Code No. 13043/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy III/IV II–Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject: Medicinal Chemistry - I

Time: 3 Hours **Max. Marks: 70**

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

1. a) Write the importance of steric features of drugs 7
   b) Explain the concept of pro and soft drug approach. 7

OR

   c) Discuss in detail phase I reactions involved in the drug metabolism. 8
   d) Explain about (i) lipophilicity (ii) Solubility with examples 6

2. a) Write the pharmacological actions of Adrenaline and discuss the SAR of adrenomimetics. 8
   b) Give the structure and synthesis of following 3+3
      i) Salbutamol ii) Isoproterenol

OR

   b) Write a notes on following 7+7
      i) Cholinergic blocking agents
      ii) Skeletal muscle relaxants

3. a) Define anti-hypertensive and give the classification with examples. 5
   b) Write the SAR of ACE inhibitors. 5
   c) Give the structure and synthesis of clofibrate. 4

OR

   d) Adda note on Antiplatelet drugs 7
   e) Discuss about cardiotonic agents 7

4. a) Give the classification of oral hypoglycemic agents with examples. 4
   b) Add a note on positive Inotrophic agents 6
   c) Give the structure, uses and synthesis of Tolbutamide. 4

OR

   d) Define and classify diurestics with examples. Write the MOA and SAR of carbonic anhydrase inhibitors. 1+2+5
   e) Add a note on Immuno suppressants. 6

Contd..2..

5. a) Define and classify Anti-histaminic agents with examples.
   b) Give the SAR of any two classes of H1 Anti histaminic. 7
   c) List out the coagulation factors. 4

OR

   d) Write the structure, synthesis, MOA and uses of following 5x4 = 14
      i) Chlorpheniramine ii) Ranitidine
      iii) Omeprazole iv) Warfarin

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Code No. 13046/Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year I-Semester (Non-CBCS) (Backlog) Examination,

November 2018

Subject : Pharmacognosy - II

Time : 3 Hours **Max. Marks: 70**

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

1 a) Define alkaloids. Write the classification, general tests and isolation methods of alkaloids. (7)

b) With a neat labeled diagram describe the morphological and microscopicalfeatures of Vinca. (7)

OR

c) Write the specific chemical tests for detection of (5)
i) Indole alkaloids ii) Tropane alkaloids

d) Write the biological source, chemical constituents and uses of (9)
i) Punernava ii) Shankhupushpi iii) Ephedra

2 a) Define and classify glycosides with suitable examples. (6)

b) Write the biological source, chemical constituents and uses of (8)
i) Brahmi ii) Picrorriza iii) Gentian iv) Shatavari

OR

c) Write the sources, chemistry, therapeutic uses and tests of Anthraquinone glycosides. (7)

d) Write the pharmacognostic study of Digitalis. (7)

3 a) Write the isolation and estimation of cineole from eucalyptus oil. (6)

b) Write the chemical nature and uses of (8)
i) Taxus ii) Artemisia

OR

c) Write the isolation and estimation of tannic acid from myrobalan. (6)

d) Write the biological source, chemical constituents and uses of (8)
i) Guggul ii) Pyrethrum iii) Clove iv) Asafoetida

4 a) Discuss about nutritional requirements of an ideal plant tissue culture medium. (10)

b) Write a note on sterilization of explants. (4)

OR

c) Define (6)
i) Callus culture ii) suspension culture iii) embryo culture

d) Write the advantages of plant tissue culture. (8)

5 a) Discuss the pharmacological principle of ayurvedic system of medicine. (5)

b) Write the method of preparation of (9)
i) Bhasmas ii) Leyhas iii) Churnas

OR

c) Discuss on Indian traditional system of medicine. (6)

d) Write a note on quality control and standardization of raw materials used in herbal medicines. (8)

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Code No. 13045 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy III/IV I – Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject: Physical Pharmacy - I

Time: 3 Hours **Max. Marks: 70**

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

1. a) State and explain ideal gas law and the Vander Waals equation for real gases. 5
   b) State and explain the methods for liquefaction of gases. 6
   c) Write a note on liquid crystalline state. 3

OR

   d) State Gibbs phase rule. Explain the phase diagram for two components system. 8
   e) Write the principle of thermal analysis. Explain Differential Scanning Calorimetry (DSC) with applications. 6
2. a) State and explain first law of thermodynamics. 5
   b) Derive an expression for maximum work done in isothermal reversible expansion of an ideal gas. 9

OR

   c) Derive an expression to determine efficiency of steam engine. 6
   d) Define i) Heat of formation ii) Heat of combustion iii) Heat of Neutralization 8
3. a) What are colligative properties? Explain any one colligative property in determination of molecular weight. 9
   b) Write about Soresen's pH scale and its applications. 5

