

Code No: D-8321/CBCS

**FACULTY OF PHARMACY**

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

**Subject: Physical Pharmacy-I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions. Draw neat and labelled diagrams where ever Necessary.**

- 1(a) Explain different methods for achieving liquefaction of gases. Write its application in the formulation of aerosols
- (b) Write about (i) X-ray diffraction (ii) Liquid crystalline state (iii) Sorensons pH scale
- 2(a) Define and explain enthalpy and entropy
- (b) State and explain first and second law of thermodynamics with examples
- (c) Explain heat of formation and heat of combustion
- 3(a) Differentiate ideal and real solutions
- (b) Discuss modern theory of strong electrolytes
- (c) Derive the equation for determination of basicity constant and give its uses.
- 4(a) Write about different methods of adjusting isotonicity
- (b) Explain buffer capacity and give its pharmaceutical significance
- (c) Write a note on preparation of pharmaceutical buffers
- 5(a) Write a note on oxidation-reduction potential
- (b) Explain Daniel cell
- (c) Give the design and cell equation for any two types of electrodes
- 6(a) Explain the phase diagram for one component system
- (b) Write the postulates of kinetic molecular theory
- (c) What is polymorphism? Explain its applications with suitable examples.
- 7(a) State and explain Hess law of constant heat summation
- (b) Define free energy. Write about free energy functions and its applications
- (c) Define specific heat, latent heat, third law of thermodynamics
- 8(a) State Raoult's law. Explain positive and negative deviations of Raoult's law
- (b) What are colligative properties? Mention different colligative properties and write about molecular weight determination
- (c) Define Molarity, Molality, Normality
- 9(a) What is buffer? Derive the buffer equation to prepare an acidic buffer system
- (b) What is the buffer capacity of a solution containing 0.2M acetic acid and 0.1M sodium acetate
- (c) Write a note on physiological buffers
- 10(a) How do you measure EMF of a cell?
- (b) Write a note on (i) Catalyst (ii) Oxidation reduction electrodes (iii) Nernst equation
- (c) Describe the method for determining EMF of a reaction.

\*\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V – Semester (CBCS) (Backlog) Examination, August 2022**

**Subject: Pharmaceutical Technology – I (Pharmaceutics – II)**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions. All questions carry equal marks.**

1. (a) List out pharmaceutical excipient used in pharmaceutical preparations.  
Explain the following with examples (a) Organoleptic additives  
(b) Thickening agents (c) Preservatives.
2. (a) Write the preparation for gelatin.  
(b) Explain the Filling, sealing and evaluation of Hard gelatin capsules.
3. (a) What are suspensions? Differentiate flocculated and deflocculated suspensions?  
(b) Discuss in briefly the formulation of suspensions. Write the evaluation of suspensions.
4. (a) Define Emulsion? Classify emulsifying agents with examples? Give the theories of emulsification?  
(b) What are the different types of identification tests for emulsion?
5. (a) Describe various excipients used in the formulation of tablets.  
(b) Explain in detail quality control tests for the tablets with the specifications stated in pharmacopeia.
6. (a) What are the reasons for coating a tablets? Write about types and rationale of different coating processes.  
(d) Explain in detail film coating process.
7. (a) Define parenterals. Write formulation, production facilities for preparation of parenterals.  
(b) Explain in detail quality control tests for parenterals.
8. (a) Explain formulations and manufacture of eye drops.  
(b) Write about various types of containers used for parenterals.
9. Define aerosols? Write briefly on components, packaging materials and filling techniques used in manufacture of aerosols.
10. (a) What are the ideal properties of packaging materials?  
(b) What are the different packaging materials used for storage of pharmaceutical products? Write about Glass and its influence on stability of dosage forms.

**FACULTY OF PHARMACY**

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

**Subject: Medicinal Chemistry - I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 Mention the physicochemical factors which affects the drug action. Explain how partition coefficient, hydrogen bonding affects the drug action with examples.
- 2 Explain in detail the concept of (a) Bioisosterism (b) Pro drug approach (c) Factors affecting drug metabolism.
- 3 (a) Define and classify parasympathomimetics and write a note on acetylcholine esterase inhibitors.  
(b) Write the structure, synthesis, mode of action of (a) Salbutamol (b) Prazocin.
- 4 (a) Define and classify sympathomimetics.  
(b) Write a note on smooth muscle relaxants and outline the synthesis of meprobamate.
- 5 (a) Define antihyperlipedemics, write their classification, SAR and mechanism of action.  
(b) Write a note on cardiac glycosides.
- 6 (a) Define and classify cardiovascular drugs and write the SAR of calcium channel blockers.  
(b) Write a short note on antiplatelet drugs.
- 7 (a) Write a note on positive inotropic agents.  
(b) Classify diuretics and write the SAR and synthesis of (a) acetazolamide (b) Tolbutamide.
- 8 Discuss the SAR, mechanism action & uses of cardiac glycosides.
- 9 (a) Define antihistamines, explain SAR of H1 & H2 blockers.  
(b) Outline the synthesis of (a) Omeprazole (b) Diphenhydramine.
- 10 (a) Discuss about proton pump inhibitors.  
(b) Discuss about coagulants and anticoagulants and write the synthesis of Warfarin.

\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V –Semester (CBCS) (Backlog) Examination, September 2022**  
**Subject: Pharmacology-I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions.**

**(5 x 14 = 70 Marks)**

1. Define Receptor. Classify receptors and explain about G-protein coupled receptors.
2. (a) Write in detail about various biotransformation reactions with examples.  
(b) Define the following:
  - (i) Therapeutic index
  - (ii) Biological half life
3. (a) Classify cholinergic agents and explain the pharmacological effects of acetylcholine.  
(b) Explain the various therapeutic uses and adverse reactions of Atropine.
4. Classify sympathomimetic and write about the pharmacological actions and therapeutic uses of  $\beta$ - adrenergic blocking drugs.
5. Write the classification of Non- Steroidal anti-inflammatory agents and explain the details of any two classes of drugs.
6. Write about the classification of anti-depressant agents. Write in detail about the mechanism of action, therapeutic uses and adverse reactions of SSRIs.
7. Define hypertension. Classify the antihypertensive agents with examples. Write about the mechanism of action and adverse reactions of ACE inhibitors and calcium channel blockers.
8. What is bronchial asthma? Classify anti-asthmatic drugs. Explain the pharmacology of any two drugs.
9. Define Diuresis. Classify Diuretics and explain the mechanism of action, adverse reactions and therapeutic uses of carbonic anhydrase inhibitors and potassium sparing diuretics.
10. Write about the following:
  - (a) Anti- diarrhoeals.
  - (b) Purgatives.

\*\*

**FACULTY OF PHARMACY**

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

**Subject: Pharmacognosy - I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions. All questions carry equal marks.**

- 1 (a) Explain various exogenous and endogenous factors affecting the cultivation of crude drug.  
(b) Write a note on auxins.
- 2 (a) Write a note on storage of crude drug.  
(b) Write a note on systematic study of crude drug.
- 3 (a) Write a note on precursor-product sequence.  
(b) Explain biogenetic pathway for diterpenes.
- 4 (a) Describe biosynthesis of isoprenoids.  
(b) Discuss various methods of tracer studies.
- 5 (a) Write a brief note on chemical method of drug evaluation.  
(b) Write a note on crude fibre content. Give its importance.
- 6 (a) Write a brief note on drug deterioration of crude drug by living and non-living factors.  
(b) Discuss the quality control of crude drug.
- 7 (a) Differentiate between black and pale catechu.  
(b) Write an informative note on Isabgol, Amla and Linseed.
- 8 (a) Give detail pharmacognostic study of Agar.  
(b) Write biological source, chemical constituents and use of Carnuba wax and Myrobalan.
- 9 (a) Write a note on any two drugs belonging to protein and enzymes.  
(b) Write a pharmacognostic note on Shark liver oil.
- 10 (a) Write a note on:  
(i) Musk      (ii) Wool      (iii) Cantherides      (iv) Silk.  
(b) Write a note on Gelatin.

