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Roll No. .....

ER20-21T

2nd Year./ D.Pharmacy

Subject : Pharmacology

Time : 3 Hrs.

M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Which one is not an anticholinesterase

a) Paracetamol b) Physostigmine
c) Neostigmine d) Pyridostigmine

Q.2 Which one drug is used to treat peptic ulcer, spasm and organophosphorus poisoning

a) Insulin b) Atropine
c) Heparin d) Aspirin

Q.3 Which one is not used as an anti-anginal drugs

a) Isosorbide dinitrates
b) Glyceryl trinitrates
c) Erythriyl tetranitrates
d) Paracetamol

Q.4 Example of 4-Amino quinoline Derivative used as antimalarial drug is

a) Pilocarpine b) Chloroquine
c) Physostigmine d) Atropine

Q.5 Drug Salbutamol is used as

a) Antibiotics
b) Anti-Cancer drug
c) Anti leprotic Drug
d) Anti Asthmatic Drug

Q.6 Mechanism of action of drug Benzodiazepines includes

a) Potentiate inhibitory effect of GABA, opening the CL-Channel
b) Cell wall rapture
c) DNA Inhibition
d) Cell membrane rapture

Q.7 Which one is use of drug Azathioprine

a) Anti-cancer
b) Anti Diabetics
c) Haematinics
d) Local Anesthetics

Q.8 Which one is the example of Opioid Analgesics

a) Codeine
b) Aspirin
c) Methotrexate
d) Paracetamol

Q.9 Example of Anti anginal drug is

a) Isosorbide Dinitrate
b) Kanamycin
c) Nystatin
d) Vinblastine

Q.10 Example of Loop Diuretics is

a) Aspirin
b) Penicillin
c) Furosemide
d) Indomethacin

Q.11 Define the term Glaucoma

Q.12 Mention mechanism of action of drug Propranolol

Q.13 Mention one Anti Cholinergic Drug

Q.14 Mention one use of Spironolactone

Q.15 Mention one use of Cyproheptadine

Q.16 Mention one example of Adrenocortical Antagonists

Q.17 Define the term oxytocics

Q.18 Mention one use of Streptomycin

Q.19 Mention Mechanism of action of Drug Metronidazole

Q.20 Mention one example of H2 receptor blockers

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Describe in brief about Dextran

Q.22 Describe in brief about one antimalarial drug

Q.23 Mention three adverse reaction of Iron

Q.24 Mention three uses of Vitamin B12

Q.25 Mention three adverse effect of Ranitidine

Q.26 Mention three uses of Clozapine

Q.27 Briefly Describe three Pharmacological action of Ketamine

Q.28 Briefly describe the Pharmacology of Ibuprofen

Q.29 Briefly describe the durg Warfarin

Q.30 Briefly describe the Nasal Decongestants

Q.31 Briefly describe the drug Carbimazole

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Define and classify Adrenergic drugs, briefly describe the pharmacology of Adrenaline & terbutaline

Q.33 Define and classify Antithypertensive drugs, Describe in brief about any two ACE Inhibitors

Q.34 Describe in detail about Pharmacology of any two drugs used in Parkinsonism

Q.35 Define and classify Anti-Convulsant drugs. Describe briefly about Phenobarbitone & Carbamazepine

Q.36 Define and classify General Anesthetics. Describe briefly about One Volatile & one Intravenous Anesthetics.

Q.37 Define and classify NSAIDs. Describe in brief about celecoxib & Paracetamol

Q.38 Describe in detail about Parenteral route of drug administration.

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2133

2nd Year. / Pharmacy

Subject : Pharmacology and Toxicology

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Which route of drug administration has the 100 percent bioavailability ?

a) Oral b) Subcutaneous
c) Intravenous d) Rectal

Q.2 Iopanioc is used as

a) Antifungal b) Diagnostic agent
c) Anti amoebic d) Anti-plasmodial

Q.3 Undesirable but non-avoidable effects of drugs are known as

a) Toxic effects b) Side effects
c) Intolerance d) Idiosyncrasy

Q.4 The fraction of the drug given to person that reaches the systemic circulation in a specific time in the unchanged form is termed as

a) Bioequivalence b) Absorption
c) Excretion d) Bioavailability

Q.5 Which is the most common Phase-II reaction?

a) Glucuronidation b) Acetylation
c) Methylation d) Sulfonation

Q.6 CNS stimulants includes

a) Caffeine
b) Theophylline
c) Dextro-amphetamine
d) All

Q.7 Pharmacodynamics is described as
a) What the body does to the drug
b) What is therapeutic index of drugTemperature
c) What the drug does to the body
d) What is the efficacy of drug

Q.8 Antidote used for poisoning of Paracetamol
a) Acetyl cysteine b) Flumazenil
c) Protamine sulphate d) Heavy metals

