modern systems of medicine.

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- j) A plant extract forms precipitates with Mayer's reagent. Which phytoconstituents are present in this plant? Define that class of phytoconstituents.

SECTION - B

2. What are different factors that affect the quality of medicinal plants?
Describe the methods used for the evaluation of a plant drug.
3. What are the requirements and applications of Plant Tissue Culture?
4. What are glycosides? How are they classified? How will you identify if glycosides are present in a given sample of crude drug?

SECTION - C

5. Which method of classification of crude drugs is most useful according to you?
6. What is the importance of hybridization for improving the quality of medicinal plants?
7. Write a note on fundamental concepts and therapeutic approaches of Ayurveda.
8. What are carbohydrates? Give the biological source, major constituents, and uses of a plant gum.
9. Write a note on the advantages and challenges of obtaining medicinal agents from marine sources.

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10. What are tannins? How are they classified? What are their commercial and medicinal uses?
11. Compare volatile oils and fixed oils.
12. Give the biological source, major constituents, and uses of Castor oil and Cotton.
13. A patient with digestive disorders is advised enzyme therapy. Which plant-derived enzymes can help such a patient? Justify the use.

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Roll No.

Total No. of Pages :02

Total No. of Questions : 13

B.Pharmacy (Sem.-4)

PHARMACOLOGY-I

Subject Code : BP-404T

M.Code : 75846

Date of Examination: 21-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer briefly

- a) Define drug receptors with examples.
- b) What is sublingual route of administration? Highlight merits of this route.
- c) What is drug synergism? Give suitable examples.
- d) Define Competitive & Non-competitive antagonists.
- e) Indicate stages of general anesthesia.
- f) What are Clinical Trials?
- g) What are AChE inhibitors? Give two examples.
- h) What is drug tolerance and drug dependence?
- i) What is absence seizure? Mention drug of choice for this condition.
- j) Give examples of two opioid antagonists.

SECTION – B

2. What are para-sympathomimetics? Classify them and discuss pharmacology of acetylcholine.
3. Classify sedatives and hypnotics and discuss in detail about benzodiazepines.
4. Discuss in detail about drug absorption with special emphasis on factors affecting it.

SECTION – C

5. Write a note on parenteral route of drug administration.
6. Write a note on pre-anesthetic medication and its significance.
7. Write a note on centrally acting muscle relaxants.
8. Write a note on beta-receptor blockers.
9. Write a brief note on anti-depressants.
10. Discuss various phases of clinical trials describing the aim of each phase.
11. Explain mechanism of action and adverse effects of Aspirin.
12. Write a brief note on anti-Parkinsonian drugs.
13. Add a note on CNS stimulants.

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Roll No.

Total No. of Pages :03

Total No. of Questions : 13

B.Pharmacy (Sem.-5)
INDUSTRIAL PHARMACY-I (THEORY)

Subject Code BP502T

M.Code : 76787

Date of Examination: 09-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

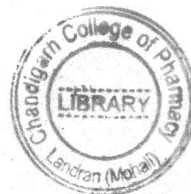
SECTION-A

1. Answer the following questions:

- a. Define preformulation studies and state their importance in dosage form design.
- b. Differentiate between crystalline and amorphous forms of drugs.
- c. Define polymorphism with one pharmaceutical example.
- d. What is pKa and why is it important in formulation?
- e. Which BCS class represents high solubility and high permeability?
 - i. Class I
 - ii. Class II
 - iii. Class III
 - iv. Class IV
- f. What is the significance of granulation in tablet manufacturing?
- g. Differentiate between hard gelatin capsules and soft gelatin capsules.

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- h. Define isotonicity in parenteral preparations.
- i. Which propellant is commonly used in pharmaceutical aerosols?
 - i. Nitrogen
 - ii. Hydrofluoroalkanes
 - iii. Carbon dioxide
 - iv. Oxygen
- j. Define pharmaceutical packaging materials.

SECTION-B

2. Discuss the importance of physicochemical characterization of drugs in dosage form development.
3. Discuss granulation techniques and common compression problems encountered during tablet production.
4. Discuss the formulation considerations of ophthalmic preparations. Add a note on their evaluation tests.

SECTION-C

5. Explain the role of particle size and shape in drug formulation and bioavailability.
6. Write a note on one of the chemical degradation pathways of drugs.
7. Explain the significance of BCS classification in drug development.
8. Describe types of tablet coating and their pharmaceutical purposes.
9. Explain the evaluation of pharmaceutical suspensions.
10. Discuss pharmacopeial quality control tests for tablets.

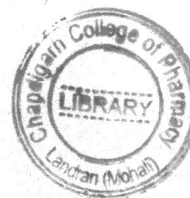
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11. Describe the components of pharmaceutical aerosols.
12. Discuss the theory of emulsification.
13. Explain the importance of packaging materials in ensuring stability of pharmaceutical products.

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May - 2026

Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharma (Sem.-5)
PHARMACOLOGY II-THEORY

Subject Code : BP503T

M.Code : 76788

Date of Examination : 13-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer the following questions:

- (a) What is anaphylactic shock?
- (b) What is the mechanism of action of nitrates?
- (c) What is the therapeutic role of niacin in dyslipidaemia?
- (d) What is the role of leukotrienes in asthma?
- (e) What are DMARDs?
- (f) What is the role of vitamin B_{12} in erythropoiesis?
- (g) What is the therapeutic use of tranexamic acid?
- (h) What is quantal bioassay?
- (i) What is ED_{50} in pharmacology?
- (j) What is the therapeutic use of dextran?