\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V Semester (CBCS) (Backlog) Examination, February / March 2022**

**Subject: Medicinal Chemistry - I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions.**

**(5 x 14 = 70 Marks)**

- 1 Explain about following terms with examples  
(a) Solubility (b) Partition coefficient  
(c) Hydrogen bonding (d) Soft drug approach.
- 2 Discuss in detail about drug metabolism.
- 3 (a) Define and classify adrenergic blocking agents and write the SAR of beta blockers.  
(b) Write mechanism of action, synthesis and IUPAC name of (a) Prazocin (b) Atenolol.
- 4 (a) Write a note on ganglionic blocking agents.  
(b) Write the structure, synthesis and mode of action of (a) Carbachol and (b) Mecamylamine.
- 5 (a) Write a note on vasodilators.  
(b) Define and classify antihypertensive agents, write their SAR and synthesis of Clonidine.
- 6 (a) Define and classify antiarrhythmic drugs.  
(b) Write the structure, synthesis and mode of action of the following drugs.
- 7 (a) Define hypoglycemic and classify them with suitable examples. Write the SAR.  
(b) Write the structure, synthesis and uses of (a) Aspirin, (b) Isosorbide dinitrate.
- 8 (a) Write a note on thyroid. And antithyroid agents.  
(b) Write in detail about immunosuppressants and immunomodulators.
- 9 (a) Classify antihistamines, write the SAR of H<sub>1</sub> receptor antagonists.  
(b) Write the structure and outline the synthesis of following.
- 10 Write a note on:  
(a) Proton pump inhibitors  
(b) Anticoagulants.

\*\*\*\*

**FACULTY OF PHARMACY**  
**B. Pharmacy V Semester (CBCS) (Backlog) Examination,**  
**February / March 2022**

**Subject: Pharmacognosy - I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions.**

**(5 x 14 = 70 Marks)**

- 1 (a) Define crude drug. Discuss various methods of classification of crude drug.  
(b) What is cultivation? Write advantages and disadvantages of cultivation.
- 2 (a) Explain the scope of Pharmacognosy.  
(b) Write a brief on hybridization and polyploidy.
- 3 Explain Shikimic acid pathway.
- 4 (a) Write a note on Competitive feeding technique.  
(b) Write a note on carbohydrate synthesis.
- 5 (a) Define the drug evaluation and explain microscopic method of drug evaluation.  
(b) What is drug adulteration and write a note on type of drug adulteration.
- 6 (a) Write a note on- (i) Quantitative microscopy  
(ii) Determination of moisture method.  
(b) Write an informative note on Lycopodium spore method.
- 7 (a) What are carbohydrates? Classify with examples.  
(b) Write biological source, chemical constituents and uses of  
(i) Agar (ii) Starch (iii) Chaulmoogra oil (iv) Bees wax.
- 8 (a) What are tannins? Classify with examples.  
(b) Write source, method of preparation, chemical constituents and uses of Pale catechu and Castor oil.
- 9 (a) Write a detail pharmacognostic study of Cotton.  
(b) Write a note on any two mineral origin drug.
- 10 (a) Write a biological source, chemical constituents and uses of  
(i) Jute (ii) Musk (iii) Honey.  
(b) Differentiate between Nylon and Silk.

\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V Semester (CBCS) (Backlog) Examination, February 2022**

**Subject: Physical Pharmacy - I**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions.**

**(5 x 14 = 70 Marks)**

- 1 (a) State Gibbs phase rule. Explain the phase diagram of phenol water system.  
(b) Write about differential scanning calorimetry.  
(c) Write a note on refractive index and molar refraction.
- 2 (a) Derive an expression to determine efficiency of steam engine.  
(b) Write in brief about free energy function and work function.
- 3 (a) Explain the concepts of activity and activity coefficients. Write the Debye-Huckel equations for determining activity coefficient.  
(b) Discuss Arrhenius theory of electrolytic dissociation.
- 4 (a) Explain common ion effect and buffer capacity.  
(b) Explain the relation between pH, Pka and solubility of weak electrolytes.  
(c) Write about pH indicators.
- 5 (a) What are ion selective electrodes? Write about fluoride ion selective electrode.  
(b) What is catalysis and catalyst and explain the factors affecting catalysis.  
(c) What are promoters and inhibitors.
- 6 (a) Explain isothermal reversible expansion of an ideal gas and maximum work done in reversible expansion.  
(b) Define, explain and write applications of heat of combustion and heat of neutralization.  
(c) State and explain the law of conservation of energy.
- 7 (a) What are isotonic, hypertonic and hypotonic solutions? Explain their importance.  
(b) Explain the applications of buffers in pharmacy.  
(c) Explain any two methods of adjusting isotonicity.
- 8 (a) Explain the principle involving steam distillation. What are its applications?  
(b) State and explain the relative lowering of vapour pressure of Raoult's law. Explain its limitations.  
(c) What is polymorphism and give its significance.
- 9 (a) What is phase rule? Explain the phase diagram of three component system.  
(b) Write a note on (i) condensed systems (ii) Vanderwaals equation for real gases.  
(c) Explain ionisation of polyprotic electrolytes.
- 10 (a) How do you measure pH using hydrogen electrode.  
(b) Give the mechanism of simple catalytic reactions.  
(c) Write about hydrogen glass electrode.



**FACULTY OF PHARMACY**

**B. Pharmacy V – Semester (CBCS) (Backlog) Examination,  
February / March 2022**

**Subject: Pharmaceutical Technology – I (Pharmaceutics – II)**

**Time: 3 Hours**

**Max. Marks: 70**

**Note: Answer any five questions.**

**(5 x 14 = 70 Marks)**

1. Explain the properties and selection of following excipients in pharmaceutical preparations. (a) Preservatives (b) Surfactants (c) Hydrocolloids.
2. (a) Explain the different stages of manufacturing of hard gelatin capsules.  
(b) Explain the manufacturing and quality control tests for soft gelatin capsules.
3. (a) What is suspension? Differentiate between Flocculated and Deflocculated suspensions.  
(b) Explain formulation and quality control of suspension.
4. (a) Discuss in brief formulation and quality control of emulsions.  
(b) Write a note on multiple emulsions.
5. (a) Classify tablets. Mention the advantages of tablets. Explain different types of granulation process used for preparation of tablets.  
(b) Explain in detail quality control tests used for evaluation of tablets.
6. (a) What is coating and different types of coating? Write the steps involved in sugar coating with examples.  
(b) Explain defects of coating.
7. (a) What are parenterals? Explain formulation of parenterals.  
(b) Explain different filling methods of parenteral preparations.
8. (a) Write the requirements, formulation, containers for eye drops and eye ointments.  
(b) What are the instructions to be printed on the ophthalmic products container?
9. (a) Write a detail formulation, methods used in the manufacture of aerosols.  
(b) Write the quality control and evaluation tests for pharmaceutical aerosols.
10. (a) Explain in detail glass and plastic as pharmaceutical packaging systems.  
(b) Write the quality control tests for glass.

