Total No. of Questions : 6] **SEAT No. :**

P3253 **[Total No. of Pages : 2**

[4849] - 11
First Year B. Pharmacy
PHARMACEUTICS - I
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) Attempt any one.

Define Bioavailability, Discuss factors affecting drug absorption . **[10]**

OR

Define Dosage form. Discuss the classification of dosage form and add a note on targeted drug delivery.

Q2) Attempt any Five : **[15]**

a) What is Pharmacopoeia? Add a note on Indian Pharmacopoeia
b) Describe Homoeopathy as an alternate system of medicine.
c) Describe various packages for tablets.
d) Explain the development of pharmacy profession in India.
e) Enlist the different routes of drug administration; explain in brief regarding nasal route of drug administration
f) Explain the ideal characteristics of packaging materials
g) Explain the development of pharmaceutical Industry in India.

Q3) Write short notes (Any Three) : **[15]**

a) Additives used in dosage forms.
b) Dose response curve for multiple dose administration.
c) Sustained release drug delivery.
d) Phases of clinical trials.
e) Containers and closures for liquid orals.

P.T.O.

SECTION - II

Q4) Explain the mechanism of powder mixing. Describe principle, construction and working of planetary mixer. **[10]**

OR

Explain different methods of granulation, Explain environmental controls required for manufacturing of effervescent granules.

Q5) Solve any five (3 marks each × 5). **[15]**

a) Draw well labelled diagram of leaf filter.

b) Write a note on dry syrup formulation for reconstitution.

c) Discuss the importance of size separation in pharmacy.

d) Write a note on pouch filling machine.

e) Define sieve number. What are various grades of powders as per IP?

f) Describe theory of filtration.

g) Explain in detail factors affecting on rate of solution.

Q6) Solve any three. (5 marks each × 3) **[15]**

a) Discuss importance of size reduction in pharmacy. Explain principle & working of fluid energy mill.

b) Explain in details methods used to improve solubility.

c) What are simple and medicated linctuses? Mention their formulation and evaluation.

d) Discuss formulation and manufacturing process involved in liquid oral preperations.

e) What are Syrups? Give an account of syrup IP. Add a note on artificial syrup.

Total No. of Questions : 6]

SEAT No. :

P3254

[Total No. of Pages : 2

[4849] - 12

First Year B. Pharm

MODERN DISPENSING PRACTICES

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) Answer any one. **[10]**

a) Give in detail steps involved in patient counseling and elaborate on patient counseling of cosmetic product.

b) Define posology and explain the factors affecting dose calculation.

Q2) Answer any five. **[15]**

a) Write a detail note on idiosyncratic drug reactions

b) Define molarity, normality, millimoles and milliequivalence.

c) What would be the dose of child of 4 and 20 years; if the adult dose is 200 mg.

d) What is ADR, explain reporting of ADR.

e) Give dose calculation formulas for children depending on age.

f) Write a note on drug information service.

g) Give pharmacopoeial storage condition for dispensed product.

Q3) Answer any three. **[15]**

a) 15 g of NaCl occupy a volume 75 ml .What is % of solution.

b) Comment on stability aspect of pharmaceutical product.

c) Comment on building and housekeeping in terms of good compounding and dispensing practices.

d) Write a note on patient counseling for Diabetes.

P.T.O.

SECTION - II

Q4) Solve any one from the following : **[10]**

a) Define Incompatibility in prescription. Explain in detail physical incompatibility.

b) Define suppositories with advantages and explain displacement value with its importance.

Q5) Solve any five short questions from the following. **[15]**

a) Explain in brief ideal properties of suppository bases.

b) Describe formulation of dusting powders.

c) Describe in brief method for preparation of ointments.

d) Describe structure and design of retail drug store.

e) Describe patient counseling in asthamatic patients.

f) Explain role of pharmacist in family planning.

g) Differentiate between gels and ointments.

Q6) Write a short note on following. (Solve any three) **[15]**

a) Talcum powders

b) Ligatures and sutures

c) Pills

d) Drug interactions.

e) Dusting poeders

● ● ●

Total No. of Questions : 6]

SEAT No. :

P3255

[Total No. of Pages : 2

[4849] - 13

F. Y. B. Pharmacy

1.3 : PHARMACEUTICAL INORGANIC CHEMISTRY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) What are expectorants? Write an assay and physiological roll of ammonium chloride. **[10]**

OR

What are antimicrobials? Write an assay and physiological roll of hydrogen peroxide

Q2) Attempt ANY FIVE of the following : **[15]**

a) Give the brief history of Indian Pharmacopoeia (IP)

b) Write the limit test for lead as per I.P.

c) Assay of ferrous sulphate as per I.P.

d) Explain antimicrobial agents with examples

e) Explain the radioisotopes

f) Soft and Hard Water

g) Discuss the assay of boric acid as per I.P.

P.T.O.

Q3) Write notes on ANY THREE of the following : **[15]**

a) Iodine and its preparations.
b) Phosphate and borate buffers.
c) Anticaries agents.
d) Dentifrices and desensitizing agents.
e) Protectives and adsorbents.

SECTION - II

Q4) Discuss role of Iron in body. Describe in details official preparations of Iron. **[10]**

OR

Define electrolyte and write in details about the physiological acid - base balance with examples.

Q5) Attempt ANY FIVE of the following : **[15]**

a) Assay of sodium chloride.
b) Application of Radiopharmaceuticals.
c) Water for injection.
d) Factors affecting purity of pharmaceuticals.
e) Classify an antidotes.
f) Give the properties and uses of zinc sulphate.
g) Write properties and mode of actions of sodium chloride.

Q6) Write notes on ANY THREE of the following : **[15]**

a) Explain dental products.
b) Nuclear fusion and fission.
c) Antacids.
d) Role of buffers in Pharmaceuticals.
e) Sources of impurities in pharmaceutical substances.

Total No. of Questions : 6] **SEAT No. :**

P3256 **[Total No. of Pages : 2**

[4849] - 14

F.Y. B. Pharmacy

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to right indicate full marks.***
3) ***Answer to the two sections should be written in separate books.***

SECTION - I

Q1) Explain Nitration and Sulphonation of Benzene giving reaction mechanism and examples. **[10]**

OR

Explain briefly the types of substitution nucleoptilic reactions with examples and kinetics. **[10]**

Q2) Solve any five : **[15]**

a) Differentiate between sigma and pi bond.

b) Explain structural Isomerism with example.

c) Compare the stability of primary, secondary and tertiary carbocation.

d) Comment on orientation in mono substituted benzene.

e) Ethylamine is stronger base than Ammonia, give reason.

f) Draw all possible resonance structures for

   i) Nitro benzene

   ii) Benzaldehyde.

g) Draw the structures of following compounds.

   i) 2 methyl propionic acid.

   ii) 3 methyl butanamide.

   iii) 3 chloro pentanal.

P.T.O.