SECTION-B

2. Classify antiarrhythmic drugs according to the Vaughan-Williams classification and explain the mechanism of action, therapeutic uses, and adverse effects of Class I and Class III antiarrhythmic drugs.
3. Discuss the pharmacological management of diabetes mellitus. Compare insulin preparations and oral antidiabetic drugs with respect to their mechanism of action and clinical uses.
4. Explain the pathophysiology of congestive heart failure and classify various drugs used in it.

SECTION-C

5. Write a note on SERMs.
6. What is hypothalamic-pituitary axis.
7. Discuss the pharmacology of oxytocic drugs.
8. Discuss the pharmacological role of estrogens and progestins in oral contraceptive formulations.
9. Describe the pharmacological management of angina pectoris.
10. Explain the mechanism of action and adverse effects of HMG-CoA reductase inhibitors.
11. Explain the synthesis and mechanism of action of prostaglandins.
12. What are the drugs used in thromboembolic disorders.
13. Explain the mechanism of action, therapeutic uses, and adverse effects of allopurinol.

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MAY - 2026

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Total No. of Questions : 13

PHARMACOGNOSY AND PHYTOCHEMISTRY II-THEORY

M.Code : 76789

Date of Examination: 11-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carryingTEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly:

- (a) Compare primary and secondary plant metabolites.
- (b) Give the principle and advantage of a green extraction technique.
- (c) What information do you get from NMR spectra?
- (d) What are volatile oils? Give the biological source and uses of a plant containing volatile oils.
- (e) Give the biological source, structure of major constituent and uses of a plant containing anthraquinones.
- (f) A plant extract gives a positive test with Dragendorff's reagent and a positive Vitali-Morin reaction—give the structure and uses of the phytoconstituent present in it.
- (g) Compare the structure and uses of morphine and codeine.
- (h) How can tracer techniques help in the investigation of biogenetic pathways?

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- (i) What are hyphenated techniques? Give examples.
- (j) Compare the structure of digitoxigenin and digoxigenin.

SECTION-B

2. Describe the biosynthesis of flavonoids. How can flavonoids be isolated?
3. You are given a sample of a herbal drug. Explain how spectroscopic and chromatographic techniques can be used for its qualitative and quantitative evaluation.
4. What are phenylpropanoids and flavonoids? Give a detailed account on a flavonoid-containing plant.

SECTION-C

5. Write a note on the importance of Acetate pathways.
6. Write a note on the principle, method and applications of electrophoresis.
7. Write a note on extraction techniques used in pharmacognosy.
8. Describe the isolation and analysis of Menthol.
9. What are resins and resin combinations? Give sources and constituents of 2 plants rich in resins.
10. What are saponin glycosides? Give a pharmacognostic account on a plant containing saponins.
11. Give the source, tests for identification, structure and uses of Curcumin and Caffeine.
12. Describe the importance of Taxol or carotenoids.
13. Give the source, industrial production, estimation and utilization of Forskolin or Podophyllotoxin.

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May - 2026

Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-5)
MEDICINAL CHEMISTRY II-THEORY

Subject Code : BP501T

M.Code : 76786

Date of Examination : 16-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly :

- a) Write two differences between H₁ and H₂ receptor antagonists.
- b) Why was Ranitidine withdrawn from the market in many countries?
- c) Provide structures of two nitrogen mustards used as anticancer agents.
- d) Why is Nitroglycerin used in angina pectoris?
- e) Provide structures of any two calcium channel blockers belonging to the dihydropyridine group.
- f) Which diuretic is commonly used to treat glaucoma?
- g) Give structure and IUPAC name of a class IB anti-arrhythmic drug.
- h) Name one vitamin K derivative used as a coagulant.
- i) What are selective phosphodiesterase-5 inhibitors?
- j) Give fusion patterns of four rings in 5 α cholestane.

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SECTION-B

2. (a) Describe the stereochemical features of steroidal compounds.
(b) Explain the rules of nomenclature for steroidal derivatives with suitable examples.
3. (a) Compare the mechanisms of action of antimetabolites and alkylating agents.
(b) Outline the synthesis of Methotrexate and 6-Mercaptopurine.
4. Classify H₁-receptor antagonists with suitable examples. Discuss in detail their mechanism of action, therapeutic uses, and adverse effects. Illustrate with structures of any two important drugs.

SECTION-C

5. Write the synthesis and mechanism of action of Cimetidine.
6. Describe the synthesis and mechanism of action of Methotrexate.
7. Describe synthesis and mechanism of action of Acetazolamide.
8. Compare ACE inhibitors vs β -blockers in the management of hypertension.
9. Explain Digoxin in congestive heart failure and its differences from Digoxin.
10. Compare hydrocortisone and prednisolone in terms of anti-inflammatory activity and side effects.
11. Classify antidiabetics with structural examples of each class.
12. Give synthesis of Benzocaine and Procaine.
13. Write short note on anti-thyroid drugs.

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MAY - 2026

Roll No.

Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem.-5)
PHARMACEUTICAL JURISPRUDENCE-THEORY

Subject Code : BP505T

M.Code : 76790

Date of Examination : 19-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Answer the following:

- a) Define "Patent and Proprietary Medicines."
- b) What is a loan license?
- c) Give two functions of Drugs Inspectors.
- d) Mention any two permitted colors in drugs and cosmetics.
- e) Define "Essential Medicines."
- f) What is the significance of Schedule H drugs?
- g) Write two salient features of the Prevention of Cruelty to Animals Act, 1960.
- h) Define "Spurious Drugs."
- i) Write any two recommendations of the Hathi Committee.
- j) Define "Magic Remedy" under the Drugs and Magic Remedies Act.