**FACULTY OF PHARMACY**  
**B. Pharmacy V-Semester (CBCS) (Backlog) Examination,**  
**September 2021**

**Subject: Medicinal Chemistry - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 X 17<sup>1/2</sup> = 70 Marks)**

- (a) What do you mean by prodrug approach in drug design?  
(b) Define and give their significances for the following  
i) Lipophilicity      ii) Chelation      iii) Partition coefficient
- (a) Write about bioisosterism and steric factors of drugs.  
(b) Explain with examples the factors affecting the drug metabolism.
- (a) Explain the S. A.R. of  $\beta$ -adrenergic blocking agents.  
(b) Give the synthesis and uses of i) Atenolol      ii) Prazocin
- (a) Classify cholinergic agonists with examples and discuss the mode of action of acetyl choline esterase inhibitors.  
(b) Outline the synthesis of Carbachol and Physostigmine.
- (a) Classify Ani-hypertensive agents with examples.  
(b) Write the synthesis and uses of Isosorbidedinitrate and dipyridamole.
- Write a note on  
(a) Anti-platelet drugs  
(b) Cardiotonic agents
- (a) Classify diuretics with examples. Write the mechanism of action of carbonic anhydrase inhibitors and thiazide diuretics.  
(b) Outline the synthesis of tolbutamide and explain its mechanism of action.
- Write in detail about  
(a) Ant thyroid drugs (b) Immunosuppressant (c) Immunostimulants
- (a) Explain SAR of H<sub>1</sub> Antihistamines giving examples.  
(b) Write the synthesis and therapeutic uses of diphenhydramine.
- (a) Write the mechanism of action and synthesis of Omeprazole.  
(b) Write the mechanism of action and synthesis of Warfarin.

\* \* \*

**FACULTY OF PHARMACY**

**B. Pharmacy V-Semester (CBCS) (Backlog) Examination,**

**September 20201**

**Subject: Pharmacognosy - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 X 17<sup>1/2</sup> = 70 Marks)**

1. (a) Write a note on plant hormone and their applications.  
(b) Explain the exogenous factors affecting cultivation of crude drugs.
2. (a) What are the various advantages of cultivation of medicinal plant.  
(b) Write a note on collection of crude drugs.
3. (a) Write a descriptive note on Isoprenoid biosynthesis.  
(b) Give a brief account of a) Precursor – Product sequence  
b) Sequential analysis.
4. (a) Write a note on shikimic acid biosynthetic pathway.  
(b) Write a note on scintillation counter.
5. (a) Enlist various methods of drug evaluation and explain chemical evaluation technique.  
(b) Write a note on drug deterioration by various living and non-living factors.
6. (a) Write a descriptive note on quantitative microscopy.  
(b) Give the importance of microscopic evaluation of crude drugs.
7. (a) Explain pharmacognosy of Agar.  
(b) Write biological source, chemical constituents and uses of beeswax and Amla.
8. (a) What are lipids, classify with examples. Give biological source, chemical constituents and uses of castor oil.  
(b) Write biological source, chemical constituents and uses of –  
i) Tragacanth ii) Olive oil iii) Arjuna.
9. (a) Give method of preparation for cotton, honey and papain.  
(b) Explain in detail pharmacognosy of gelation.
10. (a) Write a short note on any two drugs of mineral origin.  
(b) Write a informative note on pancreatine and cod liver oil.

\* \* \*

Library

G.Pulla Reddy College of Pharmacy  
Hyderabad

**FACULTY OF PHARMACY**

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

**Subject: Pharmacology - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any Four Questions**

**(4 x 17<sup>1/2</sup> = 70 Marks)**

- 1) a) Write in detail about different methods of drug transport across the biological membranes  
b) What is dose response curve and how it is useful in drug selectivity
- 2) a) Explain about different factors influencing drug action .  
b) Write briefly about receptor antagonism.
- 3) a) Classify anti cholinergics with examples. Write in detail about mechanism pharmacological actions and adverse drug reactions of atropine.  
b) Write a note on cholinesterase poisoning.
- 4) Explain in detail the pharmacological actions, uses, kinetics and adverse drug reactions of Adrenaline
- 5) a) Give the classification of analgesic drugs write in detail about opioid analgesics  
b) Classify anxiolytics with examples. Write the pharmacological actions and uses of benzodiazepines.
- 6) a) Classify local anesthetics with examples. Give detailed mechanism of local anesthetics and mention their applications.  
b) Classify hypnotic drugs with example write mechanism of action, pharmacological actions, uses, toxicity of barbiturates.
- 7) a) What are anti-arrhythmic. Classify them. Write in detail about class IA drug in the treatment of arrhythmia  
b) Classify anti tussives with examples write their mechanism and uses.
- 8) Classify vasodilators with examples and write in detail about their role in Treatment of cardiovascular disorders
- 9) a) Write the pharmacology of drugs used in the treatment of peptic ulcers.  
b) Give a note on mechanism of different purgatories.
- 10) a) Classify Diuretics with examples. Write the mechanism, Pharmacological actions and uses of K<sup>+</sup> / potassium sparing diuretics.  
b) Contrast the benefits of spironolactone over frusemide.

\*\*\*\*\*  
Library

G.Pulla Reddy College of Pharmacy  
Hyderabad

**FACULTY OF PHARMACY**  
**B. Pharmacy V-Semester (CBCS) (Backlog) Examination,**  
**September 2021**

**Subject: Physical Pharmacy - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 X 17 <sup>1</sup>/<sub>2</sub> = 70 Marks)**

- (a) Explain postulates of Kinetic Molecular Theory in detail.  
(b) Write a note on Polymorphism and Amorphous solids.
- (a) Write a note on Refractive index and Molar refraction.  
(b) Describe phase rule and explain the construction of phase diagram of one component system (Water).
- (a) Explain Standard Enthalpy of Formation and Hess's Law of Heat summation and its application.  
(b) Explain the first law of thermodynamics.
- (a) Explain the concept of Gibbs free energy.  
(b) Define the following thermodynamic terms: Specific Heat, Sensible Heat, Latent Heat and Heats of Transition.
- (a) Explain the following Coefficients for expressing colligative properties: L value, Osmotic Coefficient and Osmolality.  
(b) Describe Ideal and real solutions.
- (a) What are Colligative properties? Explain freezing point depression in detail and derive an expression for determination of Molecular Weight of a solute.  
(b) Explain Ionisation of weak acids and weak bases.
- (a) Explain buffers in Pharmaceutical and biological systems.  
(b) Explain Van Slyke equation, Describe Influence of concentration on buffer capacity.
- (a) Describe different methods of adjusting tonicity.  
(b) Explain buffer equation/Henderson Hasselbalch equation for weak acid and its salt.
- (a) Describe the Electrochemical cell with diagram.  
(b) Explain factors effecting Catalyst and Catalysis.
- (a) Define Catalysis. Explain types of catalyst.  
(b) Explain different types of Electrode in detail with diagrams.