Q3) Answer the following (any three) : **[15]**

a) Write the synthesis of following starting from Benzene

i) 1, 3 dinitro benzene.

ii) Para nitro toluene.

b) Explain substitution nucleophilic reaction at aryl carbon atom.

c) Explain collision and transition state theory.

d) Halogen though electron with drawing are ortho para directing in Electrophilic aromatic substitution of monohalo substituted Benzene.

e) Explain tautomerism with suitable example.

SECTION - II

Q4) What are halogenation reactions? Discuss mechanism and kinetics of addition of Halogens to C - C double bond. **[10]**

OR

What are Elimination reactions? Explain E_1 and E_1cb reactions in detail. **[10]**

Q5) Solve any five. **[15]**

a) Give any two methods of synthesis of amine.

b) How will you prepare ethyl benzoate.

c) Explain hydrogenation reaction with C = C bond.

d) Give any three methods of preparation of phenol.

e) Aniline is basic than methyl amine give reasons.

f) Sulphonic acids is stronger acid than carboxylic acids, give reason.

g) Explain saytzatti's elimination.

Q6) Write short notes on : (any three) **[15]**

a) Dieckman condensation.

b) Cannizaro reaction.

c) Hydrogenation reaction.

d) Ozonolysis.

e) Michael condensation.

Total No. of Questions : 6]

SEAT No. :

P3257

[Total No. of Pages : 2

[4849] - 15

First Year B. Pharmacy

1.5 : HUMAN ANATOMY AND PHYSIOLOGY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to the two sections should be written in separate answerbook.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Define blood pressure. Discuss factors affecting B.P. and add a note on regulation of B.P. **[10]**

OR

Draw a neat labelled diagram of human respiratory system. Explain in detail transport of O_2 and CO_2 during respiration.

Q2) Solve any five. **[15]**

a) Discuss structure of plasma membrane.
b) What are different types of anemia?
c) Explain structure and function of spleen.
d) Draw a neat labelled diagram of interior of heart.
e) Explain functions of lymphatic system.
f) Explain ABO and Rh system.
g) Explain structure of nervous tissue.

Q3) Write short notes on (Any Three) : **[15]**

a) WBC'S.
b) Transfer of material across plasma membrane.
c) Mech. of blood clotting.
d) Conduction system of heart.
e) Physiology of respiration.

P.T.O.

SECTION - II

Q4) Enlist organs of urinary system. Explain in detail structure and functions of kidney. **[10]**

OR

Enlist endocrine glands with hormones secreted by them. Explain functions of hormones secreted by anterior pituitary gland.

Q5) Answer any five. **[15]**

a) Explain structure and functions of testes.

b) Write a note on nephron.

c) Explain structure of skeletal muscle.

d) Explain structure of eye with physiology of vision.

e) Write a note on ventricles of brain.

f) What is reflex are?

g) Explain effect of exercise on respiration.

Q6) Answer any five. **[15]**

a) Write a note on spinal cord.

b) Explain hormones of adrenal cortex.

c) Write a note on menstrual cycle.

d) Write a note on physiology of muscle contraction.

e) Explain role of skin in thermoregulation.

Total No. of Questions : 6]

SEAT No. :

P3258

[Total No. of Pages : 2

[4849] - 16

First Year B. Pharmacy

PHARMACEUTICAL ENGINEERING

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to the two sections should be written in separate answerbook.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) How crystallisers are classified depending upon method of achieving supersaturation? Explain any two types of crystallisers based on principle of adiabatic evapouration. **[10]**

OR

Explain Mier's theory of super saturation with its limitation. Also explain theory of nucleation & crystal growth. **[10]**

Q2) Answer the following (any 5) : **[15]**

a) Explain methods of feeding evaporator.
b) Explain the significance of humidity chart.
c) Explain significance of vapour recompression in evaporation process.
d) Explain fourier's law of heat transfer.
e) Explain the concept of steady state heat transfer.
f) Add a note on Oslo crystalliser.
g) Define the terms humidity, % relative humidity & dew point.

Q3) Write a short notes on (Any Three) : **[15]**

a) Approaches for achieving air conditioning.
b) Climbing film evaporator.
c) Heat trnsfer between fluid & solid boundaries.
d) Swenson - walker crystalliser
e) Boilers.

P.T.O.

SECTION - II

Q4) Define corrosion. Explain in detail about different types of corrosion. **[10]**

OR

Define drying. Explain theory of drying with drying curves. **[10]**

Q5) Answer the following (any five) : **[15]**

a) Explain methods for combating corrosion.

b) Classify liquid-liquid extractors. Explain any one in detail.

c) Explain in detail drum dryer.

d) Explain in detail Azeotropic distillation.

e) Give a note on Orifice meter.

f) Comment on Rotocel Extractor.

g) Explain in detail tunnel dryer.

Q6) Write short notes on (any three) : **[15]**

a) Theories of interphase mass transfer.

b) Fluid flow through packed beds with poiseulli's approach.

c) Molecular distillation.

d) Triangular diagram in Extraction.

e) Venturi meter.

Total No. of Questions : 6] **SEAT No. :**

P3259 **[Total No. of Pages : 2**

[4849] - 17

First Year B. Pharmacy

COMPUTER APPLICATION & BIOSTATISTICS

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory and figures to right indicate full marks.***
2) ***Use of programmable calculator is not allowed and exchange of calculators is strictly prohibited.***
3) ***Use graph papers wherever necessary.***

SECTION - I

Q1) What is hypothesis? Explain in general steps involved in scientific hypothesis testing. **[10]**

OR

Find mean and mode for following data

Variable Range	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14
Frequency	3	5	8	7	4	2	1

Q2) a) Explain the characteristics of standard normal curve. **[3]**

b) Parametric test are more utilized in science than that of non parametric test. Why? **[3]**

c) Explain the equation of straight line in detail. **[3]**

d) Explain the theorem of standard normal distribution. **[3]**

e) Correlation is irrespective of sequence of data. Comment. **[3]**

P.T.O.

Q3) a) Explain factorial design and its application with suitable example. **[5]**

b) Find the equation of regression lines for the following data. **[5]**

Variable X	9	8	9	7	10	8
VariableY	13	12	14	11	14	13

c) Find the coefficient of correlation for the following paired data. **[5]**

Variable X	7	8	6	7	5	8
Variable Y	8	9	7	9	8	7

SECTION - II

Q4) Explain different types of computer output devices. **[10]**

OR

Explain different types of computer memories.

Q5) a) What is RAM? **[3]**

b) Write a note on system backup. **[3]**

c) Draw a block diagram of computer. **[3]**

d) Write a short note on USB drive. **[3]**

e) Explain about power point presentation. **[3]**

Q6) a) What is internet? Explain types of networking. **[5]**

b) Explain five important features of MS-Excel with examples. **[5]**

c) Write short note on Mouse. **[5]**

Total No. of Questions : 6]

SEAT No. :

P3260

[Total No. of Pages : 2

[4849] - 21

S. Y. B. Pharmacy

PHYSICAL PHARMACY

(2008 Pattern) (Revised)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to the two sections should be written on separate answer sheets.***
3) ***Neat diagram must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Explain Nernst's distribution law and pharmaceutical significance of partition coefficient. **[10]**

OR

Explain various methods of liquefaction of gases. Add a note on principle of aerosols.