SECTION-B

2. Write in detail about the prohibition of manufacture and sale of certain drugs under the Drugs and Cosmetics Act, 1940.
3. Discuss the objectives, constitution, and functions of State and Joint State Pharmacy Councils.
4. Explain the objectives and major provisions of the Narcotic Drugs and Psychotropic Substances Act, 1985.

SECTION-C

5. Define Schedule X drugs with examples.
6. Write a note on general labeling requirements of drugs.
7. What are the functions of the Central Drugs Laboratory?
8. Explain the process of manufacture of drugs for test, examination, and analysis.
9. A woman of 22 weeks' pregnancy reports with congenital anomalies detected in the fetus. Discuss under the MTP Act whether termination is legally permissible, the role of medical practitioners, and the safeguards required.
10. What are the objectives of the Drugs and Magic Remedies (Objectionable Advertisements) Act?
11. Explain the functions of the Drugs Technical Advisory Board.
12. What is the role of the National List of Essential Medicines (NLEM) under DPCO?
13. Explain the pharmacist's code of ethics in relation to his profession.

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Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem.-6)

B.Pharmacy (Sem.-6)
PHARMACEUTICAL BIOTECHNOLOGY-THEORY

Subject Code : BP-605T

M.Code : 77990

Date of Examination : 09-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

- INSTRUCTIONS TO CANDIDATES :**
1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
 2. **SECTION-B** contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
 3. **SECTION-C** contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION - A

1. Answer Briefly :

- Define biotechnology with reference to pharmaceutical sciences.
- Name two methods of enzyme immobilization.
- What is the role of biosensors in drug analysis?
- Give one example each of industrially important enzymes produced by microbes.
- Define restriction endonuclease with an example.
- Name any two applications of PCR.
- Draw the basic structure of an immunoglobulin.
- What is hypersensitivity? Mention any one type.
- Define plasmids and give one function.
- Mention two applications of microbial biotransformation.

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SECTION-B

2. Explain methods of enzyme immobilization and discuss their pharmaceutical applications.
3. Describe the principle, procedure and applications of recombinant DNA technology.
4. Write detailed notes on the preparation and storage of vaccines and toxoids.

SECTION-C

5. Discuss protein engineering and its importance in pharmaceuticals.
6. Explain the application of genetic engineering in the production of interferons.
7. Write short notes on cellular and humoral immunity.
8. Describe the applications of hybridoma technology.
9. Explain the process of transformation and transduction in bacteria.
10. Write a note on different types of mutations.
11. Discuss fermenter design and control mechanisms.
12. Explain the industrial production of citric acid.
13. Write a note on collection and storage of whole human blood.

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MAY - 2026

Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-6)
QUALITY ASSURANCE - THEORY

Subject Code : BP-606T

M.Code : 77991

Date of Examination : 19-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and students have to attempt any **SEVEN** questions.

SECTION - A

1. Define briefly :

- a) Define the term personnel record.
- b) Differentiate between ISO 9000 & ISO 4000.
- c) What are the elements of QbD?
- d) Give the importance of calibration & validation.
- e) Give significance of environmental control.
- f) Define quality audit.
- g) Write about the scope of NABL.
- h) What is the objective of TQM?
- i) What is product recall?
- j) Define SOP.

SECTION-B

2. Explain the process of harmonization followed by ICH.
3. Describe the importance of hygiene for production staff.
4. Outline the procedure for calibration of pH meter & UV-Visible spectrophotometer.

SECTION-C

5. Explain the concept of GMP in pharmaceutical manufacturing.
6. Write an account on Q-series guidelines.
7. Discuss the steps for registration to obtain ISO 9001 certification.
8. Discuss significance of quality assurance in pharmaceutical manufacturing.
9. Explain the term disqualification of testing facilities.
10. Discuss good warehousing practices.
11. Discuss about the handling of returned goods and waste disposal.
12. Enlist various quality control tests on containers.
13. Discuss the significance of personnel responsibilities.

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Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-6)
MEDICINAL CHEMISTRY-III-THEORY

Subject Code : BP-601T

M.Code : 77986

Date of Examination : 02-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and students have to attempt any **SEVEN** questions.

SECTION - A

1. Answer the following :
- Give the mechanism of action and uses of Miconazole.
 - Write down various steps involved in the synthesis of para aminosalicylic acid.
 - Name two Folate reductase inhibitors.
 - Define docking.
 - Give any two advantages of the Prodrug approach.
 - Name the drugs used as first-line therapy against tuberculosis.
 - Give the structure and mechanism of action of Pamaquine.
 - Draw the structure, IUPAC name, and use of Mebendazole.
 - What is the significance of CADD in medicinal chemistry?
 - Write any two limitations of the QSAR approach.

SECTION-B

2. Write the SAR of the following class of drugs:
 - (a) Quinolones
 - (b) Sulphonamides
3. Comment upon:
 - (a) Etiology of malaria
 - (b) Antifungal agents
4. Classify Antiviral agents. Give examples of drugs belonging to each category. Elaborate upon any one class of antiviral agents.