**FACULTY OF PHARMACY**

**B. Pharmacy V-Semester (CBCS) (Backlog) Examination, March 2021**

**Subject: Medicinal Chemistry - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 x 17 ½ = 70 Marks)**

1. Explain about the following terms with examples.  
(i) Solubility                      (ii) Ionization  
(iii) Hydrogen Bonding      (iv) Redox potential
2. (a) What is bioisosterism. Explain its applications in drug design.  
(b) Write a note on drug metabolism.
3. (a) Classify adrenergic blocking agents with examples.  
(b) Give the synthesis and uses of i) Isoproterenol ii) Salbutamol
4. (a) Write a note on ganglionic blocking agents and outline the synthesis of me calamine HCl.  
(b) Write a note on skeletal muscle relaxants and outline the synthesis of meprobamate.
5. (a) What are anti-hyperlipidemic agents? Classify them with examples, Write the mode of action of each class of drugs.  
(b) Write the synthesis and uses of captopril and clonidine.
6. (a) Classify antiarrhythmic. Explain their mechanism of action.  
(b) Write a note on vasodilators.
7. (a) Classify hypoglycemic agents with examples. Explain the mode of action and synthesis of glyclazide.  
(b) Write a note on positive inotropic agents.
8. (a) Write mechanism of actions of any three classes of diuretics.  
(b) Write a note on thyroid drugs.
9. (a) Classify H<sub>1</sub>-receptor antagonists with examples.  
(b) Outline the synthesis and uses of Chlorpheniramine and Cetirizine.
10. Write a note on: (a) Anticoagulants  
(b) Proton-pump inhibitors.

\* \* \*

**FACULTY OF PHARMACY**

**B. Pharmacy V-Semester (CBCS) (Backlog) Examination, March 2021**

**Subject : Pharmacology - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any Four Questions**

**(4 x 17<sup>1/2</sup> = 70 Marks)**

- 1 a) Classify and write briefly about advantages and disadvantages of different routes of drug administration  
b) Give a note on protein binding of drugs and factors affecting protein binding.
- 2 a) Classify and write in detail about transduction mechanism. Explain about G-Protein coupled receptors  
b) Explain about different types of biotransformation reactions with examples.
- 3 a) Classify and write in detail about the pharmacology of cholinomimetics  
b) Write the mechanism of action, uses and toxicity of anti cholinergics.
- 4 a) Classify sympathomimetics and write the mechanisms, pharmacology and uses of Isoprenaline.  
b) Classify anti adrenergic drugs with examples. Write the mechanism and therapeutic use of propranolol.
- 5 a) Classify non-steroidal anti inflammatory drugs with examples. Give the mechanism of action, uses and adverse drug reactions of prostaglandin synthetase inhibitors.  
b) Classify anti – epileptics and write in detail about pharmacology of hydantoins.
- 6 a) What are antidepressants. Write the mechanism pharmacological actions, uses and adverse reactions of SSRI's and selective serotonin reuptake inhibitors  
b) Classify anti Parkinson's drugs and explain the pharmacology of anti Parkinson's drugs.
- 7 a) Classify antihypertensive with examples write in detail about calcium channel blockers  
b) Write the mechanism of action, uses and adverse drug reactions and doses of bronchodilators used in the treatment of asthma
- 8 a) Classify Anti-hyperlipidemics with examples write in detail about the mechanism and pharmacological actions of statins.  
b) Classify anxiolytics with examples. Write a note on different types of benzodiazepines used in the treatment of anxiety.
- 9 a) Classify anti emetics with examples. Write about the pharmacology of proton pump inhibitors.  
b) Write briefly about the anti – diarrhoeals.
- 10 a) Explain in detail about the mechanism pharmacological actions, uses and adverse effects of Thiazide diuretics  
d) Write briefly about antidiuretic hormone its receptors pharmacological actions and uses.

\*\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V-Semester (CBCS) (Backlog) Examination, March 2021**

**Subject: Pharmacognosy - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 x 17 ½ = 70 Marks)**

1. (a) Write a descriptive note on hybridization and polyploidy.  
(b) Write a note on pharmacological classification of crude drug.
2. (a) Explain various factors to be considered for storage of crude drugs.  
(b) Write a note on systematic description of crude drugs.
3. (a) Write a descriptive note on various tracer technique used in biosynthesis of secondary metabolites.  
(b) Write a note on shikimic acid pathway.
4. (a) Explain biosynthetic pathway for carbohydrate synthesis.  
(b) Give brief note on sequential analysis in tracer techniques.
5. (a) Define drug evaluation. Explain morphological and microscopical methods of drug evaluation.  
(b) Write a note on effect of moisture content and its method of determination.
6. (a) Write a descriptive note on Lycopodium spore method used for powder drug analysis.  
(b) Explain physical method of crude drug evaluation.
7. (a) Explain pharmacognosy of Tragacanth.  
(b) Write biological source, chemical constituents and uses of chaulmoogra oil and isabgol.
8. (a) Write a descriptive note on Alginate and Amla.  
(b) Define and classify tannins. Give biological source and pharmaceutical importance of pale and black catechu.
9. (a) Define fibers. Classify with examples.  
(b) Write a descriptive note on cotton and shark liver oil.
10. (a) Give the source and uses of Cantharides, Musk, Cochineal and Honey.  
(b) What are proteins. Classify with examples. Give the pharmaceutical importance of papain.

\* \* \*



**FACULTY OF PHARMACY**  
**B. Pharmacy V-Semester (CBCS) (Backlog) Examination, March 2021**

**Subject: Physical Pharmacy - I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 x 17 ½ = 70 Marks)**

1. (a) Describe Ideal Gas law in detail.  
(b) Explain Rules relating to Triangular Diagrams.
2. (a) Write a note on Polymorphism and Amorphous solids.  
(b) Define Phase rule. Explain the construction of phase diagram of phenol water system.
3. (a) Explain Hess's Law of Heat of summation and its application.  
(b) Describe the second law of thermodynamics.
4. (a) What is Law of Conservation of Energy? Explain the first law of thermodynamics.  
(b) Define Internal Energy, Enthalpy and Heat Capacity.
5. (a) What are Colligative properties? Explain boiling point elevation in detail and derive an expression for Mol. Wt. determination of solute.  
(b) Explain Sorensen's pH scale in detail.
6. (a) Enumerate Arrhenius theory of electrolytic dissociation.  
(b) Describe Ideal and real solutions.
7. (a) Explain buffer equation/Henderson Hasselbalch equation for weak acid and its salt.  
(b) Describe different methods of adjusting tonicity,
8. (a) Write about Buffers in Pharmaceutical and biological systems (in vivo biologic buffer Systems).  
(b) Explain buffer capacity and describe influence of concentration on buffer capacity.
9. (a) Explain Types of Electrode in detail with diagrams.  
(b) Define Catalysis. Explain types of catalyst.
10. (a) Describe the Electrochemical cell with diagram.  
(b) What are catalytic poisons? Explain factors effecting Catalysis.

\* \* \*

**FACULTY OF PHARMACY**

**B. Pharmacy V-Semester (CBCS) (Backlog) Examination, March 2021**

**Subject: Pharmaceutical Technology – I (Pharmaceutics – II)**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4 x 17 ½ = 70 Marks)**

1. (a) Explain rotary die process for manufacture of gelatin capsules.  
(b) Classify antioxidants with suitable examples. Write their mechanism of action.
2. (a) Write in detail evaluation of hard gelatin capsules.  
(b) Classify surfactants with examples. Enlist their applications.
3. (a) Write in detail evaluation of suspensions.  
(b) Write a note on multiple emulsions.
4. (a) Explain reasons for emulsion instability.  
(b) Compare flocculated and deflocculated suspension.
5. (a) List the excipients used in tablet manufacture. Explain their role.  
(b) Explain defects in film coating.
6. (a) Explain defects in tablet manufacture and methods to overcome them.  
(b) Enlist reasons for tablet coating. Write about different types of tablet coating.
7. (a) Write in detail about air control in sterile area.  
(b) Mention five important criteria in the formulation of eye drops. Add a note on formulation of eye ointment.
8. (a) Write in detail evaluation tests for parental products.  
(b) Explain the formulation of eye drops.
9. (a) Define aerosols. What is the role of propellants in aerosols. Classify propellants.  
(b) Explain the role of plastic containers in packaging of dosage forms.
10. (a) Write in detail evaluation of aerosols.  
(b) Classify glass containers. Write about the reaction of glass containers with liquid dosage forms.