Q2) Answer in brief : (Any 5) **[15]**

a) Theory of ideal gases.

b) Write a note on sensitization & protective colloids.

c) Explain freezing point depression as a colligative property.

d) Write a note on properties of lyophobic colloids;

e) Write a note on glass transition temperature.

f) Raoults law.

P.T.O.

Q3) Short notes : (Any 3) **[15]**

a) Solute-solvent interactions

b) Gibbs phase rule & one component system

c) Steam distillation

d) Electrical double layer

e) X-ray crystallography

SECTION - II

Q4) Define adsorption isotherms and draw various types of adsorption isotherms and explain their behavior. **[10]**

OR

Discuss the application and limitations of Arrhenius equation in the stability testing of pharmaceuticals. **[10]**

Q5) Answer in brief : (Any 5) **[15]**

a) Explain why suspensions mostly follow zero order.

b) What is HLB? Describe one method to determine the same.

c) Define Half life and shelf life.

d) Differentiate between Single point viscometer and Multiple point viscometer.

e) Differentiate between shear thinning and Shear thickening systems.

f) Differentiate between surface and interfacial tension.

g) Define Molecularity and order of reaction.

Q6) Write short notes on (Any 3) : **[15]**

a) USP Dissolution Test apparatus Type II.

b) Sedimentation method for particle size determination.

c) Capillary rise and DuNouy ring method for surface tension determination.

d) Viscoelasticity.

e) Derived properties of powders.

Total No. of Questions : 6]

SEAT No. :

P3261

[Total No. of Pages : 2

[4849] - 22

Second Year B. Pharmacy

PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) How will you calculate time require for each generation of bacteria? Explain growth curve of bacteria. **[10]**

OR

Write the types and functions of the following components of a compound microscope.

i) Eyepiece

ii) Objectives

iii) Mirror

Q2) Answer the following (any five) : **[15]**

a) Explain in short 'Whittaker's five kingdom concept'.

b) What is 'Koch's postulates'?

c) Write in short characteristics of 'salmonella'

d) Write the functions of 'bacterial capsules'.

e) Draw the structure of 'bacteriophage'.

f) Write general characters of 'Rickettsia'.

g) Explain the importance of following :
   i) Penicillium species ii) SEM.

P.T.O.

Q3) Write a note on (any three) : **[15]**

a) Importance of actinomycetes

b) HIV.

c) Types of microbial spoilage.

d) Total aerobic microbial count.

e) Dermatophytes.

SECTION - II

Q4) What are the main sources of contamination of an aseptic area? How will you prevent it? **[10]**

OR

Explain in detail production and applications of monoclonal antibodies.

Q5) Answer the following (any five) : **[15]**

a) Write the importance of microbial assays.

b) Explain general quality control tests for vaccines.

c) Explain :-

i) D-value

ii) Endotoxins.

d) Differentiate between immediate hypersensitivity and delayed hypersensitivity.

e) Write different factors which affect disinfectant action.

f) Write about diluting fluids used for sterility testing.

g) Explain 'sterilization by radiations'.

Q6) Write a note on (any three) : **[15]**

a) IgA.

b) ELISA.

c) MIC.

d) DPT

e) RW test

Total No. of Questions : 6]

SEAT No. :

P3262

[Total No. of Pages : 2

[4849] - 23

Second Year B. Pharmacy

PHARMACEUTICAL BIOCHEMISTRY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***Answer to the two sections should be written in separate answer book.***
2) ***Q. No. 1 and Q. No. 4 are compulsory.***
3) ***Neat diagram must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) Define Biomembrane. Explain function and properties of Biomembrane and Transportation across biomembrane. **[10]**

OR

Define and classify proteins with one structure from each class what is isoelectric PH and different PPt methods of proteins.

Q2) Solve any five : **[15]**

a) Explain in short Enzyme specificity.

b) Oxidative phosphorylation.

c) Define carbohydrates and give classification of the same. Give an example from each category.

d) Transamination.

e) Importance of NADPH.

f) Functions of phospholipids.

g) Colour reactions of amino acid.

P.T.O.

Q3) Solve any three. **[15]**

a) Describe cell organelles and their role in Eukaryotes.

b) Biosynthesis of cholesterol.

c) Ketogenesis.

d) Biosynthesis of porphyrins.

e) Primary structure of protein.

SECTION - II

Q4) Write in detail about transcription Reverse transcription and post transcriptional modifications in Eukaryotes. **[10]**

OR

Write in detail Replication of DNA in Prokaryotic cell and give the role of telomere in cancer therapy.

Q5) Solve any five. **[15]**

a) Disease states of copper.

b) BMR.

c) Kwashiorkor and marasmus.

d) Acid base balance.

e) Marker enzyme.

f) Lipoprotein disorder.

g) Factors affecting regulation of Ca level.

Q6) Solve any three. **[15]**

a) Metabolism of Iron.

b) Vitamin A

c) ELISA.

d) Renal clearaue test.

e) Test for bile pigment metabolism in jaundice.

● ● ●

Total No. of Questions : 8]

SEAT No. :

P3263

[Total No. of Pages : 3

[4849] - 24

S.Y. B. Pharmacy

2.4 : PHARMACEUTICAL ORGANIC CHEMISTRY - II

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

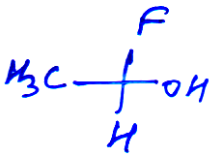
Instructions to the candidates:

1) *Questions 1 & 5 are compulsory. out of remaining solve any 2 questions from each section.*
2) *Answers of 2 sections should be written on 2 separate answer sheets.*
3) *Figure to the right indicates marks of questions.*

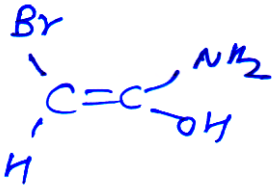
SECTION - I

Q1) a) Assign configuration. **[6]**

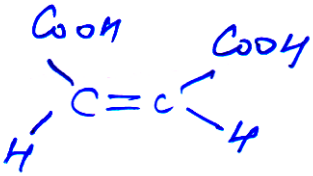
i)



ii)



iii)



b) Write a note on isoelectric point. **[4]**

P.T.O.

Q2) Define & classify amino acids & add a note on streeker synthesis & Gabriel phthalamide synthesis. **[15]**

Q3) Describe conformational analysis of ethane in detail with energy profile diagram. **[15]**

Q4) Write a short note on followings (any 3) : **[15]**

a) Two methods of racemic resolution.

b) Combinatorial chemistry.

c) Peptide bond.

d) Structure of fructose.