Q.9 M1 receptors are found in
a) Cardiac muscles b) Skeletal muscles
c) Endocrine gland d) Nervous tissue

Q.10 Atropine is
a) Ache inhibitor
b) Cholinergic antagonist
c) Adrenergic agonist
d) Cholinergic agonist

Q.11 Clonidine is
a) alpha-2 receptor selective agonist
b) alpha-1 receptor selective agonist
c) beta-2 receptor selective agonist
d) beta-1 receptor selective agonist

Q.12 Reye syndrome is associated with
a) Gastric irritation b) Aspirin
c) All the NSAIDs d) Indomethacin

Q.13 Xylometazoline and oxymetazoline are
a) Bronchoconstrictor b) Adrenergic blockers
c) Vasodilators d) Nasal decongestants

Q.14 Carbonic anhydrase inhibitors act on
a) PCT b) Loop of Henle
c) DCT d) Collecting duct

Q.15 The longest acting beta blocker is
a) Sotalol b) Nadolol
c) Esmolol d) Propranolol

Q.16 Example of tricyclic antidepressant is

a) Venlafaxine b) Fluvoxamine
c) Imipramine d) Moclobemide

Q.17 The prominent therapeutic action of steroids include

a) Analgesic and immunomodulatory
b) Immunosuppressant
c) Anti-inflammatory and Immunosuppressant
d) Anti-inflammatory

Q.18 Penicillins binds on one of the given the target site to provide the therapeutic action

a) Ribosome
b) Transpeptidase
c) Proteins of cell membrane
d) Mitochondria

Q.19 Dopamine agonists or dopamine stimulants are used to treat

a) Schizophrenia b) Parkinson's disease
c) Psychosis d) All

Q.20 Drugs used to induce sleep

a) Chlorpromazine b) Nitrazepam
c) Haloperidol d) Lorazepam

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Define helminthiasis. Give two examples of anthelmintic drugs and their specific uses

Q.22 Discuss symptoms and treatment of Parkinsonism.

Q.23 Why atropine is used along with neostigmine in treatment of myasthenia gravis?

Q.24 Tabulate the drugs acting on blood and blood forming organs.

Q.25 Differentiate between drug habituation and drug addiction.

Q.26 Outline the distinguishing features between antiseptic drugs and disinfectants with the help of examples.

Q.27 Interpret and describe the triple response of histamine.

Q.28 Name the drug and its category causing following adverse effect:

i) Anaphylactic shock
ii) Methemoglobinemia
iii) Postural hypotension

Q.29 Why tetracycline is contraindicated in pregnant women and children

Q.30 Define the terms with the help of suitable drugs employed to treat the same:

a) Expectorants
b) Hypnotics

Q.31 Discuss the chemotherapy of amoebiasis

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Define and classify the routes of drug administration. Explain any three with the help of examples.

Q.33 Tell the drugs of choice with reasoning in following conditions:

a) Leukemia b) Glaucoma

Q.34 List the factors modifying drug absorption. Explain any two of them

Q.35 Categorize NSAIDs. Describe briefly about the mode of action and uses of each category

Q.36 Tell the uses and adverse effect of each of the following drug:

a) Streptomycin b) Phenformin

Q.37 Tabulate the distinguishing features' between Local anesthetics and General anesthetics with the help of appropriate drugs.

Q.38 Tell the uses and adverse effect of each of the following drug:

a) Sulphonamides b) Anti-tubercular drugs

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ER20-24T

2nd Year./ Pharmacy

Subject : Pharmacotherapeutics

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Angina attacks are unpredictable and almost always occur at rest or during sleep

a) Classical Angina
b) Microvascular Angina
c) Stable Angina
d) Variant Angina

Q.2 Drug of choice for first line treatment of type 2 diabetes mellitus

a) Glipizide b) Sitagliptin
c) Acarbose d) Metformin

Q.3 The specific unwanted effect of L-DOPA

a) Dementia b) Dyskinesis
c) Hypertension d) Bradycardia

Q.4 Migraine is a _____ disorder

a) Neurovascular b) Neuronal
c) Vascular d) Pulmonary

Q.5 All are H2 blockers except

a) Cimetidine b) Omeprazole

c) Famotodine d) Ranitidine

Q.6 Route of transmission of hepatitis B virus is

a) Oral Fecal

b) Contaminated body fluids

c) Droplets

d) Skin contact

Q.7 Which is an autoimmune disorders?