\* \* \*

**FACULTY OF PHARMACY**

**B. Pharmacy V Semester (CBCS) (Backlog) Examination, October 2020**

**Subject: Medicinal Chemistry-I**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4x17½=70 Marks)**

1. What are the physico-chemical factors that affect the drug action and explain how partition coefficient affects the drug action with examples?
2. Explain the concept of Bioisosterism and explain Drug metabolism in detail.
3. Classify adrenergic blocking agents and write mechanism of action, SAR and synthesis of
  - a) proazocin
  - b) Atenolol
4. Write a note on neuromuscular blocking agents and explain mechanism of action and synthesis of Mecamylamine HCl.
5. Classify cardiovascular agents and write the synthesis of
  - a) Captopril
  - b) Clonidine
  - c) Nifedipine
  - d) Clofibrate
6.
  - a. Classify Antihyperlipidemics? Explain SAR of HMG CoA reductase inhibitors.
  - b. Classify Antihypertensives! Explain SAR of centrally acting drugs.
7. Classify Diuretics? Write the SAR and synthesis of
  - a. Acetazolamide
  - b. Furosemide
8.
  - a. Write a brief account on thyroid and antithyroid drugs.
  - b. Write a short note on Immunosuppressant and immunostimulants.
9. Classify Anti-histaminics? Write the synthesis and SAR of
  - a) Diphenhydramine
  - b) Chlorpheniramine
10.
  - a. Write a brief note on coagulants and anticoagulants.
  - b. Write a brief account on Proton pump inhibitors and anti-histaminics.

\*\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V - Semester (CBCS) (Backlog) Examination, October 2020**

**Subject : Pharmacology - I**

**Time : 2 hours**

**Max. Marks : 70**

**Note: Answer any four questions.**

**(4x17½=70 Marks)**

- 1 a) Define and classify the receptors. Explain in detail about G-protein coupled receptors.  
b) Write about dose response relationship.
- 2 a) Define agonist and antagonist with examples.  
b) What are different antagonism? Explain in detail about pharmacological antagonism.
- 3 Classify the adrenergic agents with examples. Write their actions on  
(i) Heart, (ii) Bronchioles, (iii) Intestine and (iv) Eye  
Add a note on their therapeutic uses.
- 4 Classify the parasympathomimetic agents and write about the pharmacology of acetylcholine.
- 5 Write the classification of Non-steroidal anti-inflammatory agents and explain the details of any three classes of drugs.
- 6 Write about the classification of anti-depressant agents. Write in detail about the mechanism of action, therapeutic uses and adverse reactions of tricyclic antidepressants.
- 7 Define Hyperlipidemia. Classify the anti-hyperlipidemic agents. Discuss the mechanism of action and therapeutic uses of any two drugs of different classes.
- 8 Write short notes on :  
a) Bronchodilators  
b) Drugs used in the treatment of shock
- 9 Define Diuresis. Classify Diuretics and explain mechanism of action, adverse reactions and therapeutic uses of carbonic anhydrase inhibitors and potassium sparing diuretics.
- 10 a) Write about the pharmacology of Purgatives.  
b) Write the mechanism of action and therapeutic uses of following drugs:  
(i) Omeprazole  
(ii) Antimicrobials in diarrhoea

\*\*\*\*\*

## FACULTY OF PHARMACY

### B. Pharmacy V-Sem (CBCS) (Suppl.) Examination, October 2019

#### Subject: Physical Pharmacy - I

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

- Define phase rule. Explain the phase diagram for a two component system and write its applications.
  - Explain different methods of achieving liquefaction.
- What is Polymorphism, give examples of drugs exhibiting polymorphism and write its significance.
  - Write a note on differential Scanning Calorimetry.
- What is thermodynamics. How it is important in pharmacy.
  - Define
    - Enthalpy
    - Entropy
    - Specific heat
    - Latent Heat
- Derive expressions for isothermal reversible expansions of an ideal gas and maximum work done in reversible expansion.
  - Write about Hess law of constant heat summation and give its applications.
- Differentiate ideal and real solutions.
  - What are colligative properties? Explain freezing point depression and its applications.
- What is Ionisation. Derive an equation for the ionisation of a weak acid or base. What is the importance of ionization constant?
  - What is Sorason's PH scale?
- Define buffer equations for weak acid and weak base.
  - What is buffer capacity? Write van Slyke equation for buffer capacity and maximum buffer capacity.
- Explain different methods of adjusting toxicity.
  - What are isotonic, hypertonic and hypotonic solutions? Explain their importance.
- Explain about electrochemical cell. How the half reactions are represented.
  - Write briefly about ion selective and glass electrodes.
- Define catalyst and write about the factors influencing catalytic reactions with examples.
  - Describe the applications of oxidation and reduction reactions in pharmacy.

\*\*\*\*\*

**FACULTY OF PHARMACY**

**B. Pharmacy V Semester (CBCS)(Backlogs) Examination, October 2020**

**Subject: Pharmaceutical Technology-I (Pharmaceutics-II)**

**Time: 2 Hours**

**Max. Marks: 70**

**Note: Answer any four questions.**

**(4x17½=70 Marks)**

1. a) Classify Surfactants. Write their applications with relevant MLB Value.  
b) Explain the steps involved in preparation of hard gelatin capsules.
2. a) Write about organoleptic additives used in liquid orals.  
b) Explain quality control tests of hard gelatin capsules.
3. a) Differentiate between creaming and cracking of an emulsion. Enlist the reasons for cracking of an emulsion.  
b) How do you prepare a flocculated suspension?
4. a) Write about multiple emulsions.  
b) How do you evaluate suspensions?
5. a) Explain QC tests of tablets.  
b) Explain different types of coatings and their purpose.
6. a) Explain various defects in tablets coating.  
b) Explain wet granulation process with its merits and demerits.
7. a) What are the formulation considerations of Ophthalmic preparations? Mention labeling requirements of eye drops.  
b) What are pyrogens? How do you perform pyrogen testing?
8. a) Write in detail about air control in aseptic area.  
b) Write the composition of eye drops and eye ointments.
9. a) Define aerosols. Enumerate their merits and demerits. Add a note on propellants.  
b) Explain alkalinity test of glass.
10. Write about
  - a) Values used in aerosols.
  - b) Plastic as pharmaceutical packaging system.

