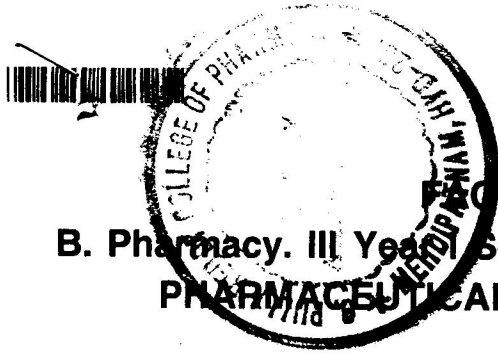


3/11/12 F-NO/L



2668

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FACULTY OF PHARMACY
B. Pharmacy. III Year I Semester (Main) Examination, Oct./Nov. 2012
PHARMACEUTICAL TECHNOLOGY (Pharmaceutics – II)

Time: 3 Hours]

[Max. Marks: 70

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

1. a) What are antioxidants ? Explain with examples. 4

b) Define 'GRAS' according to USFDA. Explain the properties and selection of preservatives, surfactants and hydrocolloids. 10

OR

Explain the formulation and evaluation of soft gelatin capsules ? Describe various methods of filling of soft gelatin capsules ? 14

2. Define suspension. Mention the difference between flocculated and deflocculated suspension. Describe in detail role of suspending agents in the formulation of suspensions ? 14

OR

a) Define emulsion. Explain methods of preparation of emulsion.

b) Write a note on multiple emulsion.

c) Write a note on Stoke's law.

3. a) Describe various methods of granulation techniques ? Describe various processing problems associated with tablet compression. 12

b) Mention ideal properties of pharmaceutical excipients. 2

OR

a) Mention the advantages and disadvantages of coating ? Classify coating process. Explain various steps involved in the processing of sugar coating. 11

b) Write a note on enteric coating. 3



4. a) Mention the various routes of administration of parenteral preparation. What do you mean by lyophilisation. Mention the applications of lyophilisation. 10

b) Write a note on LAL test and sterility test. 4

OR

a) Describe various methods of preparation of ophthalmic preparation. Explain quality control of ophthalmic preparations. 11

b) Mention the labeling requirements for ophthalmic preparations. 3

5. a) Define aerosols. Explain the formulation aspects of aerosols. 10

b) Describe pharmaceutical applications of aerosols. 4

OR

a) Describe various packaging materials used in the pharmaceutical packaging systems. 10

b) Write a note on test for alkalinity of glass as a packaging system. 4

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Code No. : 2670

FACULTY OF PHARMACY
B.Pharm. III Year I Semester (Main) Examination, Oct./Nov. 2012
PHARMACOGNOSY – II

Time: 3 Hours]

[Max. Marks: 70

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

1. a) With a neat labelled diagram discuss the microscopy of cinchona and ephedra.
b) Write the source, chemical structure and uses of
i) Atropine
ii) Vasicine
iii) Lobeline. (8+6)

OR

- c) Give the chemical structure and specific uses of
i) Emetine
ii) Papaverine
iii) Reserpine
iv) Conessine.
d) Name the adulterants and give the distinguish characters to identify the following crude drugs.
i) Nuxvomica
ii) Belladonna
iii) Cinchona. (8+6)

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2. a) Give the chemical structure and specific uses of
i) Shatavarin
ii) Bacoside
iii) Gymnemic acid.
b) What are cardiac glycosides, classify with examples and discuss the chemistry of cardiac glycosides. (6+8)
OR
c) Distinguish the different varieties of aloes by morphological and chemical tests. 5
d) Give the sources, chemical constituents and uses of
i) Momordica
ii) Kalmegh
iii) Gokhru. 9



3. a) With a neat labelled diagram discuss the microscopy of Clove and Cinnamon.
b) Write the chemical structure and identification tests for the following phytoconstituents.
i) Etoposide
ii) Curcumin
iii) Umbelliferone. (8+6)

OR

- c) Give the source of quinine and write structure, isolation and estimation of quinine.
d) Give the source, chemical constituents and uses of
i) Gaultheria oil
ii) Guggul
iii) Pyrethrum. (8+6)
4. a) Write a note on :
i) Bio transformation
ii) Clonal propagation.
b) Briefly discuss the problems associated with plant tissue culture technique. (10+4)