a) Peptic ulcer

b) Rheumatoid Arthritis

c) Angina pectoris

d) Epilepsy

Q.8 First line lipid lowering drug

a) Amlodipine b) Atorvastatin

c) Enalpril d) Propranolol

Q.9 Myxoedema is a condition associated with

a) Hyperthyroidism b) Hypertension

c) CHF d) Hypothyroidism

Q.10 Which one of the following drug is contraindicated in peptic ulcer

a) Ranitidine b) Omeprazole

c) Aspirin d) Domeperidone

Q.11 COPD stands for_____

Q.12 Syphillis is caused by_____

Q.13 Latest National list of Essential Medicine is published in _____year

Q.14 Amlodipine is used to treat _____

Q.15 GERD is_____

Q.16 Sulfa drugs used in inflammatory bowel disease is_____

Q.17 Cerebral malaria is causes by_____

Q.18 Full form of RNTCP is _____

Q.19 SARS stands for_____

Q.20 Disease associated with destruction of optic nerve is _____

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Discuss etiopathogenesis of asthma.

Q.22 Describe clinical menifestations of diabetes mellitus.

Q.23 Name hormones secreted by throid gland and mention their role.

Q.24 Discuss clinical menifestations of stroke.

Q.25 Differentiate Ulcerative Colitis and Crohn's disease.

Q.26 Describe etiopathogenesis of rheumatoid arthritis.

Q.27 Explain purpose and content of standard treatment guidelines.

Q.28 Discuss in brief management of PCOS.

Q.29 Differentiate open angle glaucoma and narrow angle glaucoma.

Q.30 Enlist various psychiatric disorders and write about them in brief.

Q.31 Write in brief about etiopathegenesis of Alzheimer's disease.

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Explain pharmacological management of CHF.

Q.33 Discuss in detail the agents used in anti migraine therapy.

Q.34 Discuss about management of megaloblastic anaemia.

Q.35 Explain steps to be taken to prevent spreading of COVID 19.

Q.36 Classify antiretroviral drugs used in treatment of HIV infection.

Q.37 Explain pharmacological management of tuberculosis.

Q.38 Explain about drugs used in treatment of UTI.

LT-2

No. of Printed Pages : 8
Roll No. .....

ER20-24T

2nd Year / Pharmacy
Subject : Pharmacotherapeutics

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Angina index can be calculated as
- a) Heart Rate x Diastolic BP
- b) Heart Rate x Systolic BP
- c) Pulse Rate x Systolic BP
- d) Pulse Rate x Diastolic BP

Q.2 Insulin aspart is an example of
- a) Short acting insulin
- b) Rapid acting insulin
- c) Intermediate acting insulin
- d) Ultra long acting insulin

Q.3 Tonic-Clonic Seizure is also known as
- a) Grandmal epilepsy
- b) Petitmal epilepsy
- c) Absence seizures
- d) Focal seizures

Q.4 Drug of choice for the treatment of peptic ulcer caused due to chronic use of NSAIDs is
- a) Loxatidine
- b) Esomeprazole
- c) Ciprofloxacin
- d) Amoxicillin

Q.5 Which one of the following is a DNA virus

a) HAV
b) HBV
c) HCV
d) HDV

Q.6 Scabies is a skin disease caused by

a) Mosquito
b) Flea
c) Fungi
d) Mite

Q.7 Antibiotics are used to treat infections by

a) Virus
b) Bacteria
c) All the microorganism
d) None of above

Q.8 Which part of a joint does osteoarthritis usually affect

a) Bone
b) Cartilage
c) Tendon
d) Ligament

Q.9 Which of the plasmodium species cause most serious malaria complications

a) Plasmodium vivax
b) Plasmodium malariae
c) Plasmodium ovale
d) Plasmodium falciparum

Q.10 Which of the following form is the active form of thyroid hormone

a) T3
b) T4
c) rT3
d) All of above

Q.11 CHF stands for _____

Q.12 Microorganisms that develop anti microbial resistance are also called as_____

Q.13 National list of Essential Medicine is prepared by _____.

Q.14 Bacterial pneumonia caused by_____

Q.15 Retinopathy is chronic complication of _____ disease.

Q.16 Phenytoin is used for the treatment of_____

Q.17 Apnea is _____

Q.18 Example of keratolytics used in management of Psoriasis _____

Q.19 SSRI is the first line therapy to treat_____

Q.20 Mydriasis is_____

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Discuss common causes of heart failure.

Q.22 Differentiate hypothyroidism and hyperthyroidism.

Q.23 Describe clinical manifestations of migraine.

Q.24 Discuss etiopathogenesis of COVID 19.

Q.25 Describe DOTS therapy.

Q.26 Classify different type of pneumonia.

Q.27 Enlist non pharmacological management of osteoarthritis.

Q.28 Write in brief about pharmacological treatment of scabies.

Q.29 Explain clinical manifestations of anxiety.

Q.30 Discuss etiopathogenesis of glaucoma.

Q.31 Define and explain rational use of medicines.

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Describe pharmacological management of asthma.

Q.33 Discuss various drugs used in the treatment of diabetes mellitus.