\*\*\*\*\*

**FACULTY OF PHARMACY****B. Pharmacy V Semester (CBCS)(Backlogs) Examination, December 2019****Subject: Pharmaceutical Technology-I (Pharmaceutics-II)****Time: 3 Hours****Max. Marks: 70****Note: Answer ALL questions. All questions carry equal Marks.**

- |   |    |
|---|----|
| 1. a) Compare hard gelatin and soft gelatin capsules. What are the various sizes of hard gelatin capsule. | 7  |
| b) Write about hydrocolloids.   | 7  |
| <b>OR</b>   |    |
| 2. a) Explain the technique in the manufacture of soft gelatin capsule.                                   | 7  |
| b) Write a note on preservatives and antioxidants and their selection criteria.                           | 7  |
| 3. a) Explain theories of emulsification.   | 9  |
| b) What is the role of zeta potential in stability of suspensions?  | 5  |
| <b>OR</b>   |    |
| 4. a) Explain evaluation of suspensions.  | 7  |
| b) Explain different methods for preparation of emulsions.  | 7  |
| 5. a) Explain the following terms and methods to overcome<br>i) Capping and lamination<br>ii) Mottling    | 9  |
| b) Why is enteric coating done? Give examples of polymers used for enteric coating.                       | 5  |
| <b>OR</b>   |    |
| 6. a) Enlist various excipients used in tablet formulation with examples, Write their role.               | 10 |
| b) What is orange peel effect?  | 4  |
| 7. a) Write in detail about environmental condition in parenteral production.                             | 7  |
| b) Explain QC tests of eye drops.   | 7  |
| <b>OR</b>   |    |
| 8. a) Write in detail evaluation tests for parenterals.   | 8  |
| b) Write the formulation of eye drops.  | 6  |
| 9. a) Write in detail formulation and evaluation of aerosols.   | 10 |
| b) Write briefly on metered value inhalers.   | 4  |
| <b>OR</b>   |    |
| 10. a) Define aerosols. Write their advantages and disadvantages. Add a note on their applications.       | 7  |
| b) Explain use of glass as pharmaceuticals packaging system.  | 7  |

\*\*\*\*\*

## FACULTY OF PHARMACY

B. Pharmacy V-Semester (CBCS) (Backlog) Examination, December 2019

Subject: Medicinal Chemistry – I

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

1. Explain how solubility and Ionization effects the drug action with examples. 14
- OR**
2. a) Explain prodrug and soft drug concept in detail. 8  
b) Explain factors effecting Drug metabolism in detail. 6
3. a) Classify and explain the mechanism of synthesis of carbachol or physostigmine. 7  
b) Write a note on Ganglionic blocking agents and write the synthesis of  
i) pentolinium tartarate      ii) Mecarnylanine HCL. 7
- OR**
4. Write a note on Adrenergic agents and adrenergic blocking agents? Write the synthesis of  
a) Isopeoterenol      b) Salbutarnol      c) Prazocin
5. Classify Antihypertensive agents? Write the SAR, Mechanism of action and synthesis of clonidine. 14
- OR**
6. Classify anti arhythmic agents and write the synthesis of  
a) Verapanil  
b) Dipyridamole  
c) Aspirin 14
7. Classify Hypoglycemic agents and write the mechanism of action and SAR of oral hypoglycemic agents. 14
- OR**
8. Classify Diuertics? Write the SAR and synthesis of  
a) Acetazolamide      b) Furosemide. 14
9. Explain Mechanism of action, SAR and synthesis of H<sub>1</sub> and H<sub>2</sub> Blockers? 14
- OR**
10. Write a note on  
a. Proton pump inhibitors  
b. Coagulants and anticoagulants. 14

\*\*\*\*\*



**FACULTY OF PHARMACY****B. Pharmacy V - Semester (CBCS) (Backlog) Examination, January 2020****Subject : Pharmacology - I****Time : 3 hours****Max. Marks : 70****Note : Answer all questions. All questions carry equal marks.**

- 1 a) Write about various phase - I biotransformation reactions with examples. 8  
 b) Define the following: 6  
 (i) Therapeutic index  
 (ii) Biological half life  
 (iii) Antagonism
- OR**
- 2 Explain in detail about the advantages and disadvantages of different routes of drug administration. 14
- 3 a) Classify cholinergic agents and explain the pharmacological effects of acetylcholine. 9  
 b) Explain the various therapeutic uses and adverse reactions of atropine. 5
- OR**
- 4 Classify sympathomimetics and write about the pharmacological actions and therapeutic uses of  $\beta$ -adrenergic blocking agents. 14
- 5 Define Epilepsy. Classify antiepileptic drugs. Write the mechanism of action, adverse effects and uses of hydantoins and iminostilbenes. 1+3+10
- OR**
- 6 a) What is Parkinson's disease? Classify drugs used in Parkinson's disease and discuss the rationale of the combination of L-DOPA + carbidopa. 7  
 b) Write short notes on:  
 i) Anxiolytics  
 ii) Pharmacological effects of morphine 3 + 4
- 7 Define hypertension. Classify the antihypertensive agents with examples. Write about the mechanism of action and adverse reactions of angiotensin converting enzyme inhibitors and calcium channel blockers. 2 + 6 + 6
- OR**
- 8 What is bronchial asthma? Classify anti-asthmatic drugs. Explain the pharmacology of any two drugs. 2 + 4 + 8
- 9 a) Classify the agents used in treatment of peptic ulcer disease. Write about the pharmacological actions and therapeutic uses of Omeprazole and Ranitidine. 4 + 6  
 b) Write short notes on antidiuretic hormone. 4
- OR**
- 10 Write about the following:  
 a) Anti-diarrhoeal agents 7  
 b) Anti-emetic agents 7

\*\*\*\*\*

**FACULTY OF PHARMACY****B. Pharmacy V - Semester (CBCS) (Backlog) Examination, January 2020****Subject: Pharmacognosy - I****Time: 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

1. (a) Write a detailed note on various factors influencing collection of medicinal plants. 8  
(b) Write a note on factors to be considered for storage of crude drugs. 6  
**OR**
2. (a) Explain systematic description of crude drugs. 8  
(b) Endogenous factors influence cultivation of medicinal plants. Explain. 6
3. (a) Write about use of isotopes in elucidation of biosynthetic pathways. Explain precursor product sequence. 8  
(b) Write biosynthetic route for shikimic acid and Monoterpenes. 6  
**OR**
4. (a) Give a brief account on techniques employed for establishing biosynthetic pathways. 8  
(b) Write biosynthesis of carotenoids. 6
5. (a) Define 'Drug evaluation'. Write methods for determinations of Foreign Organic Matter and volatile oil. 8  
(b) Write a note on infestation of crude drugs and preventive measures. 6  
**OR**
6. (a) Write a note on Quantitative microscopy. 8  
(b) Explain drug deterioration by non-living factors. 6
7. (a) Write pharmacognostic note of Isapgol. 7  
(b) Write source, method of preparation and uses of Tragacanth and Bees Wax. 7  
**OR**
8. (a) Write pharmacognosy of Gall. 5  
(b) Write source, active constituents and uses of (i) Acacia (ii) Chaulmoogra Oil (iii) Myrobolan. 9
9. (a) How do you distinguish animal fibers from vegetable fibers? Write a note of vegetable fibers. 7  
(b) Write about Pancreatin and Musk. 7  
**OR**
10. (a) Write a pharmacognostic note of Cotton. 7  
(b) Write about Gelatin and Bentanite. 7

\*\*\*\*\*

## FACULTY OF PHARMACY

## B. Pharmacy V-Semester (CBCS) (Backlog) Examination, January 2020

## Subject: Physical Pharmacy – I

Time: 3 Hours

Max. Marks: 70

**Note: Answer All questions. All questions carry equal marks.**

1. (a) (i) Define and explain the phase rule. 6  
 (ii) Write the principle of thermal analysis and write about differential scanning calorimetry and its applications for pharmaceuticals. 8  
**OR**
- (b) (i) Explain about the following: 7  
 (a) Liquid crystalline state 7  
 (b) What is Polymorphism? Explain the importance in Pharmaceutical formulations. 7
2. (a) (i) State and explain first law of thermodynamics. 5  
 (ii) Define and explain 9  
 (a) Heat of formation.  
 (b) Heat of combustion.  
 (c) Free energy
- OR**
- (b) (i) Derive the equations for heat of reaction at constant pressure and at constant volume. 6  
 (ii) Define: 8  
 i. Specific heat. ii. Latent heat. iii. Enthalpy. iv. Entropy.
3. (a) (i) Write briefly about different concentration expressions. 8  
 (ii) What are colligative properties. Explain boiling point elevation and give its applications. 6  
**OR**
- (b) (i) Explain ionization of weak acids and derive the equation for ionization of a weak acid or base. 10  
 (ii) Write about the Sorenson's PH scale. 4
4. (a) (i) write a note on physiological buffers. 6  
 (ii) Explain the preparation of pharmaceutical buffers. 3  
 i. Buffers. 3  
 ii. Any two methods of adjusting toxicity. 5  
**OR**
- (b) (i) what is a buffer? What are its applications in pharmacy. 4  
 (ii) Derive the Henderson Hasselbalch equation for weak acid and its salt. 10
5. (a) (i) How do you measure PH using hydrogen electrode? 5  
 (ii) Write Nernst equation and explain the terms there in. 5  
 (iii) Write about promoters and inhibitors with examples. 4  
**OR**
- (b) (i) Write a note on Glass electrode & ion-selective electrodes. 9  
 (ii) Explain an electrochemical use. 5