OR

   c) Explain the concepts of activity and activity coefficients. Write and explain the Debye Huckel theory and osmotic coefficient for determining activity coefficient. 7
   d) What are ideal solutions and real solution? Explain deviations of Raoult's law. 7

4. a) What is buffer? Derive the buffer equation to prepare an acidic buffer system. 8
   b) Write characteristics of buffers. Write applications of buffers *in vivo* biological buffer systems with examples. 6

OR

   c) Explain various methods to adjust isotonicity and pH. 10
   d) Write Van Slyke's equation for buffer capacity and maximum buffer capacity and its applications. 4

contd..2..

5. a) Write a note on different types of electrodes. Explain measurement of pH using Hydrogen electrode. 9

   b) How do you measure EMF of a cell? 5

OR

   c) Write a note on calomel electrode and hydrogen electrode. 6

   d) What is a catalysis and catalyst? Write types of catalysts, catalytic reactions. Write factors affecting on the catalysis.

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Code No. 13044 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year I-Semester (Non-CBCS) (Backlog) Examination, November 2018

Subject : Pharmaceutical Technology (Pharmaceutics – II)

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Explain the properties and selection of preservatives for pharmaceutical formulations? 7
(b) Classify surfactants? Write a note on nonionicsurfactants? 7

OR

(c) Describe various filling methods of soft gelatin capsules? 8
(d) Describe evaluation tests for hard gelatin capsule? 6

2 (a) What are suspensions? Mention the composition of flocculated and deflocculated suspensions? Explain influence of particle size upon formulation of suspensions? 8
(b) Discuss in brief the physical stability of suspensions? 6

OR

(c) Define emulsion? Explain different of types of emulsions? Write a note on formulation of emulsions? 6
(d) What are the different methods of manufacturing for the preparation of emulsions? Add a note on colloidal mill? 8

3 (a) What are the different types of granulation methods? Explain wet and dry granulation methods? Explain mechanism of granule formation? 10
(b) Describe various excipients used in the formulation of tablets and its properties? 4

OR

(c) What are the advantages of coating? Explain pan coating process? 8
(d) Describe in detail advanced coating techniques used in industry? 6

4 (a) What are the advantages and disadvantages of parenteral preparations? 4
(b) Explain production facilities required for the manufacture of small volume parenterals? 10

OR

(c) Explain methods of manufacture of eye ointments? What are the labelling instructions required for ophthalmic preparations? 9
(d) Write a note on parenteral emulsion? 5

5 (a) What are the different types of aerosols? Mention the advantages and disadvantages? 5
(b) Describe propellants used in aerosols? Add a note on pharmaceutical applications of aerosols? 9

OR

(c) Explain glass as a pharmaceutical packaging system? What are the quality control tests performed for glass containers? 9
(d) What are the incompatibilities observed between preservatives and containers? 5

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Code No. 13047 / Non-CBCS

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year I-Semester (Non-CBCS) (Backlog) Examination, November 2018

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. (8)
b) Define the following: (6)
i) Therapeutic Index
ii) Tachyphylaxis
iii) Synergism

OR

b) Explain in detail about the advantages and disadvantages of different routes of drug administration.

2 a) Write the pharmacological effects of acetyl choline. (7)
b) Explain the various therapeutic uses and adverse reactions of (α) – adrenergic blockers. (7)

OR

c) Explain the pharmacological actions and therapeutic uses of the following:
(i) Acetylcholinesterase Inhibitors (7 + 7)
(ii) β – Adrenergic blockers

3 a) Classify anti-epileptic agents and explain the mechanism of action, adverse reactions and therapeutic uses of any three classes of drugs. (5 + 9)

OR

b) Write the classification of Non-steroidal anti-inflammatory agents and explain the details of any three classes of drugs. (5 + 9)

4 a) Define hyperlipidemia. Classify the anti-hyperlipidemic agents with examples. Write about the mechanism of action and adverse reactions of HMG CoA reductase inhibitors. (2+6+ 6)

OR

b) Write short notes on: (7 + 7)
(i) Bronchodilators
(ii) Antiarrythmics

5 a) Classify the agents used in treatment of peptic ulcer disease. Write about the pharmacological actions and therapeutic uses of Omeprazole. (5 + 5)
b) Write short notes on carbonic anhydrase inhibitors. (4)

OR

c) Write about the following: (7 + 7)
(i) Anti – diarrhoeal agents
(ii) Anti – emetic agents