OR

- c) Explain the process of organogenesis.
d) Write the industrial significance of plant tissue culture in production of secondary metabolites. (7+7)
5. a) Describe and give the method of preparation of
i) Churnas
ii) Rasayanam
iii) Ghritams.
b) What are leaf constants, classify and define each ? (9+6)

OR

- c) Discuss the techniques used in quality control and standardization of herbal drugs. 14



FACULTY OF PHARMACY
B. Pharmacy III Year I Semester (Main) Examination, Oct./Nov. 2012
PHARMACOLOGY – I

Time: 3 Hours]

[Max. Marks: 70

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

1. a) What is bioavailability ? Describe various mechanisms of drug absorption. 7
b) What are various mechanisms of drug action ? Explain drug-receptor interactions. 7

OR

- c) Write in detail about various biotransformation reactions with examples. 14
2. a) Write about the pharmacological actions of anticholinergic drugs by taking atropine as an example. 10
b) Write about various catecholamines and their specific functions. 4

OR

- c) Write the pharmacological effects of Adrenergic drugs. 14
d) Write about various therapeutic uses of β -adrenergic blockers. 14
3. Define "Sedative" and "Hypnotic". Write the pharmacological actions, therapeutic uses of benzodiazepins. What are the adverse effects on long term use ? 14

OR

Classify various types of seizures in epilepsy. Give the classification of antiepileptic drugs, write the mechanism of action and adverse effects of hydantoin drugs. 14

4. What are various cardiac arrhythmias ? Give the classification of antiarrhythmic drugs. Write about calcium channel blockers. 14

OR

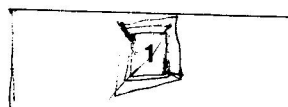
What is hypertension ? Give the classification of anti-hypertensive drugs. Write about Angiotensin receptor blocker drugs. 14

5. Give the classification of antidiuretics with examples. Write the mechanism of action and therapeutic uses of Benzothiadiazine drugs. 14

OR

What are the manifestations of hyper secretions of stomach ? Write the mechanism of action and adverse effects of H_2 -antagonists. 14

(This paper contains 1 page)





31/10/12 F.V.O/L

Code No.

2667



FACULTY OF PHARMACY
B.Pharmacy III Year I Semester (Main)
Examination, October/November 2012
MEDICINAL CHEMISTRY – I

Time: 3 Hours]

[Max. Marks: 70

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

1. a) Write about phase – II reactions of drug metabolism with examples. 7
- b) Explain the importance of bioisosterism in drug design. 7
- OR
- a) Explain the importance of pro-drug and soft drug approach. 8
- b) Explain about :
 - i) Hydrogen bonding
 - ii) Ionization
 - iii) Surface activity in relation to drug activity. 6
2. a) Explain the chemistry and mechanism of action of skeletal muscle relaxants. 6
- b) Write the SAR of β -blockers with examples. 8
- OR
- a) Give the synthesis and therapeutic uses of :
 - i) Prazosin
 - ii) Carbachol
 - iii) Meprobamate. 9
- b) List two drugs used as antispasmodics outline the synthesis of one of them. 5
3. a) Give the synthesis, mechanism of action and uses of the following :
 - i) Verapamil
 - ii) Clofibrate
 - iii) Captopril. 9
- b) List the vasodilators and write structure and uses. 5
- OR
- a) Explain mechanism of action and therapeutic uses of cardiac glycosides. 6
- b) Write the SAR of ACE inhibitors. 8



Code No. : 2667

4. a) Write about antithyroid agents. 6
b) Write about anti-platelet drugs. 8
OR
a) Write a short notes on positive inotropic agents. 6
b) Give the synthesis of :
i) Glyclazide
ii) Amiloride. 8
5. a) Give the mechanism of action and synthesis of warfarin. 6
b) Write a short notes on proton pump inhibitors and coagulants. 8
OR
a) Give the SAR of any two classes of H_1 -antihistaminics. 6
b) Give the synthesis of :
i) Diphenhydramine Hcl
ii) Warfarin sodium. 8
-

7/11/12 F.V - O/C

Code No. : 2669

FACULTY OF PHARMACY
B.Pharmacy III Year I Semester (Main) Examination, Oct./Nov. 2012
PHYSICAL PHARMACY – I