SECTION-C

5. Write a note on various tetracyclines used as antibiotic agents.
6. Discuss in detail combinatorial chemistry.
7. Give the structure, IUPAC name, mechanism of action, and uses of Tinidazole.
8. Write a short note on Beta-lactamase inhibitors.
9. Discuss the chemical degradation of Aminoglycosides.
10. Classify Anti-tubercular agents. Draw the structure and give the chemical names of any three drugs of this class.
11. Write the structure, mechanism of action, synthesis, and uses of Dapsone.
12. Write a detailed note on folate reductase inhibitors.
13. Discuss the Macrolide class of antibiotics.

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Roll No.

Total No. of Pages :02

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B.Pharm(Sem.-6)

BIOPHARMACEUTICS AND PHARMACOKINETICS (THEORY)

Subject Code :BP-604T

M.Code :77989

Date of Examination: 23-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION-A**1. Explain briefly:**

- a) What is the difference between one- and two-compartment models?
- b) Draw a typical plasma concentration vs time plot for oral drug administration and indicate the pharmacokinetic parameters.
- c) What is the difference between elimination and excretion rate constants?
- d) What is renal clearance and its units?
- e) What are the most bioavailable dosage forms orally and parenterally?
- f) Name an acidic and basic plasma protein.
- g) Give two examples of therapeutic equivalents.
- h) Enumerate the different classes of IVIVC according to pharmacopoeia.
- i) What is meant by generic substitutes? Give two examples.
- j) What is meant by pharmaceutical alternative? Give two examples.

SECTION - B

2. Discuss various physiological and pharmaceutical factors influencing oral drug absorption.
3. Explain non-linear pharmacokinetics. Discuss the reasons for non-linear pharmacokinetic behaviour with suitable examples.
4. Describe the Sigma-Minus method for calculating the elimination rate constant from urinary excretion data.

SECTION - C

5. What is the clinical significance of V_d ?
6. What is the difference between absolute and relative bioavailability?
7. If the amount of drug in the body declines from 100% of the dose (IV bolus injection) to 25% of the dose in 8 hr, what is the elimination half-life of the drug?
8. Enumerate the approaches used for enhancing the bioavailability of poorly water soluble drugs.
9. Two drugs have following pharmacokinetic parameters after a single oral dose of 500mg:

DRUG	K_a (/hr)	K (/hr)	V_d (ml)
A	1.0	0.2	10,000
B	0.2	1.0	20,000

Both drugs follow one-compartment pharmacokinetic model and are 100% bioavailable.

Calculate the T_{max} for each drug.

10. Briefly describe plasma protein binding of drugs and its clinical significance.
11. What are Phase-1 and Phase-2 biotransformations? Give two examples for each.
12. What is BCS drug classification?
13. Discuss the categories of drugs/dosage forms that are exempted from bioequivalence.

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Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-6)
PHARMACOLOGY III-THEORY

Subject Code : BP-602T

M.Code : 77987

Date of Examination : 16-05-2026

Time : 3 hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and students have to attempt any SEVEN questions.

SECTION - A

1. Answer the following :
 - a) Define biological clock.
 - b) What do you understand by benign tumor?
 - c) Write any two drugs commonly used in the treatment of a
 - d) Define biosimilars.
 - e) What are the roles of laxatives?
 - f) Classify sulphonamides.
 - g) Define digestants.
 - h) Why is tetracycline not safe during pregnancy?
 - i) Define nasal decongestant.
 - j) Write any two examples of short-acting bronchodilators.

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SECTION-B

2. Classify antimalarial drugs? Write the mechanism of action of chloroquine.
3. Write a note on antitussives.
4. Discuss β -lactam antibiotics in detail.

SECTION-C

5. Define antileprotic drugs and describe the mechanism of action of dapsone.
6. Explain the pharmacology of isoniazid.
7. Explain clinical symptoms and management of barbiturate poisoning.
8. Write clinical symptoms and management of COPD.
9. Briefly discuss the management of urinary tract infections.
10. Classify anti-ulcer drugs and discuss pharmacology of H_2 receptor antagonists.
11. Write a brief note on alkylating agents used in malignancy.
12. Describe the mechanism of action of quinolones.
13. Discuss the clinical uses of appetite stimulants with suitable examples.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy. (Sem.-7)
NOVEL DRUG DELIVERY SYSTEM-THEORY

Subject Code : BP-704T

M.Code : 78390

Date of Examination : 08-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly :

- a) Define controlled drug delivery system.
- b) Mention two disadvantages of controlled release systems.
- c) What is ion-exchange resin-based drug delivery?
- d) Give two examples of mucoadhesive polymers.
- e) Differentiate between microspheres and nanoparticles.
- f) Write two formulation considerations of buccal drug delivery.
- g) Mention any two permeation enhancers used in TDDS.
- h) Define gastroretentive drug delivery system with one example.
- i) Write two advantages of liposomes.
- j) Mention two barriers to ocular drug delivery.

SECTION-B

2. Explain the classification and applications of polymers in CRDDS.
3. Discuss the principles and formulation considerations of mucosal drug delivery systems.
4. Explain in detail the concepts, approaches, and applications of targeted drug delivery systems.