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Code No. 1180

FACULTY OF PHARMACY

B. Pharmacy 3/4 I-Semester (Suppl.) Examination, April 2018

Subject : Medicinal Chemistry – I

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Discuss in detail the conjugation reactions involved in the drug metabolism. (6)
(b) Explain how the following physio-chemical properties influence the biological action of a drug molecule
(i) Ionization (ii) Hydrogen bonding (4+4)

OR

(c) Discuss with suitable examples the influence of protein binding on biological activity. (7)
(d) Explain the importance of Bio-isosterism in drug design. (7)

2 (a) Explain the chemistry and mechanism of action of skeletal muscle relaxants. (6)
(b) Give the structure and synthesis for the following: (4+4)
(i) Isoproterenol (ii) Moprobamate

OR

(c) Classify ganglionic blocking agents with examples. Write the MoA and SAR. (8)
(d) Add a note on cholinergic blocking agents. (6)

3 (a) What are Anti-arrythmic drugs? Classify them with examples. (4)
(b) Give the structure, uses and MoA of following: (5x2)
(i) Verapamil (ii) Clofibrate (iii) Ticlopidine
(iv) Captopoil (v) Dipyridamole

OR

(c) Add a note on HMG – CoA reductase inhibitors. (7)
(d) Give an account of cardiotonic drugs. (7)

4 (a) Write a note on the following: (7+7)
(i) Immuno suppressants
(ii) Hypoglycemic agents

OR

(b) Outline the synthesis and uses of following: (5+5+4)
(i) Amrinone (ii) Acetazolamide (iii) Propylthio uracil

5 (a) Discuss in detail about coagulants and anti-coagulants. (7)
(b) Write the SAR and MoA of proton pump inhibitors. (7)

OR

(c) Give the synthesis and MoA of (4+4)
(i) Warfarin (ii) Chlorpheniramine
(d) Write the MoA and SAR of H_2- receptor antagonists. (6)

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Code No. 1183

FACULTY OF PHARMACY

B. Pharmacy 3/4 I-Semester (Suppl.) Examination, April 2018

Subject : Pharmacognosy - II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Define and classify the alkaloids. Write the general method for isolation of alkaloids. (8)

(b) Give the chemical structure and specific use of : (6)
(i) Morphine (ii) Quinine (iii) Ephedrine

OR

(c) Give an informative note on chemistry of alkaloids. (5)

(d) Write the chemical test, adulterant and distinguished character from adulterants of
(i) Cinchona (ii) Rauwolfia (iii) Nuxvomica (9)

2 (a) Write the sources, diagnostic microscopic characters, chemistry and uses of (i) Digitalis (ii) Senna (7+7)

OR

(b) Discuss the sources and importance of anthracene glycosides. (5)

(c) Write the source, chemistry and uses of (9)
(i) Gymnema (ii) Disocoreia (iii) Brahmi

3 (a) Give the chemical structure, Chemical test, sources and isolation of
(i) Caffeine (ii) Quinine (iii) Sennosides

OR

(b) Define volatile oils and write the general methods of volatile oils isolation.

(c) Give the chemical structure, sources and specific use of
(i) Artemisinin (ii) Curcumin (iii) Fenchone

4 (a) Give an informative note on : (7+7)
(i) Sterilization techniques in plant tissue culture
(ii) Immobilization of culture

OR

(b) Discuss the advantages of plant, tissue culture technique in cultivation of medicinal plants. (4)

(c) Discuss the concept and significance of Biotransformation and clonal propagation. (10)

5 (a) List the Traditional systems of medicines practiced in India and write the principles of any two systems. (5)

(b) Discuss the methods of various quality control measures in analysis of Herbal medicines. (9)

OR

(c) Define and describe the preparation of : (9)
(i) Aristavas (ii) Bhasmas (iii) Asawas

(d) Discuss the importance of plant drugs in discovery of new drugs with suitable Examples. (5)

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Code No. 1182

FACULTY OF PHARMACY

B. Pharmacy 3/4 I-Semester (Suppl.) Examination, April 2018

Subject : Physical Pharmacy-I

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Explain the postulates of the kinetic molecular theory. (4)
(b) Explain the methods to achieve liquefaction of gases. (6)
(c) Write about polymorphism and its applications in pharmacy. (4)

OR

(d) State Gibbs phase rule. Explain the phases diagram of phenol-water system. (7)
(e) Write a note on refractive index and molar refraction with applications. (7)

2 (a) State and explain first and second law of thermodynamics with applications. (8)
(b) Define: (i) Specific heat (ii) Latent heat (iii) Enthalpy (iv) Entropy (6)