[Max. Marks: 70]

Time: 3 Hours]

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

1. a) i) Write a note on intermolecular forces. How do they influence the melting point or boiling point ? 6
ii) What are solid dispersions ? 3
iii) Explain Differential Thermal Analysis. 5
- OR 7
- b) i) Explain the Kinetic Molecular theory. 4
ii) State the Clausius-Claypeyron equation and give its uses. 3
iii) What is Refractive index ? 7
2. a) i) State and explain the first law of thermodynamics. 7
ii) Explain Hess's Law of Heat Summation and give its applications. 7
- OR 7
- b) i) State and explain the second law of thermodynamics. 7
ii) Give the definitions of sensible heat, latent heat, internal energy, enthalpy, heat capacity, specific heat and heat of transition. 7
3. a) i) What are the differences between ideal solutions and real solutions ? 5
ii) Explain Arrhenius, theory of electrolytic dissociation. 5
iii) Derive an equation for finding the hydrogen ion concentration in ionization of weak acid. 4
- OR 7
- b) i) Explain colligative properties of solutions of non-electrolytes. 7
ii) Discuss the modern theory of strong electrolytes. 7



Code No. : 2669

4. a) i) Explain common ion effect and buffer capacity. 7
ii) Discuss biological buffer systems. 7

OR

- b) i) Explain methods of adjusting isotonicity. 9
ii) Give the procedure for the preparation of pharmaceutical buffers. 5
5. a) i) Write a note on different types of electrodes. 9
ii) Discuss promoters and inhibitors in catalysis. 5

OR

- b) i) Write a note on electrochemical cells and give applications of
Oxidation Reduction Potentials. 9
ii) Give the mechanism of simple catalytic reactions. 5
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5/5/2012 A-N o/c

Code No. : 6520/S

FACULTY OF PHARMACY
B.Pharmacy III Year I Semester (Suppl.) Examination, April/May 2012
PHARMACOGNOSY – II

Time: 3 Hours]

[Max. Marks: 70

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

1. a) i) Write the specific chemical tests for detection of indole alkaloids with chemical composition of the reagents. 6
ii) Describe chief anatomical features of nuxvomica and cinchona. Give biological source, chemical nature of active constituents and uses of them. 8

OR

- b) i) Write biological source, chemical constituents and uses of Shankapushpi. 6
ii) Write informative notes on Punernava and Lobelia. 8
2. a) i) Write the sources, chemistry, uses, test of Anthraquinone glycosides. 8
ii) Write biological source, structure and chemical nature of digoxin and stropanthidin. 6

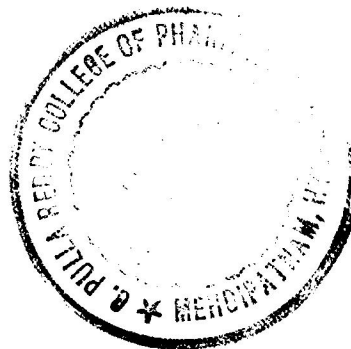
OR

- b) i) Write biological source, chemical nature of charantin and with a farin. 6
ii) Write chemical classification of glycosides with suitable examples and discuss the general test for glycosides. 8
3. a) i) Discuss the isolation methodology of
i) Sennosides from senna.
ii) Rutin from citrus fruits. 6
ii) Write informative notes on :
i) Artemesia.
ii) Podophyllum. 8

OR

- b) i) Write the structure, chemical nature, a test for identification and uses of :
i) Guggulsterones 6
ii) Curcumin. 8
ii) Describe the chemistry and methods for isolation of volatile oils. 8

(This paper contains 2 pages)





Code No. : 20/S

4. a) i) List the plant tissue culture techniques. Write a brief notes on merits and demerits of plant tissue culture for production of secondary metabolites. 8
ii) Mention the types of matrix used in the immobilised plant cell culture technology. 6

OR

- b) i) Write about clonal propagation and biotransformation with its advantages. 10
ii) Write about organogenesis. 4

5. a) i) Write informative notes on quality control and standardisation of raw materials used in herbal medicines. 6

- ii) Write exhaustive notes on Asavas and Aristas emphasising on their formulation and standardization. 8

OR

- b) i) Write briefly on the following :

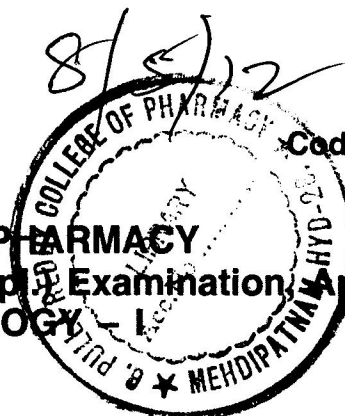
a) Bhasmas

b) Churnas

c) Aristas

d) Leyhas.