SECTION - II

Q5) Give any 2 methods of synthesis with reaction mechanism (any 2) : **[10]**

a) Indole

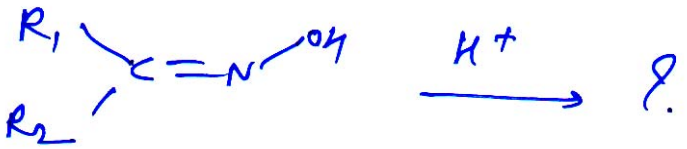
b) Furan

c) Pyrole

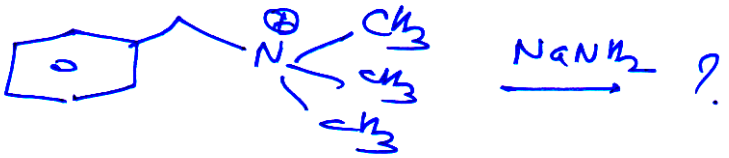
Q6) Explain reaction & mechanism of Baeyer - villiger oxidation & pinacol rearrangement. **[15]**

Q7) Predict the product & write reaction mechanism (any 3) : **[15]**

a) 

b) 

c) 

d) 

Q8) Answer the followings (any 3) : **[15]**

a) Define heterocyclic compounds. Give structure & numbering of furan, thiophene & isoxazole.

b) Retrosynthesis of ciprofloxacin.

c) Rules for disconnection.

d) Dakin oxidation.

● ● ●

Total No. of Questions : 6]

SEAT No. : ____

P3264

[Total No. of Pages : 2

[4849] - 25

Second Year B. Pharmacy

PHARM. ANALYSIS - I

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***Answers to the Two sections should be written in separate books.***
2) ***All questions are compulsory.***
3) ***Figures to the right indicate full marks***
4) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) Solve any one of the following : **[10]**

Explain Principle, instrumentation and applications of Conductometric titration.

OR

Write about theory of Oxidation-Reduction titration. Discuss in detail about Iodine titration. Add a note on assay of Hydrogen Peroxide (H_2O_2) solution.

Q2) Solve any five of the following : **[15]**

a) Write about Buffers, buffer index, and mechanism of buffer action.

b) Note on : Assay of Ferrous Sulphate

c) Write about Mixed indicators and Universal indicators

d) Discuss in brief about indicators and titrants used in determination of weak acidic substances.

e) Note on : Applications of Polarimetry

f) Discuss about Dichromate titration.

g) Note on : Titanus chloride titration

P.T.O.

Q3) Solve any three of the following : **[15]**

a) Note on: Permanganate titration

b) Theories of Acid-Base indicators

c) Cerriometric titration.

d) High frequency titrations.

e) Note on : Assay of $CuSO_4$

SECTION - II

Q4) Solve ANY ONE : **[10]**

a) What are unit operations in gravimetry? Discuss the step of "washing the residue" in details.

b) What is the method for the determination of organically bound nitrogen?

Q5) Solve ANY FIVE : **[15]**

a) Discuss precipitation from homogenous solution.

b) What are advantages of organic precipitants in gravimetry?

c) Explain the concept of "Masking-Demasking"

d) Discuss methods of determination of organomercurials.

e) What is the importance of Standard deviation in analytical determinations?

f) Write the method of standardization of 0.05M EDTA solution

g) What are indicator electrodes?Write in brief about Glass electrode.

Q6) Write short notes on (ANY THREE) : **[15]**

a) Assay of organically bound Iodine

b) Gay Lussacs method.

c) Tests of Significance

d) Determinate errors

e) Metallochrome indicators.

Total No. of Questions : 6] **SEAT No. :**

P3265 **[Total No. of Pages : 2**

[4849] - 26

Second Year B. Pharmacy

PHARMACOGNOSY - I

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***Answers to the Two sections should be written in separate books.***
2) ***All questions are compulsory.***
3) ***Figures to the right indicate full marks.***
4) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) Give the advantages of cultivation of crude drugs and describe the factors affecting cultivation. **[10]**

OR

Define Adulteration and describe various methods of adulteration with suitable examples of each.

Q2) Answer the following (Any five) : **[15]**

a) Give the contribution of Alexander Fleming and Hippocrates to the field of Pharmacognosy.

b) Explain the collection methods of Barks.

c) Write a brief account on Pectin.

d) Give the chemical tests for Gum Tragacanth.

e) Explain the anatomy of Seeds.

f) Give the biological source, chemical constituents and uses of Carrot and Fenugreek.

g) Differentiate between Gums and Mucilage.

P.T.O.

Q3) Write a short note on (Any three) : **[15]**

a) Ergastic cell contents
b) Manufacturing process of Starch from Potato
c) Stomata
d) Maceration

SECTION - II

Q4) Define Extraction and describe Continuous solvent extraction method with its merits and demerits. **[10]**

OR

Define and enlist the types of Evaluation of crude drugs and explain in detail Ash values and its types.

Q5) Answer the following (Any five) : **[15]**

a) Explain the role and importance of Auxins.
b) Explain the Fundamental tissue system.
c) Differentiate between Organised and Unorganised drugs.
d) Explain the Karl Fischer method for determining moisture content in crude drugs.
e) Explain the different methods of classification of crude drugs.
f) Explain the Sexual methods of propogation.
g) Give the chemical tests for Silk and Jute.

Q6) Write a short note on (Any three) : **[15]**

a) Cotton
b) Cellulose
c) Bentham and Hooker system of classification
d) Honey

● ● ●

Total No. of Questions : 6] **SEAT No. :**

P3266 **[Total No. of Pages : 2**

[4849] - 27

Second Year B. Pharmacy

2.7 : PHARMACOLOGY - I

(Including Pathophysiology)

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) Enlist processes of elimination of drug. Discuss the factors affecting reneal excretion. **[10]**

OR

Define & classify receptor. Describe Ligand gated ion channels in detail.

Q2) Solve any five of the following : **[15]**

a) Classify the co-aggulant with examples.

b) Enlist the various routes of administration. Write the advantages of parentral route of administration.

c) Define adverse drug reaction, thrombolytics, therapeutic index.

d) Discuss in short disease target for gene therapy.

e) Define viral vectors. Enlist the various viral vectors utilized for gene therapy.

f) Explain the term antagonism with suitable examples.

g) Enlist the factors affecting absorption.

P.T.O.

Q3) Write note on following (any three) : **[15]**

a) Anti hyperlipidemics.

b) Therapeutic drug monitering.

c) Drug treatment in geriatric patients.

d) Nuclear Receptor.

e) Auto coids.

SECTION - II

Q4) Define and classify congestive cardiac failure. Discuss in detail its pathophysiology. **[10]**

OR

Define and classify Hepatitis. Explain in detail its pathophysiology.