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Backlog) Examination, August 2019

Subject : Pharmacognosy – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Write in detail about Morphological and Pharmacological classification of crude drugs. 6  
 b) Explain the influence of endogenous factors in cultivation of medicinal plants. 8  
**OR**  
 c) Write applications of plant growth hormones. 6  
 d) Write the advantages and disadvantages of obtaining drugs from wild and cultivated plants. 8
- 2 a) Write in detail Shikimic Acid pathway. 6  
 b) Write in detail about Trace technique. 8  
**OR**  
 c) Write a note on :  
 i) Biosynthesis of isoprenoids 6  
 ii) Biogenetic investigations using grafts and mutant strains 8
- 3 a) Write about 4+3+7  
 i) Identification of crude drugs by histological evaluation  
 ii) Foreign organic matter  
 iii) Drug deterioration during storage  
**OR**  
 b) Write about 3+4+7  
 i) Crude fiber  
 ii) Drug adulteration  
 iii) Determination of moisture
- 4 a) Write the source, preparation, identification tests and uses of Agar. 8  
 b) Write biological source and identification tests for Isapgol, Castor oil and Bees wax. 6  
**OR**  
 c) Write the source, chemical constituents and uses of Tragacanth, Chalmogra oil, Myrobolan and Arjuna. 4x3 ½ = 14
- 5 a) Write methods for preparation of Gelatin and Honey. 6  
 b) Write source and uses of Bentonite, Cochineal, Cotton and Papain. 8  
**OR**  
 c) Write in detail about identification tests for fibres. 4  
 d) Write the source, constituents and uses of Cantharides, Honey, Musk, Codliver oil. 4x2 ½ = 10

Library

G.Pulla Reddy College of Pharmacy  
Hyderabad

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Backlog) Examination, July 2019

Subject : Physical Pharmacy – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) What is polymorphism? Explain its importance in pharmaceutical formulations with examples. 10  
 b) State Vanderwaal's equation for real gases and give its applications. 4  
**OR**  
 c) Explain liquid crystalline state with applications. 6  
 d) What is thermal analysis? Explain any one method with its applications in pharmaceuticals. 8
- 2 a) State and explain the first law of thermodynamics. 4  
 b) Define the terms :  
 i) Specific heat      ii) Latent heat      iii) Enthalpy      iv) Entropy  
 v) Heat of transition 10  
**OR**  
 c) State and explain Hess's law of constant heat summation. 8  
 d) Define and explain enthalpy and heat capacity. 6
- 3 a) How do you determine elevation of boiling point? Explain the choice of colligative properties in molecular weight determination. 8  
 b) Explain Arrhenius theory of electrolyte dissociation and its limitations. 6  
**OR**  
 c) How do you determine freezing point depression? 7  
 d) Derive the equation for ionization of a weak acid. 7
- 4 a) Derive Henderson-Hasselbalch buffer equation for a weak acid and its salt with an emphasis on common ion effect. 9  
 b) What are pharmaceutical buffers? Explain the preparation of pharmaceutical buffers. 5  
**OR**  
 c) Explain class I methods for adjusting tonicity. 8  
 d) Write a note on biological buffer systems. 6
- 5 a) Write the construction and mechanism of glass electrode with cell notation. 9  
 b) Explain about an electrochemical cell. 5  
**OR**  
 c) Explain the operation of a pH meter. 6  
 d) What are catalysts? Explain the mechanism of simple catalytic reaction. Give the significance of catalysis in pharmaceutical field. 8

\*\*\*\*\*

Library

G.Pulla Reddy College of Pharmacy  
Hyderabad

## FACULTY OF PHARMACY

**B. Pharmacy V – Semester (CBCS) (Backlog) Examination, July 2019**

**Subject : Pharmaceutical Technology – I (Pharmaceutics-II)**

**Time : 3 hours**

**Max. Marks : 70**

**Note : Answer all questions. All questions carry equal marks.**

- |   |  |   |
|---|--|---|
| 1 | a) Classify colors. How do you select a color and flavour for a formulation. Enlist USFDA approved colors?                   | 7 |
|   | b) Explain the manufacture of soft gelatin capsules.   | 7 |
|   | <b>OR</b>  |   |
|   | c) Write the classification and application of surfactants.  | 7 |
|   | d) Explain the evaluation of hard gelatin capsules.  | 7 |
| 2 | a) Write in detail on multiple emulsions.  | 7 |
|   | b) Enlist the reasons for cracking of an emulsion. How do you overcome such problems?  | 7 |
|   | <b>OR</b>  |   |
|   | c) What is zeta potential? Write the significance of zeta potential in stability of disperse systems.                        | 7 |
|   | d) Explain various methods for preparation of an emulsion.   | 7 |
| 3 | a) Enlist the excipients used in tablet manufacture with examples. Write their role and mechanism of action.                 | 9 |
|   | b) What are the different types of tablet coating? Write the purpose of each coating along with materials used for the same. | 5 |
|   | <b>OR</b>  |   |
|   | c) Explain quality control tests for tablets.  | 9 |
|   | d) Explain defects in tablet coating.  | 5 |
| 4 | a) Explain evaluation tests for parenteral formulations in detail.   | 9 |
|   | b) Write important criteria / requirements in the formulation of ophthalmic preparations.                                    | 5 |
|   | <b>OR</b>  |   |
|   | c) Explain environmental and personnel control in the production of parenterals.   | 9 |
|   | d) Explain the significance of isotonicity in the formulation of parenteral and ophthalmic preparations.                     | 5 |
| 5 | a) Explain the use of different propellants in aerosol formulation.  | 8 |
|   | b) Classify and write the use of different types of glass containers.  | 6 |
|   | <b>OR</b>  |   |
|   | c) Write the formulation of aerosols.  | 7 |
|   | d) Explain the role of plastic in packaging of pharmaceuticals.  | 7 |

\*\*\*\*\*

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Backlog) Examination, August 2019