SECTION-C

5. Explain the concept and rationale of controlled release formulations.
6. Write a note on advantages and disadvantages of microencapsulation.
7. Discuss the formulation considerations of implantable drug delivery systems.
8. Write a short note on permeation through skin in TDDS.
9. Explain inflatable and gastroadhesive GRDDS approaches.
10. Write a short note on nasal sprays and their formulation.
11. Discuss the role of nanoparticles in targeted drug delivery.
12. Write short notes on ocuserts in ocular drug delivery.
13. Discuss the development and applications of intrauterine devices.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-7)
INSTRUMENTAL METHODS OF ANALYSIS-THEORY

Subject Code : BP-701T

M.Code : 78387

Date of Examination : 10-0-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION - A

1. Write briefly :

- a) Define bathochromic shift and hypsochromic shift.
- b) What is the difference between singlet and triplet electronic states?
- c) Briefly describe two types of sample handling techniques in IR spectroscopy.
- d) Comment on interferences in flame photometry.
- e) Explain briefly why background correction is necessary in atomic absorption spectroscopy.
- f) State one advantage of nephelometry over conventional spectrophotometry.
- g) Define R_f value in TLC and explain what it indicates.
- h) Why is capillary electrophoresis preferred over gel electrophoresis in some applications?
- i) Define isocratic and gradient elution in HPLC.
- j) Define anion-exchange resin and give an example.

SECTION-B

2. Describe the instrumentation of IR spectroscopy, including sources of radiation,

wavelength selectors, and detectors.

3. Describe methodology, advantages, and typical applications of gel and capillary electrophoresis.
4. Describe the methodology of ion exchange chromatography, including equilibration, loading, washing, and elution.

SECTION-C

5. Discuss the effect of solvent on the absorption spectra of a compound.
6. Explain the factors affecting fluorescence, including solvent, concentration, and temperature effects.
7. Explain the interferences in flame photometry and methods to minimize them.
8. Discuss applications of atomic absorption spectroscopy in pharmaceutical and clinical analysis.
9. Compare column chromatography, TLC, and paper chromatography in terms of resolution, speed, sensitivity, and ease of use.
10. Discuss factors affecting resolution and efficiency in HPLC columns.
11. Discuss the criteria for selecting a carrier gas in GC and its effect on separation efficiency.
12. Explain the principle of affinity chromatography, including selective binding between ligand and target molecule.
13. Explain the mechanism of separation in gel chromatography, including exclusion limits and pore size effects.

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Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem.-7)

PHARMACY PRACTICE - THEORY

Subject Code : BP703T

M.Code : 78389

Date of Examination : 12-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly :
 - a) Define and enlist hospital pharmacy services.
 - b) Define adverse drug reactions.
 - c) Enlist various renal function and liver function tests.
 - d) Define economic order quantity.
 - e) Enlist various components of recording of patient medication history.
 - f) Classify various sources of drug information.
 - g) Define medication adherence.
 - h) Enlist factors affecting therapeutic drug monitoring.
 - i) Define pharmacy and therapeutic committee.
 - j) Describe the objectives of clinical review.

SECTION-B

2. Describe the establishment and organization of drug and poison control centre.
3. Describe dispensing of drugs to inpatients and various types of drug distribution systems in a hospital.
4. Classify and describe budget preparation process.

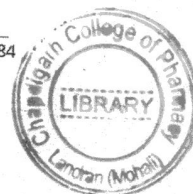
SECTION-C

5. Describe stepwise approach of patient counselling.
6. Describe the normal levels and importance of blood Glucolipid profile.
7. Describe the inventory management techniques FIFO and LIFO with suitable examples.
8. Describe the need and factors to be considered during therapeutic drug monitoring.
9. Describe the goals, methods and role of clinical pharmacist in ward round participation.
10. Briefly describe policies of pharmacy and therapeutic committee.
11. Describe content of hospital formulary.
12. Describe role of pharmacist in improving medication adherence.
13. Describe various methods of pharmaceutical care.

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Total No. of Pages : 02

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B.Pharmacy. (Sem.-7)
INDUSTRIAL PHARMACY – II (THEORY)

Subject Code : BP 702T

M.Code : 78388

Date of Examination : 15-06-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly :

- a) Non clinical drug development
- b) CDSCO
- c) TT agencies
- d) NDA
- e) Documentation
- f) Validation
- g) Quality risk management
- h) Six sigma
- i) NABL
- j) MOU



SECTION-B

2. What are the pilot plant scale up requirements for liquid orals with respect to Personnel, space, and raw materials.
3. Enumerate the WHO guidelines provided for technology transfer.
4. Write short notes on:
 - a. COPP
 - b. Drug Development Teams

SECTION-C

5. Explain the regulatory considerations of biostatistics.
6. Highlight the application of six sigma in the quality management system.
7. Explain the ISO 9000 series of quality system standards.
8. Explain clinical research protocols.
9. Write short notes on:
 - a. TQM
 - b. Change control.
10. Explain the functioning and powers of CDSCO.
11. What is the role of the state licensing authority?
12. What is GLP? Explain its role in the Quality Management System.
13. Write a short note on QbD.

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Total No. of Questions : 13

PHARMACEUTICAL PRODUCT DEVELOPMENT

Subject Code : BP-813ET

M.Code : 79776

Date of Examination : 15-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION-A

1. Write briefly:
 - a) Give examples of anionic, cationic and non-ionic surfactants (one each).
 - b) Give examples of primary and auxiliary emulsifiers (one each).
 - c) Give examples of directly compressible excipients.
 - d) Give examples of film coating polymers for tablets.
 - e) Give examples of polymers used in sustained release tablets.
 - f) Mention the differences between general purpose and soda lime glass.
 - g) Mention the important properties of blister packaging.
 - h) Give examples of aerosol propellants (two).
 - i) What is the use of mannitol in chewable tablets?
 - j) What is the role of suspending agents in suspensions?