Q5) Solve any five of the following : **[15]**

a) Define and classify depression.

b) Write the etiology of tuberculosis.

c) Write caustive micro organisms for amoebic and bacilliary dysentry.

d) Define ulcer. Enlist its types.

e) Explain pathophysiology of Hepatitis B.

f) Write the etiology of asthma.

g) Define & classify epilepsy.

Q6) Write note on following (any three) : **[15]**

a) Malignancy.

b) Inflammation.

c) Asthma.

d) Alzeimers disease.

e) Urinary tract infection.

Total No. of Questions : 6] **SEAT No. :**

P3267 **[Total No. of Pages : 2**

[4849] - 31

T. Y. B. Pharmacy

PHARMACEUTICS - II

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Answers to the two sections should be written in separate books.***
4) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) What is preformulation? Describe bulk characterization studies carried out in preformulation with their significance. **[10]**

OR

Explain in detail IP 2010 evaluation tests for tablets along with specifications.

Q2) Attempt any five. (3 marks each × 5) **[15]**

a) Describe various evaluation tests for granules.
b) Explain process of fluid bed coating.
c) Explain the filling principles in capsule filling machine.
d) Describe characteristic required by tablet core for coating operation.
e) Give importance of pKa as preformulation tool.
f) Give construction and working of rapid mixer granulator with diagram.
g) What is base adsorption? Explain its significance.

Q3) Attempt any three (5 marks each × 3). **[15]**

a) Describe capping and picking defects in tableting and remedies there of
b) Give an account of various excipients used in tableting.
c) Give an account of various packing materials for tableting.
d) Give an account of different approaches to formulation of mouth dissolve tablets.
e) Describe various steps in sugar coating operation of tablets.

P.T.O.

SECTION - II

Q4) What are disperse systems? Discuss thermodynamic considerations involved in the formulation development of an emulsion. Explain in detail about creaming, cracking and phase inversion in emulsion. **[10]**

OR

Classify and explain in detail ointment bases with examples.

Q5) Solve any five (3 marks each × 5). **[15]**

a) Explain formulation aspects of nail lacquer preparation.

b) Discuss the role of wetting agent in suspension.

c) Give an account of different classes of ingredients used in shampoo.

d) Discuss the concept of multiple emulsions. What are its applications?

e) Explain evaluation tests for lipstick.

f) Explain mechanism of action of sunscreen preparations.

g) Give an account of formulation of vanishing cream.

Q6) Write short notes on any three (5 marks each × 3) : **[15]**

a) Hair dyes.

b) Suspension and emulsion manufacturing equipments.

c) Cold cream.

d) Alpha and beta hydroxy acids.

e) Depilatories.

Total No. of Questions : 6]

SEAT No. :

P3268

[Total No. of Pages : 2

[4849] - 32

Third Year B. Pharmacy

3.2 : PHARMACEUTICAL BIOTECHNOLOGY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) Define Biotechnology, Recombinant DNA. Write application of Biotechnology to Pharmaceutical Industry. **[10]**

OR

Write steps involved in recombinant DNA technology, give an account of restriction enzymes.

Q2) Solve any five. **[15]**

a) Write role of alkaline phosphatase & s_1 nuclease.
b) Write in short about M_{13} bacteriophase.
c) What is expression vector. write its importance.
d) What is cosmid. write its importance.
e) What are linkers & adducters.
f) What are benefits of CDMA.
g) What is role of B galactosidase.

Q3) Solve any three (5 marks each) **[15]**

a) Give detail account of host used in rDNA Technology.
b) Draw structure and components of PBR322.
c) Explain genetic engineering of plant.
d) What is blotting? Explain southern blotting.
e) Write different methods of DNA sequencing.
f) Write principle, components & application of PCR.

P.T.O.

SECTION - II

Q4) Define hybridoma technology. Explain in brief preparation and application of monoclonal antibodies. **[10]**

OR

Explain manufacturing & downstream processing of streptomycin.

Q5) Attempt any five. **[15]**

a) Eloborate in detailed steps involve in In Vitro fertilization.

b) RIA.

c) Production & application of vitamin B_2.

d) Techniques use for processing & storage of blood & blood product.

e) Techniques & application of Recombinant vaccines.

f) Methods follow for Effluent treatment of fermented product.

g) Application & production of Insulin.

Q6) Write note on any three : **[15]**

a) Techniques & application of Enzyme immobilization.

b) Edible vaccines.

c) Techniques of freezing germ cells

d) Production & application of somatotropin.

e) Safety & efficacy of Biological product.

● ● ●

Total No. of Questions : 6]

SEAT No. :

P3269

[Total No. of Pages : 2

[4849] - 33

T.Y. B. Pharmacy

MEDICINAL CHEMISTRY - I

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to the two sections should be written in separate answer sheets.***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Write the MOA of antianginal drugs, Classification with one example of each class. **[10]**

OR

Write in detail metabolic transformation Phase I and Phase II (Conjugation) reaction of drugs.

Q2) Solve ANY FIVE of following : **[15]**

a) Discuss design and development of drug.
b) Write synthesis of Propranol.
c) Write about factors affecting drug receptor interaction and explain any one.
d) Discuss the ferguson principle.
e) Outline the synthesis of salbutamol.
f) Discuss the muscarinic receptors.
g) Discuss the chemistry of acetyl choline.

Q3) Write short notes on ANY THREE of the following : **[15]**

a) Anti hypertensive agents
b) Outline the synthesis of Atenolol
c) Anti cholinesterase
d) Antiarrythmic agents
e) Protein binding

P.T.O.

SECTION - II

Q4) Classify CNS stimulants and discuss chemistry of antipsychotic agents and Write synthesis of Diazepam. **[10]**

OR

Classify anti-alzheimers agents with structure of one drug from each class. Discuss SAR of phenothiazines. Write synthesis of haloperidol.

Q5) Solve ANY FIVE of following : **[15]**

a) Discuss all anaesthetic agents.

b) Write synthesis of dicyclomine hydrochloride.

c) Write synthesis of Chlorpromazine.

d) Discuss chemistry of major tranquilizers.

e) Classify antiparkinson agents with structure of one drug from each class.

f) Differentiate between prodrugs and soft drugs.

g) Discuss drugs used to treat migraine.

Q6) Write short notes on ANY THREE of the following : **[15]**

a) Tricyclic anti depressants.

b) Central stimulants.

c) Anti convulsant agents.

d) Diagnostic agents.

e) Write synthesis of alprazolam and trifluperazine.

Total No. of Questions : 6] **SEAT No. :**

P3270 **[Total No. of Pages : 2**

[4849] - 34

T.Y. B. Pharmacy

3.4 : PHARMACEUTICAL ANALYSIS - II

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answer to the two sections should be written in separate answer books.***
3) ***Neat diagram must be drawn wherever necessary.***

SECTION - I

Q1) Classify electroanalytical techniques and describe instrumentation and applications of Polarography. **[10]**

OR

What is column chromatography. Explain Van Deempter equation. How it is useful in setting column conditions.