- ii) Discuss on Indian traditional systems of medicine. 8
6



Code No. : 6521/S

FACULTY OF PHARMACY
B. Pharmacy III Year I Semester (Suppl. Examination) April/May 2012
PHARMACOLOGY - I

Time: 3 Hours]

[Max. Marks: 70

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

1. What is biological half life and its clinical importance ? What are various routes of drugs administration ? Give their relative merits and demerits. 14

OR

Write about various mechanisms of drug action. Explain receptor mediated drug actions in detail. 14

2. Write in detail the pharmacological actions of acetylcholine. Write the mechanism of action and therapeutic uses of anticholinesterases. 14

OR

Give the classification of adrenergic drugs with examples. Write about the pharmacological actions and uses of β -adrenergic blockers. 14

3. Define "Sedative and "Hypnotic". Write the pharmacological, actions, therapeutic uses and adverse effects of barbiturates. 14

OR

What is Parkinsonism ? What are the drugs used ? Write the mechanism of action, therapeutic uses and adverse effects of dopaminergic drugs. 14

4. What is angina pectoris ? Give the classification of antianginal drugs. Write the mechanism of action and therapeutic uses of nitrates. 14

OR

Give the classification of antihypertensive drugs. Write about the mechanism of action, pharmacological effects and therapeutic uses of ACE inhibitors. 14

5. Write various causes/conditions and mechanism involved in emesis. Give the classification of antiemetics. Write about anticholinergics as antiemetic drugs. 14

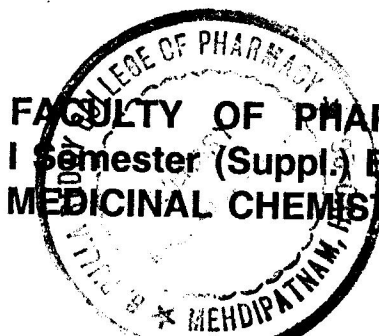
OR

What are the manifestations hyper secretions in the stomach ? Give the classification, pharmacological actions and therapeutic uses of prokinetic drugs. 14



25/4/2012 A.N.O/C

Code No. : 6517/S



B.Pharmacy III Year I Semester (Suppl.) Examination, April/May 2012
MEDICINAL CHEMISTRY – I

Time: 3 Hours]

[Max. Marks: 70

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

1. a) i) Explain how physicochemical properties like solubility and chelation influence the biological action of drug molecules. 6
ii) Explain in detail bio-isosterism with suitable examples. Give its significance. 8

OR

- b) i) Describe different pro-drug approaches involved in the prolongation of drug activity and masking the drug toxicity. 7
ii) Discuss in detail conjugation reactions involved in drug metabolism. 7

2. a) Classify Ganglionic blocking agents and skeletal muscle relaxants with suitable examples. Write the structure of pentolinium tartarate and meprobromate. 8

- b) Write the synthesis of
i) Salbutamol
ii) Mecamylamine.

OR

- c) Discuss in detail mechanism of action of adrenergic blocking agents. Give their uses. 6
d) Write the synthesis of
i) Atenolol
ii) Dicyclamine HCl.