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SECTION – B

2. (a) Give an overview of polyethylene glycols used as excipients in liquid dosage forms.
Also mention the permissible limits of different glycols in liquid dosage forms.
- (b) Write a note on cyclodextrins and highlight their applications.
3. (a) What is meant by QbD? Explain factorial Design and mention its applications.
- (b) Discuss contour plots and the information they provide while using QbD.
4. (a) Differentiate between primary and secondary packaging materials used for sterile liquids.
- (b) Mention the quality control tests performed on LDPE containers used for packing IV fluids.

SECTION – C

5. Discuss the shelf life prediction test for solid dosage forms.
6. Distinguish between the role of primary and auxiliary emulsifiers in emulsions.
7. Write a note on antioxidants with examples.
8. What are solubilizers? Giving examples, illustrate their role in liquid formulations.
9. What are flow promoters? Giving examples, highlight their role in capsule filling.
10. Write a note on preservatives used in eye drops.
11. Discuss the properties desired of a film coating polymer for tablets.
12. Discuss the formulation used for a foam releasing aerosol.
13. If a drug is photosensitive, which type of packaging materials should be used for its tablet dosage form? Discuss.

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Total No. of Pages : 03

Total No. of Questions: 13

B.Pharmacy (Sem.-8)

BIOSTATISTICS AND RESEARCH METHODOLOGY

Subject Code: BP-801T

M.Code: 79764

Date of Examination: 02-05-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION - A

1. (a) Define Mean
- (b) Calculate range for the given data : 36,58,10,72 and 98
- (c) What is the probability to get 3 on dice, if a dice is thrown once
- (d) Define dispersion
- (e) Define confidence interval
- (f) Name the software's used in biostatistics
- (g) Give the formula for chi square test
- (h) Write any two uses of ANOVA
- (i) Name the search engines for collecting literature survey
- (j) Define cohorts

SECTION - B

2. In B.Pharm 8th semester randomly selected four students. They got the marks in five different subjects as follows. Can you evaluate the is there significant difference in the marks obtained by students or not by performing One-way ANOVA

A	B	C	D
15	8	8	4
16	6	8	14
12	16	12	9
9	12	10	11
13	18	7	12

(Table Value F (0.05) (3,16) = 3.25)

3. Define type I and Type II error. Discuss in detail about normal distribution
4. (a) A coin is tossed for six times. What is the probability of obtaining at least three tails.
(b) Describe briefly about correlation

SECTION – C

5. Give an account of sample size determination
6. Write a note on Histogram and cubic graphs
7. Briefly discuss about software's used in biostatistics
8. What do you mean by factorial design. How its play important role in biostatistics
9. Calculate Median for the following Data:

Class Interval	0-5	5-10	10-15	15-20	20-25
Frequency	4	3	9	10	2

10. Obtain the two regression equations for the given below data
- | | | | | | |
|----|---|----|----|---|---|
| X: | 6 | 2 | 10 | 4 | 8 |
| Y: | 9 | 11 | 5 | 8 | 7 |
11. Write a short note central composite design.
12. Write a note on H-test.
13. Give an account of t -Test.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 13

B.Pharmacy (Sem.-8)
SOCIAL AND PREVENTIVE PHARMACY

Subject Code : BP802T

M.Code : 79765

Date of Examination : 28-04-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION-A

1. Write briefly :

- a) Define the concept of health according to WHO.
- b) Name any four diseases associated with vitamin deficiency.
- c) What is SARS?
- d) Write the symptoms of Pneumonia.
- e) What is the national tobacco program?
- f) What is lymphatic filariasis?
- g) Define pulse polio programme.
- h) Write the cause and prevention of pneumonia.
- i) Define Diabetes mellitus.
- j) Define National Urban Health Mission.



SECTION-B

2. Explain the role of nutrition in maintaining health, including a balanced diet and nutritional deficiencies.
3. Discuss the concept of health and disease, including the determinants of health.
4. Explain the National AIDS Control Programme and its objectives, salient features, and outcomes.

SECTION-C

5. Write the evaluation methods of public health.
6. Explain the concept of health and disease.
7. Describe the impact of urbanization on health.
8. Write a short note on the causes, prevention, and control of Cholera.
9. Write a short note on the Universal Immunization Programme.
10. Describe the National Tuberculosis Control Programme.
11. Write a short note on drug addiction and substance abuse.
12. Explain the functions of Primary Health Centres (PHC).
13. Describe the importance of health education in schools.

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May - 2026

Roll No.

Total No. of Questions : 13

Total No. of Pages : 03

B.Pharmacy (Sem.-8)

COSMETIC SCIENCE

Subject Code : BP809ET

M.Code : 79772

Date of Examination : 04-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION - A

1. Multiple Choice Questions :

- i. Which ingredient acts primarily as an emollient in skin formulations?
 - a) Glycerin
 - b) Mineral Oil
 - c) Sodium benzoate
 - d) Calcium carbonate
- ii. Which phase in the hair cycle is responsible for active growth?
 - a) Anagen
 - b) Telogen
 - c) Catagen
 - d) Exogen
- iii. The primary function of BIS specifications in cosmetics is to ensure:
 - a) Color stability
 - b) Microbial safety and standards
 - c) Fragrance retention
 - d) Product packaging
- iv. Which test is best suited for evaluating skin moisturization?
 - a) pH meter
 - b) Sebumeter
 - c) Corneometer