Q2) Attempt any five questions from followings. **[15]**

a) Explain the principle of Paper chromatography.
b) Explain in detail concept of Molecular luminescence.
c) Give applications of Refractometry.
d) Give advantages and disadvantages of Instrumental methods of analysis.
e) Give applications of HPTLC.
f) Give principle of Flame photometry.
g) Give principle behind electrophoresis.

Q3) Write note on Any Three. **[15]**

a) Abbe's Refractometer.
b) Development techniques in Paper Chromatography.
c) Quenching.
d) Applications of Atomic Absorption Spectroscopy.

P.T.O.

SECTION - II

Q4) What is EMR? Give the wave properties of it. Classify different analytical methods based on interaction of EMR with material to be analyzed. **[10]**

OR

What are different methods of thermal analysis. Explain factors affecting thermogravemetric analysis.

Q5) Attempt any five questions from following : **[15]**

a) Explain :

i) Chromophore

ii) Auxochrome

iii) Bathochromic shift

iv) Hypsochromic shift

b) State and Explain Beers - Lamberts Law.

c) Explain Biaamperometric titrations.

d) Give applications of Nephalometry and turbidometry.

e) Explain difference between single beam and double beam instrument with diagram.

f) Give applications ofthermogravimetric analysis.

g) Explain derivative spectroscopy.

Q6) Write note on any three : **[15]**

a) Radiation sources in UV-Visible spectroscopy.

b) DSC

c) Spectrophotometric titrations.

d) Applications of UV-visible spectroscopy.

Total No. of Questions : 6] **SEAT No. :**

P3271 **[Total No. of Pages : 2**

[4849] - 35

T. Y. B. Pharmacy

PHARMACOLOGY - II

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***
3) ***Draw neat labeled diagrams wherever necessary.***
4) ***Answer to the two sections should be written in separate answer book.***

SECTION - I

Q1) Classify the sympatholytics. Discuss mechanism of action, pharmacological actions, therapeutic uses, and adverse drug reactions of propranolol. **[10]**

OR

Classify benzodiazepines. Discuss mechanism of action, pharmacological actions, therapeutic uses, and adverse drug reactions of diazepam.

Q2) Answer the following (any five) : **[15]**

a) Write the therapeutic uses of indirectly acting cholinergic drugs.
b) Classify neuromuscular blocking agents. Write the therapeutic uses of them.
c) Write the therapeutic uses and adverse drug reactions of α-agonists.
d) Write the therapeutic uses and adverse drug reactions of alprazolam.
e) Classify antiepileptic drugs.
f) Write the adverse drug reactions and drug interactions of MAO inhibitors.
g) Write the mechanism of action of morphine.

Q3) Write short note on (Any three) : **[15]**

a) Belladonna poisoning.
b) Ganglion stimulant's.
c) Alcohol intoxication and its treatment.
d) Pre-anesthetic medication.
e) NSAIDs.

P.T.O.

SECTION - II

Q4) Describe the biosynthesis, metabolism and excretion testosterone. Add a note on antifertility agents. **[10]**

OR

Define and classify bronchodilator drugs. Write the pharmacotherapy of asthma.

Q5) Answer the following (any five) : **[15]**

a) Write the mechanism of action and clinical uses of thioamides.

b) Write the therapeutic uses of thyroid hormone.

c) Write physiological actions of glucocorticoids.

d) Write mechanism of emesis.

e) Write a note on insulin preparations.

f) Classify drugs for the treatment of cough.

g) Write in brief about mechanism and control of acid production.

Q6) Write short note on (any three) : **[15]**

a) Parathyroid hormone.

b) Local anesthetics.

c) Anti-diuretic hormones (ADH).

d) Actions of Insulin.

e) Pharmacotherapy of rheumatoid arthritis.

Total No. of Questions : 6]

SEAT No. :

P3272

[Total No. of Pages : 2

[4849] - 36

T.Y. B. Pharmacy

3.6 : PHARMACOGNOSY - II

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat labelled diagrams wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Answers to the two sections must be written in two separate answerbook.***

SECTION - I

Q1) Solve any one. **[10]**

Define and classify terpenoids. Explain various methods of volatile oil extraction.

OR

Write detail pharmacognosy of Foxglove leaf.

Q2) Solve any five : **[15]**

a) Write method of preparation of Castor oil.
b) Draw a neat labelled diagram of T.S. of clove bud.
c) Write chemical test for identification of Cyanogenetic glycosides.
d) Give the pharmacological significance of Shatavari.
e) Mention tests for identification of different verities of Aloe.
f) Write on Cardenoloids and Bufadenoloids.
g) Define Triglycerides Classify lipids.

Q3) Write notes on (Any Three) : **[15]**

a) Tracer technique.
b) Yashtimadhu.
c) Woolfat.
d) Microscopy of Umbeliferous fruit.
e) Stass Otto Method.

P.T.O.

SECTION - II

Q4) Solve any one : **[10]**

Describe the method of supercriticle fluide extraction with its signicance.

OR

Give a detail pharmacognostic account of Marihuana.

Q5) Solve any five. **[15]**

a) Draw neat labelled diagram of T. S. of Ginger rhizome.

b) Explain various uses of Termeric.

c) Explain bioconversion in plant cell.

d) Discuss the chemical constituents of Neem.

e) Explain method of preparation of colophony.

f) Write methods of preparation of pale and black catechu.

Q6) Write notes on (any three) : **[15]**

a) Triphala.

b) Production of secondary metabolites by tissue culture technique.

c) Froth floating technique.

d) Serratiopeptidase.

e) Insect flower.

Total No. of Questions : 6]

P3273

SEAT No. :

[Total No. of Pages : 2

[4849] - 37
T.Y. B. Pharmacy
3.7:PHARMACEUTICAL BUSINESS MANAGEMENT (PBM)
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

SECTION - I

Q1) What is planning? Give importance and various types of planning. **[10]**

OR

What is organizing? Give structure, principles, decentralisation and delegation.

Q2) Solve the following (any five): **[15]**

a) What is sales forecasting?

b) Functions and Responsibilities of manager.

c) Importance of objectives.

d) Net work analysis.

e) Management by audit.

f) Clinical research organisation.

g) Principles of purchasing.

Q3) Write short notes (any three): **[15]**

a) Trade union.

b) Industrial Dispute.

c) Drug development.

d) Decision making.

e) Job satisfaction.

P.T.O.

SECTION - II

Q4) Differentiate between marketing and selling; explain various channels of distribution. **[10]**

OR

What is leadership? Give its importance, qualities and styles of leadership.

Q5) Solve the following (any five): **[15]**

a) Communication process.

b) Group discussion.

c) Pharmaceutical exports.

d) Types of price.

e) Launching a new product.

f) Marketing research.

g) Performance appraisal.

Q6) Write short note (any three): **[15]**

a) Theory X and Y.

b) Regulatory agencies.

c) Barrier of effective communication.

d) Medical representatives.

e) Sales promotion.