Subject : Pharmacology – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Write in detail about various biotransformation reactions with examples. 14  
**OR**  
 b) Define and classify the receptors. Explain in detail about ion channel linked receptors. 2+5  
 c) Write short notes on : 2x3½  
 i) Synergism  
 ii) Biological half life
- 2 a) Classify cholinergic agents and explain the pharmacological effects of acetylcholine. 4+5  
 b) Explain the various therapeutic uses and adverse reactions of Atropine. 5  
**OR**  
 c) Write the pharmacological effects of adrenergic drugs.  
 d) Write about various therapeutic uses of  $\beta$ -adrenergic blockers. 7+7
- 3 a) Classify anti-epileptic agents and explain the mechanism of action and therapeutic uses of any three classes of drugs. 5+9  
**OR**  
 b) Write about the classification of anti-depressant agents. Write in detail about the mechanism of action, therapeutic uses and adverse reactions of SSRIs. 6+8
- 4 a) Define arrhythmia. Classify anti-arrhythmic agents. Discuss the pharmacology of any two drugs of different classes. 2+6+6  
**OR**  
 b) What is bronchial asthma? Classify anti-asthmatic drugs. Explain the pharmacology of any two drugs. 2+4+8
- 5 a) Define diuresis. Classify diuretics and explain mechanism of action, adverse reactions and therapeutic uses of carbonic anhydrase inhibitors and potassium sparing diuretics. 2+5+7  
**OR**  
 b) i) Classify purgatives 5  
 ii) Write the pharmacology of following drugs : 9  
 a) Castor oil  
 b) Lansoprazole  
 c) Diphenoxylate

\*\*\*\*\*

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Main) Examination, February 2019

Subject : Pharmacognosy – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Write in detailed note on factors influencing collection of medicinal plants. 7  
b) Write an informative note on systematic description of crude drugs. 7
- OR**
- 2 Write about : 7+7  
a) Chemical classification  
b) Influence of exogenous factors in cultivation of medicinal plants
- 3 Write a detailed note on : 8+6  
a) Biosynthetic pathway of Terpenoids and steroids.  
b) Precursor product sequence and competitive feeding.
- OR**
- 4 Write about  
a) Shikimic acid pathway 8  
b) Isotopes and their detection methods 6
- 5 a) Elaborate the role of living and non-living factors in causing deterioration of crude drugs.  
b) Write an informative note on morphological and biological evaluation methods in quality control of crude drugs. 8+6
- OR**
- 6 Write about 7+7  
a) Adulteration  
b) Quantitative microscopy
- 7 a) Write the source, preparation method, active constituents, identification tests and uses of Castor oil. 8  
b) Write the source, chemical constituents and uses of Beeswax, Acacia and Amla. 6
- OR**
- 8 a) Write the pharmacognosy of Tragacanth. 6  
d) Write the source, identification tests, chemical constituents and uses of catechu and starch. 8
- 9 a) Classify fibres. Write an informative note on cotton and wool. 10  
b) Write methods used for preparation of gelatin. 4
- OR**
- 10 a) Write the pharmacognosy of cochineal. 5  
b) Write the source, chemical constituents and uses of Bentonite, cantharides and cod-liner oil. 9

\*\*\*\*\*



**FACULTY OF PHARMACY****B. Pharmacy V – Semester (CBCS) (Main) Examination, January 2019****Subject : Pharmacology – I****Time : 3 hours****Max. Marks : 70****Note : Answer all questions. All questions carry equal marks.**

- 1 Define Receptor. Classify receptors and explain about G-Protein coupled receptors. 14  
OR
- 2 a) What are different routes of drug administration? Compare the merits and demerits of oral and parenteral routes. 7  
Write short notes on : 2x3½  
b) Biological half life  
c) Pharmacodynamics
- 3 a) Classify  $\beta$ -blockers based on mechanism / effects. Discuss in detail the pharmacological actions of isoprenaline. 7  
Write the pharmacology of following drugs : 7  
b) Prazosin  
c) Metoprolol  
OR
- 4 Explain the pharmacological effects and therapeutic uses of :  
a) Physostigmine  
b) Atropine  
c) Propranolol 14
- 5 Write the classification of Non-steroidal anti-inflammatory agents and explain the details of any three classes of drugs. 5+9  
OR
- 6 Define Parkinsonism. Classify anti-Parkinson's drugs with examples? Write the mechanism of action and therapeutic uses of COMT inhibitors and MAO. 2+6+6
- 7 Write about the following :  
a) Bronchodilators  
b) Drugs used in treatment of shock 7+7  
OR
- 8 a) Define bronchial asthma. Classify drugs used in the treatment of asthma. 7  
b) Classify antianginal drugs. Write about the mechanism of action and therapeutic uses of Nitrates. 3+4
- 9 Classify anti ulcer agents. Write the mechanism of action, adverse reactions and therapeutic uses of antihistamines and ulcer protectants. 14  
OR
- 10 Write about the following :  
a) Anti-emetic agents  
b) Anti-diarrhoral agents 7+7

\*\*\*\*\*

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Main) Examination, January 2019

Subject : Medicinal Chemistry – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) Explain how solubility and partition coefficient effect the drug action with examples. 14
- OR**
- 2 Explain the concept of
- a) Prodrugs 7
- b) Drug metabolism 7
- 3 What are adrenergic blocking agents, write the mechanism of action, SAR and synthesis of Prazocin? 14
- OR**
- 4 a) Write a note on Ganglionic blocking agents. And write the synthesis of
- b) Mecamylamine HCl
- c) Pentolinium tartarate 8+4+4
- 5 a) What are cardiovascular drugs? Classify anti-arrythmic drugs and write the synthesis of
- b) Verapanil
- c) Nifedipine 14
- OR**
- 6 a) Classify antihypertensive agents? Outline the synthesis of
- b) Captopril
- c) Clonidine 14
- 7 a) Classify Hypoglycemic agents. Outline the synthesis of
- b) Tolbutamide
- c) Glyclazide 8
- d) Write a note on positive inotropic agents. 6
- OR**
- 8 Classify Diuretics? Explain mechanism of action, SAR and synthesis of Acetazolamide. 14
- 9 a) Explain mechanism of action of H<sub>1</sub> and H<sub>2</sub> blockers. 10
- b) Outline the synthesis of any one antihistamine drug. 4
- OR**
- 10 a) Write a brief account on coagulants and anticoagulants and write the synthesis of warfarin. 7
- b) Classify antihistamines and write the synthesis of chlorpheranine. 7

\*\*\*\*\*

## FACULTY OF PHARMACY

B. Pharmacy V – Semester (CBCS) (Main) Examination, January 2019

Subject : Physical Pharmacy – I

Time : 3 hours

Max. Marks : 70

**Note : Answer all questions. All questions carry equal marks.**

- 1 a) What are various thermal methods of analysis? 4  
 b) Explain about differential scanning calorimetry method and its applications alongwith examples. 10
- OR**
- 2 a) What is polymorphism? Give its pharmaceutical significance. 6  
 b) State Gibb's phase rule. Explain the phase diagram for one component system. 8
- 3 a) State and explain first law of thermodynamics. 7  
 b) Define and explain about entropy and free energy. 7
- OR**
- 4 a) State and explain Hess law of constant heat summation with suitable examples. 5  
 Define the terms  
 b) Specific heat c) Latent heat d) Heat of transition 9
- 5 a) What are colligative properties? Explain any one colligative property in detail. 8  
 b) Explain Debye-Huckel theory of strong electrolytes. 6
- OR**
- 6 a) Explain the concept of activity and activity coefficients. 7  
 b) State and explain Raoult's law of lowering of vapour pressure of and give its limitations. 7
- 7 a) Write a note on pH indicators. 5  
 b) Explain various methods of adjusting tonicity. 9
- OR**
- 8 a) What is buffer capacity? Write Vanslyke's equation for buffer capacity and maximum buffer capacity. 5  
 b) Derive buffer equation for an acid buffer with suitable example. 9
- 9 a) Write the construction and mechanism of working of any one electrode with cell notation. 10  
 b) What are electrochemical cells? Give the half reaction representations. 4
- OR**
- 10 a) What is electrode potential? Write a note on oxidation reduction potential. 7  
 b) Give the cell notation for any two reference electrodes. 7