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- d) Colorimeter
- v. Which botanical is mostly used in toothpaste for its medicinal benefits?
 - a) Clove
 - b) Rosemary
 - c) Henna
 - d) Mint
- vi. Which excipient helps control viscosity in skin creams?
 - a) Humectant
 - b) Rheology modifier
 - c) Surfactant
 - d) Dye
- vii. TEWL in cosmetic science helps assess:
 - a) Skin elasticity
 - b) Water barrier function of skin
 - c) Sebum content
 - d) Hair tensile strength
- viii. Hair conditioners primarily function to:
 - a) Clean scalp
 - b) Detangle and impart softness
 - c) Dye hair
 - d) Increase volume
- ix. Which one is not a property assessed during cosmetic evaluation?
 - a) Skin color
 - b) Hair tensile strength
 - c) Soap pH
 - d) Nail thickness
- x. Which is a common cosmetic problem associated with skin?
 - a) Tooth decay
 - b) Wrinkles
 - c) Dandruff
 - d) Hair fall

SECTION-B

2. Describe the roles of surfactants, rheology modifiers, and preservatives in cosmetic formulations, with suitable examples.
3. Discuss problems associated with oral cavity in cosmetics, including the formulation strategies for whitening toothpaste and mouthwash.

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4. Explain the concept and methods for the formation of hair dyes with emphasis on para-phenylenediamine based products.

SECTION-C

5. Briefly explain the advantages and disadvantages of cold cream and vanishing cream formulations.
6. What is the principle of measurement using a corneometer and sebumeter? Discuss their benefits in cosmetic evaluation.
7. Give a brief account of conditioning shampoos and anti-dandruff shampoos, with examples of active ingredients.
8. Describe causes and remedies for oily skin. How does comedogenicity affect cosmetic product selection?
9. Outline procedures for BIS analytical testing of toothpaste and mouthwash.
10. Discuss the building blocks and evaluation methods for sunscreen formulation and SPF classification.
11. Write short notes on the role of neem and clove in oral care products.
12. Explain how hydrating creams are evaluated for their effectiveness on dry skin.
13. List common cosmetic problems associated with scalp and hair, and suggest cosmetic solutions.

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Total No. of Pages : 03

Total No. of Questions: 13

B.Pharmacy (Sem.-8)
PHARMA MARKETING MANAGEMENT

Subject Code: BP-803ET

M.Code.: 79766

Date of Examination: 06-05-2026

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES:

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.
3. SECTION-C contains NINE questions carrying FIVE marks each and student has to attempt any SEVEN questions.

SECTION - A

1. Write briefly

- a) Branding
- b) New product
- c) Budget
- d) Organization
- e) Drug Price Control order
- f) NPPA
- g) Management
- h) Pharmacist
- i) Public Relation
- j) Marketing channels

SECTION-B

2. Explain the emerging concepts in marketing.
3. Explain the promotion techniques for the marketing of pharmaceuticals.
4. Write short note on NPPA.

SECTION-C

5. Explain the pricing management strategies in pharmaceutical industry.
6. Write short note on:
 - (a) Product branding
 - (b) Labelling decisions
7. Discuss:
 - (a) Promotion via personal selling
 - (b) Market segmentation
8. Enumerate the term "Product positioning"? How it affects Market.
9. What is PSR?
10. Explain the product management in pharmaceutical industry?
11. Explain the following concepts of Marketing:
 - (a) Rural marketing
 - (b) Consumerism
12. Explain pharmaceutical marketing channels.
13. How the motivation affects prescribing habits of physician?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



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Total No. of Questions : 13

Total No. of Pages : 02

B.Pharmacy (Sem.-8)
PHARMACOVIGILANCE
Subject Code : BP805ET
M.Code : 79768
Date of Examination : 11-05-2026

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

- INSTRUCTIONS TO CANDIDATES :**
1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
 2. SECTION-B contains **THREE** questions carrying **TEN** marks each and student has to attempt any **TWO** questions.
 3. SECTION-C contains **NINE** questions carrying **FIVE** marks each and student has to attempt any **SEVEN** questions.

SECTION-A

1. Write briefly :
 - a) Define Pharmacovigilance and materiovigilance.
 - b) What does Schedule Y signify?
 - c) Define case control and cohort study.
 - d) Define EudraVigilance and hemovigilance.
 - e) Define expedited reporting.
 - f) Define Good Pharmacovigilance Practice.
 - g) Define active and passive surveillance.
 - h) Enlist various secondary and tertiary sources of drug information.
 - i) Define WHO drug dictionary.
 - j) Define teratogen and mutagen.

SECTION-B

2. 2. Describe the objectives and organization of Pharmacovigilance Programme of India (PvPI).
3. Describe adverse drug reactions due to genetic polymorphism with suitable examples.
4. Describe various active and passive methods for vaccine safety surveillance.

SECTION-C

5. Describe the role and activities of CIOMS in pharmacovigilance.
6. Describe safety data generation during pre-clinical and clinical phases of drug development.
7. Describe methods of causality assessment.
8. Briefly describe anatomical, therapeutic and chemical classification of drugs.
9. Describe the role of CROs in safety assessment in clinical trials.
10. Describe the methods of active surveillance.
11. Describe ICH guidelines for post-approval expedited reporting.
12. Describe MedDRA hierarchy system.
13. Describe the concept of drug safety evaluation in geriatrics.