Total No. of Questions : 8]

P3274

SEAT No. :

[Total No. of Pages : 2

[4849] - 41
Fourth Year B. Pharmacy
PHARMACEUTICS - III
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***Question No. 1 and 5 are compulsory out of the remaining attempt two questions from section - I and two questions from section - II.***
2) ***Answer to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Define preformulation. Describe different preformulatory parameters that should be studied for sterile products. **[10]**

Q2) a) What are LVP's? Give different uses with suitable examples for LVP's. **[5]**

b) How sterility test is performed for ointments. **[5]**

c) What is validation? What are its different types. Give significance of validation. **[5]**

Q3) a) Describe HEPA filter & its testing. **[5]**

b) Write a note on prefilled syringes. **[5]**

c) Define and classify opthalmic products. Add a note on contact lense. **[5]**

Q4) Write note on : **[15]**

a) Validation master plan

b) Antioxidants in parenterals

c) Quality control tests for parenterals

SECTION - II

Q5) Enlist applications of aerosol and discuss in detail quality control tests for aerosol. **[10]**

Q6) a) What is externally modulated drug delivery? Describe the concept of any one type of externally modulated drug delivery system. **[5]**

b) Enlist methods for preparation of microencapsules. Explain spray congealing process in detail. **[5]**

c) Write on metered dose aerosols. **[5]**

Q7) a) Discuss basic concept and benefits of optimization. Give introduction to two level factorial design. **[5]**

b) Discuss various evaluation parameters for microencapsules. **[5]**

c) What polymer properties should be considered while selecting a polymer for use in controlled release drug delivery system. **[5]**

Q8) Write notes on **[15]**

a) Interfacial polymerization method in microencapsulation

b) Mucosal drug delivery system

c) Parenteral implants

Total No. of Questions : 6]

P3275

SEAT No. :

[Total No. of Pages : 2

[4849] - 42
F.Y. B.Pharmacy
BIOPHARMACEUTICS AND PHARMACOKINETICS
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Figures to the right indicate full marks.***
4) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) Describe briefly factors affecting drug absorption. **[10]**

Q2) Answer any 5 **[15]**

a) Describe briefly active transport of drug.

b) Which metabolic reactions are considered as phase - III reactions.

c) List various factors that influences renal excreation of drug

d) Explain - prodrugs

e) Explain various binding sites present on human serum albumin.

f) Explain objectives of bioavailability studies.

g) Explain significance of drug distribution in the body.

Q3) Write short note on - (any 3) **[15]**

a) Assessment of bioavailability

b) Renal clearance

c) P^H -partition theory

d) Volume of distribution

P.T.O.

SECTION - II

Q4) What are pharmacokinetic models? Explain various types with their significance. **[10]**

Q5) Answer any 5 **[15]**

a) Define and explain : AUC and total body clearance.

b) Explain BCS (biopharmaceutical classification system)

c) Explain various drug dissolution mechanisms.

d) Explain reasons for nonlinearity in pharmacokinetics.

e) Enlist methods used to determine absorption rate constant (ka)of drug.

f) Give significance of compartmental modeling

g) Explain : C_{max}, V_{max} and K_m

Q6) Write note on : (any 3) **[15]**

a) Applications of pharmacokinetics

b) Therapeutic drug monitoring

c) One compartmental model

d) Method of residuals

Total No. of Questions : 6]

P3276

SEAT No. :

[Total No. of Pages : 2

[4849] - 43
Final Year B.Pharmacy
4.3 : MEDICINAL CHEMISTRY - II
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are Compulsory.***
2) ***Answer to the two Sections should be written in separate answer books.***
3) ***Neat diagram must be drawn wherever necessary.***

SECTION - I

Q1) Classify antineoplastics agents. Give MOA of alkylating agent and antimetabolites. Give synthesis of methotrexate. **[10]**

OR

Classify antimalerials. Discuss chemistry, SAR and MOA of DHFR inhibitors.

Q2) Solve any Five. **[15]**

a) Draw structure and MOA of suramine sodium.

b) Write a note on factors affecting drug metabolism.

c) Discuss evolution and MOA of sulphonamides.

d) Write a note on benzimidazole anthelmintics.

e) Define antibacterials. Explain chemistry and MOA of nitrofurans.

f) Write IUPAC name and synthesis of pyrimethamine.

g) Write IUPAC name, chemistry, MOA and metabolism of AZT.

Q3) Solve any Three. **[15]**

a) Antileprotic agents.

b) Give different enzymes involved in drug metabolism and discuss Cytochrome P450 in detail.

c) Write a note on quinolone antibacterials.

d) Write a note on QSAR

P.T.O.

SECTION - II

Q4) Classify different antihistaminic agents according to their chemical structure. Give general SAR of antihistaminics. **[10]**

OR

Describe SAR, MOA and chemistry of morphine.

Q5) Solve any Five. **[15]**

a) Explain chemistry of mineralocorticoids.

b) Write IUPAC name, MOA and synthesis of chlorpheniramine.

c) Discuss chemistry, MOA of antithyroid agents.

d) Write a note on Cephalosporins new generation.

e) Write a note on H_2 agonists.

f) Give SAR of salicylates.

g) Write IUPAC name, MOA and scheme of synthesis of cephalexin.

Q6) Solve any Three. **[15]**

a) Write a note on prostaglandins.

b) Antifertility agents.

c) Discuss SAR of mepiridine series.

d) Development of acid- base stable tetracyclines.

Total No. of Questions : 8]

P3277

SEAT No. :

[Total No. of Pages : 2

[4849] - 44
F. Y. B.Pharm
PHARMACEUTICALANALYSIS - III
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***Question 1 and Question 5 are complusory out of the remaining attempt any two from section - I and section - II.***
2) ***Draw neat labelled diagrams wherever necessary.***

SECTION - I

Q1) Answer any five (two marks each) **[10]**

a) How will you use IR to differentiate between primary, secondry and tertiary amides?

b) Discuss solvents used in NMR.

c) What are Hyphenated techniques.

d) Alcohols and water cannot be used as solvents in IR. Explain.

e) What is resolution in mass spectrometry.

f) Discuss stokes and anti-stokes scattering in Raman spectroscopy.

g) Explain pressed pellet technique in IR spectroscopy.

Q2) a) Classify mass analysers. Discuss in brief double to cussing mass analyzer. **[8]**

b) Explain vibrational modes in IR spectroscopy. **[7]**

Q3) a) Discuss chemical shift and factors affecting it. **[8]**

b) Discuss validation of analytical methods as per ICH guidelines. **[7]**

Q4) Write short notes on (any three) **[15]**

a) Instrumentation in AES

b) Principle of mass spectrometry

c) X-ray diffraction

d) Application of IR spectroscopy

e) Spin-spin splittering in NMR.

P.T.O.

