

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 physicochemical 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)(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-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: Pharmacognosy- I

Time: 2 Hours

Max. Marks: 70

Note: Answer any four questions.

(4x17½=70 Marks)

1. a) Write a note on pharmacological classification of crude drugs citing examples for each class.
b) Write about the advantages in obtaining crude drugs from cultivated plants.
2. a) Write influence of endogenous factors in cultivation of medicinal plants.
b) Enlist plant growth hormones. Write a detailed note on growth stimulators.
3. a) Explain formation of secondary metabolites by shikimic Acid pathway.
b) Write a note on Tracer technique.
4. a) Explain the use of grafts and tissues culture in elucidation of biosynthetic pathways.
b) Discuss formation of metabolites by Isoprenoid pathway.
5. a) Write a detailed note on Quantitative microscopy and crude fiber.
b) Write a note on common practices adopted in commerce for adulteration of crude drugs.
6. a) Write methods for determination of moisture and leaf constants.
b) Living factors cause drug deterioration. Elaborate and Write precautions to prevent the same.
7. a) Write the source, chemical constituents and uses of (i) Linseed (ii) Neem Oil (iii) Catechu
b) Write source, method of preparation and uses of Acacia and Castor oil.
8. a) Write source, identification tests and uses of (i) Agar (ii) Bees Wax (iii) Isapgol
b) Write source, active constituents and uses of (i) Sodium alginate (ii) Spermaciti
9. a) Write source, method of preparation and uses of (i) Gelatin (ii) Cod Liver oil.
b) Write source active constituents and uses of (i) Pepsin (ii) Cantharides (iii) Nylon
10. a) Write pharmacognostic note on cochineal.
b) Write a note on enzyme drugs.

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

ST PAULS COLLEGE OF PHARMACY

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. | |
| OR | |
| 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 |
| OR | |
| 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 | |
| i) Capping and lamination | 9 |
| ii) Mottling | 5 |
| b) Why is enteric coating done? Give examples of polymers used for enteric coating. | 5 |
| OR | |
| 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 |
| OR | |
| 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 |
| OR | |
| 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 |

ST.PAULS COLLEGE OF PHARMACY

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 arythmic 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 H₁ and H₂ 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 β -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:
 (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 Sorensen's PH scale. 4

4. (a) (i) Write a note on physiological buffers. 6
 (ii) Explain the preparation of pharmaceutical buffers.
 i. Buffers. 3
 ii. Any two methods of adjusting toxicity. 5

OR

- (b) (i) What are buffers? 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, Chalmoogra 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

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

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
OR
 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
OR
 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
OR
 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
OR
 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
OR
 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 β -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 β -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-diarrhoeal 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 H₁ and H₂ 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