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 10

B. Pharmacy (Sem.-8)

PHARMACOGNOSY-VI

Subject Code : BPHM-803

M.Code : 72298

Date of Examination : 15-06-2026

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of 15 questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains four questions carrying TEN marks each and students have to attempt any Three questions.

SECTION-A

1. Define or briefly describe the following :

- (a) Name the source of tropane alkaloids.
- (b) What is Rauwolfia used for?
- (c) Name one laxative plant.
- (d) Define solasodine.
- (e) What is quinine?
- (f) Give one use of vetiver oil.
- (g) What is lemongrass oil used for?
- (h) Define suspension culture.
- (i) What is micropropagation?
- (j) Define fungal toxins.
- (k) Name one marine-derived medicinal agent.
- (l) What are natural allergens?

(m) Define health foods.

(n) What are herbal cosmetics?

(o) What is registration of herbal products?

SECTION-B

2. Discuss commercial importance of Ginseng in international trade.
3. Explain production and utilization of tropane alkaloids.
4. Write a note on mentha oil and its applications.
5. Describe applications of plant tissue culture in pharmacognosy.
6. Explain natural allergens and photosensitizing agents with examples.

SECTION-C

7. Discuss worldwide trade and medicinal importance of Dioscorea, Taxus species and Aloe.
8. Explain the production, sources and applications of quinine, diosgenin and solasodine.
9. Describe chemotaxonomy of medicinal plants and discuss fungal toxins in detail.
10. Write detailed notes on:
 - (a) Marine pharmacognosy and novel medicinal agents from marine sources
 - (b) Nutraceuticals and registration aspects of herbal products for marketing

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Roll No.

Total No. of Pages : 02

Total No. of Questions : 10

B. Pharmacy (Sem.-8)
**PHARMACOLOGY-IV (CLINICAL PHARMACY &
DRUG INTERACTIONS)**

Subject Code : BPHRW-814

M.Code : 72299

Date of Examination : 19-06-2026

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of 15 questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains four questions carrying TEN marks each and students have to attempt any Three questions.

SECTION-A

1. Define or briefly describe the following :

- a) Enumerate anti HIV drugs.
- b) Name two agents which cause hepatotoxicity.
- c) What is clinical status of gliptins?
- d) Write the antidote used for iron poisoning and mercury poisoning.
- e) How is toxicity of paracetamol managed?
- f) What are the drugs employed in seasonal asthma?
- g) Give a note on erectile dysfunction.
- h) What is haemodialysis?
- i) Define torsade de pointes.
- j) Write briefly about individualization of drug therapy.
- k) Write a note on ankylosing spondylitis.

- l) What is juvenile rheumatoid arthritis?
- m) What is the causative agent of amebiasis?
- n) Define Pharmacokinetics.
- o) Enlist various essential drugs.

SECTION-B

2. Define drug interactions. Discuss about pharmacokinetic drug interactions.
3. Discuss about principles of drug therapy in pediatrics and geriatrics.
4. Explain the drug therapy of Parkinsonism.
5. Discuss the etiology and management of cardiac arrhythmias.
6. Classify anti-thyroid drugs.

SECTION-C

7. Discuss in detail about clinical symptoms, clinical laboratory diagnostic tests and pharmacological management of peptic ulcer.
8. Classify anti-epileptic drugs. Explain in detail the pharmacology and therapeutic indications of newer drugs along with their side-effects.
9. Write short notes on the followings:
 - (a) Chloroquine resistant Malaria.
 - (b) Therapeutic drug monitoring.
10. Discuss in detail about clinical symptoms, clinical laboratory diagnostic tests and pharmacological management of diabetes mellitus.

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Total No. of Questions : 10

Total No. of Pages : 02

B. Pharmacy (SEM-8)
MEDICINAL CHEMISTRY-III
Subject Code : BPHRW-805
M.Code : 72300
Date of Examination : 22-06-2021

Time : 3 Hrs.

Max. Marks : 80

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of 15 questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains four questions carrying TEN marks each and students have to attempt any Three questions.

SECTION-A

1. Define or briefly describe the following :
 - a) Define the term Functionalization
 - b) What are antibacterials?
 - c) Discuss mechanism of action of sulphonamides.
 - d) What are organometallic compounds?
 - e) Define retrovirus. Give examples.
 - f) What are antiviral agents?
 - g) Write any two antimycobacterial agents.
 - h) Give Mode of action of artemisinin.
 - i) Differentiate between DNA and RNA viruses.
 - j) Define the term diagnostic agents. Give examples.
 - k) What are antifungal agents?
 - l) Write synthesis of clotrimazole.

- m) Give structure of any alkylating agent and its role.
- n) Give the structure of hexylresorcinol.
- o) Write synthesis of isoniazid.

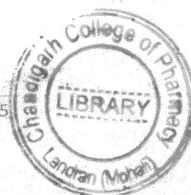
SECTION-B

2. Describe Glucuronic conjugation reaction with examples.
3. Write a detailed note on Penicillins and their MOA.
4. Define thyroid hormones. What are the different roles of thyroid hormone?
5. Write a brief note on aminoglycosides with examples.
6. Give synthesis of chlorambucil.

SECTION-C

7. Describe alkylating agents as antineoplastic agents in detail with suitable examples.
8. Classify antiviral agents. Discuss mechanism of action of any one category.
9. Explain mechanism of action of penicillins. Give synthesis of dapsone.
10. Describe SAR (Structure-Activity Relationship) of Tetracyclines in detail with examples.

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