SECTION - II

Q5) a) Explain in brief trouble shooting & degassing technique in HPLC. **[5]**

b) Explain in brief sample injection system in HPLC. **[5]**

Q6) a) Give an account of colomn in GC. **[8]**

b) STATE various delector used in Gas chromarography. **[7]**

Q7) a) Explain the principle, instrumentation & application of flash chromatrography. **[8]**

b) Describe the principle & instrumentation of simultated moving bed technology. **[7]**

Q8) Write note on (any three) **[15]**

a) Application of HPLC

b) Van deemter equation

c) Jon exchange chromarography

d) Transmission electron microscopy

Total No. of Questions : 6]

P3278

SEAT No. :

[Total No. of Pages : 2

[4849] - 45
Final Year B.Pharmacy
PHARMACOLOGY - III
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two Sections should be written in separate answer books.***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Enlist types of angina pectoris. Explain in detail mode of action, pharmacological actions, therapeutic uses and adverse effects of nitrates. **[10]**

OR

Classify anticancer drugs. Discuss in detail anticancer antimetabolites with respect to mode of action, pharmacological actions, therapeutic uses and adverse effects. **[10]**

Q2) Solve any five **[15]**

a) Explain the mode of action and adverse effects of erythromycin.

b) Classify poisons with suitable examples.

c) Comment on role of calcium channel blockers in hypertension.

d) Discuss the development of drug resistance to antimicrobial agents.

e) Explain the mode of action and adverse effects of vinca alkaloids.

f) Discuss the common toxicity of anticancer drugs.

g) Justify the role of digitals glycosides in congestive heart failure.

Q3) Write short notes on any three. **[15]**

a) Antileprotic drugs

b) Management of myocardial infarction

c) Semisynthetic penicillins

d) Reverse transcriptase inhibitors

e) Chronic arsenic poisoning.

P.T.O.

SECTION - II

Q4) Explain in brief the objective, composition and responsibilities of Institutional Review Board (IRB). **[10]**

OR

Discuss in brief about the types and phases of clinical trials.

Q5) Solve any five **[15]**

a) Define adverse drug reaction and explain the teratogenic effects.

b) Define Investigational products, Good clinical practice and contract Research Organization.

c) Explain with example the drug interaction during drug distribution.

d) Discuss unit dose system. Write it advantages.

e) Define patient counseling. Explain different stages of patient counseling.

f) Explain responsibilities of investigators in clinical trials.

g) Discuss special consideration in informed consent.

Q6) Write short notes on any three **[15]**

a) Hypersensitivity reaction.

b) Hospital and therapeutic committee.

c) Declaration of Helsinki.

d) Bioavailability and Bioequivalence.

e) Patient medication profile.

Total No. of Questions : 6]

P3279

SEAT No. :

[Total No. of Pages : 2

[4849] - 46
Final Year B.Pharmacy
PHARMACOGNOSY - III
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All Question compulsory.Figures to the right indicate full marks.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Neat diagrams must be drawn wherever necessary.***

SECTION - I

Q1) Define Alkloids.Explain what are true,proto and pseudo alkaloids with suitable examples.Give pharmacological significance of alkaloids. **[10]**

OR

What are flavonoids? Give their chemical classification with at least two examples for each.Mention chemical tests for their detection **[10]**

Q2) Solve any five questions for the following **[5 × 3 = 15]**

a) Differentiate between D.metel (Var.fastuosa) and D.stramonium

b) Enlist adultarants of Nux Vomica with their identifying features.

c) Discuss traditional uses of Shankhapushpi

d) Write a note on Anthocynins

e) Describe microscopical diagnostic features of Ephedra

f) Give pharmacological significance of Ergot alkaloids

g) Write brief note on Passion flower.

Q3) Write elaborate note on following (any three) **[3 × 5 = 15]**

a) Chemical Profile of Rauwolfia

b) Plant Allergens

c) Life Cycle of Ergot

d) Anticancer agents of marine sources

e) Cultivation collection of Opium

SECTION - II

Q4) Enlist various parameters recommended by WHO for evaluation of herbal drugs. Write principle & procedure of following: **[10]**

a) Pesticide residue

b) Bitter Value

OR

What is phytochemical evaluation of crude drugs? Explain with special mention to preliminary phytochemical screening

Q5) Solve any five questions for the following **[5 × 3 = 15]**

a) Write principle behind extraction of Caffeine

b) What is the difference in preparation of Asava and Arishta

c) Describe herbal drug interaction for Liquorice

d) What is Photo Patch Test ? Give its significance

e) Enlist three drugs used in hair care cosmetics

f) Write a note on Churnas

g) Give spectroscopic details of Atropine.

Q6) Write note on following (any three) **[3 × 5 = 15]**

a) Plant Based Industries

b) Chromatographic techniques for herbal drug evaluation

c) Structural Illucidation of Morphine

d) Regulations for import and export of herbal drugs

e) Extraction of Quinine from Cinchona

Total No. of Questions : 6]

P3280

SEAT No. :

[Total No. of Pages : 2

[4849] - 47
Final Year B.Pharmacy
4.7 : PHARMACEUTICAL JURISPRUDENCE
(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two Sections should be written in separate answer books.***
3) ***Figures to the right indicate full marks.***

SECTION - I

Q1) Write the constitution and composition of the central and State Pharmacy Councils, also state the registration procedure of pharmacist. **[10]**

OR

What are the different administrative bodies under Drug and Cosmetic Act 1940?

Q2) Attempt any Five **[15]**

a) Write the requirements of drug store under Drug and Cosmetic Act 1940

b) Discuss in brief pharmacy education regulation.

c) What are the objectives of Drug and Magic Remedies Act?

d) Explain the features of Consumer protection Act.

e) Explain the provisions related to Schedule M

f) Write the provisions of offences and penalties under Narcotic Drugs and Psychotropic Substances Act 1985

g) Write the qualification, duties & responsibilities of Drug Inspector.

Q3) Write short notes (Any Three) **[15]**

a) DPCO 1998

b) Master Formula Records (MFR)

c) Guidelines for Industrial Safety and Health

d) Conditions for license for manufacturing of drugs other than Schedule X

e) Prevention of Food Adulteration Act 1954

P.T.O.

SECTION - II

Q4) Define patent. Elaborate criteria for obtaining patent and explain application of patents **[10]**

OR

What is IPR? Write its significance and elaborate different forms of IPR.

Q5) Attempt any five (3 marks each) **[15]**

a) What is Hatch Waxman Act?

b) What are major amendments in patent Act 1970?

c) Define therapeutic goods.

d) What is EMR and compulsory license?

e) What is generic drugs and why they are of low cost?

f) What is orange book?

g) What are types of patent?

Q6) Attempt any three (each 5 marks) **[15]**

a) Write Procedure for grant of patents in India.

b) Write significance of IND, NDA, ANDA and SNDA.

c) Explain Patent opposition.

d) Explain provisional and complete specifications?

e) Write in brief about patent infringement