3. a) i) Identify at least one drug for the following chemical category and give the structure and chemical name and its :

- A) Imidazolidinylidene with α_2 -adrenergic agonist
B) Benzothiazepine with anti-arrhythmic action
C) Diphenylalkylamine with vasodilator action
D) Steroidal compound with positive inotropic action. 8

- ii) Write a note on anti-platelet drugs. 6

OR



- b) i) Classify cardiac glycosides. Discuss in detail mechanism of action for cardiac glycosides. What are the synthetic analogs of cardiac glycosides ? 9
ii) Write a note on vasodilators with suitable examples. 5
4. a) i) Give the mechanism of action and synthesis of acetazolamide and amiloride. 8
ii) Write the structure, general mechanism and uses of tolbutamide. 6

OR

- b) i) Classify thyroid agents and anti-thyroid agents with suitable examples. Give its therapeutic uses. 8
ii) Discuss in detail structural activity relationship for tolbutamide drug. 6
5. a) i) Classify anti-histaminic agents. Discuss in detail mechanism of action of H_1 -antagonist. 6
ii) Write the mechanism of action of proton pump inhibitors. Write the structure, chemical name, mechanism of action and uses of omeprazole. 8

OR

- b) i) Give the metabolism of Ranitidine, Citrizine and Omeprazole. 6
ii) Write a note on coagulant and anticoagulant agents. Give their significance. 8
-

28/4/2012 A.N.-O/C



Code No. : 6518/S

FACULTY OF PHARMACY

B. Pharmacy III Year I Semester (Suppl.) Examination, April/May 2012
PHARMACEUTICAL TECHNOLOGY (Pharmaceutics – II)

Time : 3 Hours]

[Max. Marks : 70

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

1. a) Write note on the following as excipients

- i) Anti oxidants
- ii) Hydro colloids
- iii) Surfactants
- iv) Vehicles.



3
4
4
3

OR

b) Explain the specifications and standards for empty gelatin capsules. Explain the steps of formulation, filling and sealing of capsule manufacture.

14

2. a) i) Define 'emulsion' state the different types of emulsions and also how will you distinguish them.

7

ii) What do you mean by cracking of emulsion ? State the various reasons for the cracking of emulsion.

7

OR

b) i) Define the term 'suspension'. Explain different types of additives which are used in the preparation of suspensions.

7

ii) Discuss the different types of suspensions. How will you evaluate the suspensions ?

7

3. a) Explain the advantages of granulation techniques. Classify granulation and explain the characters of each type.

14

OR

b) i) Write a note on film coating and enteric coating of tablets.

9

ii) Explain equipments involved in coating.

5



4. a) i) Write note on the importance of the aseptic technique and laminar air flow services used during manufacturing of parenterals. 9
- ii) Explain quality control tests for parenterals. 5

OR

- b) State the requirements, formulation and evaluations of ophthalmic in detail. 14
5. a) Explain the term aerosols. State the requirements for the formulations of stable aerosols. Classify aerosols, add a note on containers and closure used for packaging. 14

OR

- b) i) Write a note on propellants used in aerosols. 7
- ii) Write a note on the influence of containers on stability studies of aerosols. 7

2/5/12 A.W o/c



Code No. : 6519/S

FACULTY OF PHARMACY
B. Pharmacy III Year I Semester (Suppl.) Examination, April/May 2012
PHYSICAL PHARMACY – I

Time: 3 Hours]

[Max. Marks: 70

Note : Answer all questions.

All questions carry equal marks.

1. a) i) Explain the principle and applications of Differential Scanning Calorimetry. 7
ii) Write a note on polymorphism. 7
OR
- b) i) Explain the application of phase rule in a two component system. 7
ii) Write a note on intermolecular forces. 7
2. a) i) Explain Hess's law of Heat summation and give its application. 7
ii) Define specific heat, sensible heat, internal energy and enthalpy. 7
OR
- b) i) State and explain the first law of thermodynamics. 7
ii) Write a note on Gibb's Free Energy and the applications of this concept. 7
3. a) i) Explain colligative properties of solutions of non-electrolytes. 7
ii) Explain Debye-Huckel theory. 7
OR
- b) i) Discuss Arrhenius theory of electrolytic dissociation. 7
ii) Discuss Lewis theory of acids and bases and the ionisation of weak acids. 7
4. a) i) Derive the buffer equation for weak acid and its salt. 7
ii) Explain any two methods of adjusting isotonicity. 7
OR
- b) i) Write a note on buffer capacity and its calculation. 7
ii) Write a note on in vivo biological buffer systems. 7
5. a) i) Explain the operation of an electrochemical cell with a neat diagram. 7
ii) Explain the mechanism of simple catalytic reactions. 7
OR
- b) i) Write a note on glass electrode. 7
ii) Discuss the factors affecting catalysis. 7