OR

(c) Define and explain Hess's law of constant summation. Write its applications. (7)
(d) Explain Gibbs free energy and its function and applications. (7)

3 (a) What are colligative properties? Explain freezing point depression as a colligative property and its applications. (8)
(b) Discuss the modern theory of strong electrolytes. (6)

OR

(c) Write a note on Sorensen's pH scale. (4)
(d) Derive the equation for determination of acidity and basicity constant and write its use. (7)
(e) Define Molarity, molality and normality. (3)

4 (a) What are the methods for adjustment of tonicity and pH. Explain cryoscopic method and sodium chloride equivalent method for adjusting isotonicity. (10)
(b) Write Van Slyke's equation for buffer capacity and maximum buffer capacity and its applications. (4)

OR

(c) Derive Henderson-Hasselbalch buffer equation for a weak acid and its salt. (7)
(d) Explain is isotonic, hypertonic and hypotonic solutions? Explain its importance. (4)
(e) Write a note on physiological buffers. (3)

5 (a) Explain different types of electrodes. (10)
(b) Write the applications of redox potentials in pharmacy. (4)

OR

(c) Draw and explain Daniel cell. (6)
(d) What is catalysis? Write types of catalysts, catalytic reactions, mechanism and applications of catalytic reactions. (8)

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Code No. 1181

FACULTY OF PHARMACY

B. Pharmacy 3/4 I-Semester (Suppl.) Examination, April 2018

Subject : Pharmaceutical Technology (Pharmaceutics-II)

Time : 3 Hours **Max. Marks: 70**

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

1 (a) How will you select preservatives and hydrocolloids based on properties for a given formulation? (7)
(b) Explain different diluents and its properties. (7)

OR

(c) What are the different sizes of hard gelatin capsules? Describe manufacturing of hard gelatin capsules? (8)
(d) Describe evaluation of soft gelatin capsules. (6)

2 (a) Define Stoke's law. Describe problems and trouble shooting in the formulation of suspensions. (7)
(b) Explain various quality control tests of suspensions. (7)

OR

(c) What are emulsions? Describe theories of emulsion. (7)
(d) What are evaluation tests for emulsion? (7)

3 (a) Describe disintegration test and its limits according to pharmacopeia (IP, BP, USP). (5)
(b) Describe various processing problems encountered during compression. (9)

OR

(c) Write about types and rationale of different coating processes. (5)
(d) Describe indetail materials used for film coating process. Write a note on enteric polymers. (5+4)

4 (a) Classify injectables. Explain their advantages and limitations. (5)
(b) Explain different types of filling procedures and a note on injectable emulsions. (9)

OR

(c) Describe containers used in the packaging of eye drops. (6)
(d) Write in detail quality control tests and animal testing required for ophthalmic products. (8)

5 (a) Define aerosol and mention its advantages and disadvantages. (5)
(b) Describe manufacturing of aerosols. (9)

OR

(c) Describe quality control tests for glass. (9)
(d) How does packaging materials influence stability of formulations? (5)

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Code No. 1184

FACULTY OF PHARMACY

B. Pharmacy 3/4 I-Semester (Suppl.) Examination, April 2018

Subject : Pharmacology – I

Time : 3 Hours **Max. Marks: 70**

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

1 (a) What are different routes of drug administration? Explain the merits and demerits of oral and parental routes of administration. (2+6)

(b) Define the following: (6)
(i) Therapeutic Index
(ii) Biological Half life
(iii) Tachyphylaxis

OR

(c) Define and classify the receptors. Explain in detail about ion channel linked receptors. (2+5)

(d) Write about different types of Phase-I reactions. (7)

2 (a) Explain the pharmacological effects and therapeutic uses of : (5+5+4)
(i) Prazosin
(ii) Atropine
(iii) Proponolol

OR

(b) Classify the cholinergic agents with examples. Write their actions on :
(i) Heart, (ii) Bronchioles, (iii) Intestine and (iv) Eye.
Add a note on their therapeutic uses. (4+8+2)

3 (a) Write about the classification of anti-depressant agents. Write in detail about the mechanism of action, therapeutic uses and adverse reactions of tricyclic antidepressants. (6+8)

OR

(b) Classify anti-epileptic agents and explain the mechanism of action and therapeutic uses of any three classes of drugs. (5+9)

4 (a) Define Hyperlipedemia. Classify the anti-hyperlipedemic agents. Discuss the mechanism of action and therapeutic uses of any two drugs of different classes. (2+4+8)

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 furosemide and spironolactone. (2+6+6)

OR

(b) Write short notes on the pharmacology of: (7+7)
(i) H_2 receptor blockers
(ii) Anti diarrhoeals

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