Q.34 Classify and explain various drugs used for Parkinson's disease.

Q.35 Explain pharmacological management of IBD.

Q.36 Explain various steps for the management of depression.

Q.37 Define PCOS. Explain various factors causing PCOS

Q.38 Discuss antiretroviral drugs used in the treatment of HIV infection.

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2nd Year. / Pharmacy
Subject : Biochemistry & Clinical Pathology

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Which one is the example of Monosaccharides

a) Glucose b) Maltose
c) Lactose d) Sucrose

Q.2 Which one is not an example of Polysaccharides

a) Starch b) Cellulose
c) Heparin d) Fructose

Q.3 Benedicts test is used for identification of

a) Carbohydrates b) Protein
c) Vitamins d) Lipids

Q.4 Fehling A Reagent contains

a) Copper Sulphate b) Acetic Acid
c) Cellulose d) Iodine

Q.5 Which one is not an Essential Amino acid

a) Leucine b) Valine
c) Lysine d) Glycine

Q.6 Ninhydrin test is used for identification of

a) Amino Acid
b) Carbohydrates
c) Lipids
d) Vitamins

Q.7 Enzyme Dehydrogenase is used for diagnosis of

a) Myocardial Infarction
b) Tuberculosis
c) Hepatitis
d) Diabetes

Q.8 Deficiency of Iodine may cause

a) Goiter
b) Anemia
c) Diabetes
d) Hepatitis

Q.9 Which one is the function of kidney

a) Removal of waste product
b) Removal of excess fluid
c) Control of Blood Pressure
d) All of the above

Q.10 Biotechnology has made contribution in which area

a) Medicine
b) Industrial
c) Environment
d) all of the above

Q.11 Define the term Biochemistry

Q.12 Sakaguchi test, a qualitative test is used for identification of what.

Q.13 Define the term Enzyme

Q.14 Mention one use of Iron

Q.15 In Aerobic Glycolysis net gain of how many ATP occurs.

Q.16 Define the term Hyperammonemia

Q.17 Define the term Thrombocytopenia

Q.18 Mention one use of Vitamin E

Q.19 Full form of VLDL is

Q.20 Mention one example of Simple Lipid

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Mention three scope of Biochemistry in Pharmacy

Q.22 Classify Disaccharides

Q.23 Write brief note on disease Marasmus

Q.24 Write a note on Millions Test

Q.25 Mention three function of Lipoprotein

Q.26 Mention three function of RNA

Q.27 Mention three properties of Enzymes

Q.28 Mention three function of Vitamin D

Q.29 Mention name of three Glycogen storage disease.

Q.30 Mention three use of Selenium

Q.31 Mention three functions of water in human body

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Describe in detail about Glycolysis.

Q.33 Describe in detail any three Chemical properties of carbohydrates

Q.34 Describe in detail about classification of Amino Acids

Q.35 Describe in detail about five-factor affecting Enzyme activity

Q.36 Describe in detail about Biochemistry of vitamin A, C & B12

Q.37 Describe in detail Biochemical role of Manganese and Cobalt

Q.38 Describe in detail any two Abnormal Constituents of urine including their identification test and Biomedical importance.

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Describe in detail about Glycolysis.

Q.33 Describe in detail any three Chemical properties of carbohydrates

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Q.38 Describe in detail any two Abnormal Constituents of urine including their identification test and Biomedical importance.

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ER20-22T

2nd Year./ Pharmacy

Subject :Community Pharmacy & Management

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 _____ deals with varied area of patient care, drug dispensing & advising patient on safe & rational use of drug

a) Clinical Pharmacy
b) Community Pharmacy
c) Industrial Pharmacy
d) Regulatory Pharmacy

Q.2 EDC stands for

a) Essential Drug Conjugated
b) Emergency Drug Concept
c) Essential Drug Concept
d) Essential During Counsellling

Q.3 _____Pharmacist has at least one year experience of providing pharmaceutical care to patients

a) Registered b) Chief
c) Clinical d) Qualified

Q.4 SOPs provide additional information for the____

a) Selling Process
b) Audit Process
c) Pharmaceutical Practice
d) Purchasing Process

Q.5 EPS stands for

a) Electronics Practice system
b) Electronics prescription support

c) Electronics Problem Services
d) Electronics Prescription Service

Q.6 _____ is a leaflet containing specific information regarding the drug product for the healthcare professional & is included in the pack of product
a) Ancillary Label
b) Patient Prescription
c) Package Insert
d) Dispensing Label

Q.7 Compounded prescription are also known as
a) Remedium Cardinale
b) Remedium Adjuvans
c) Formula Magistralis
d) Remedium Constituens

Q.8 Geographical distance between the sender & receiver is one of the most common _____ in communication
a) Gender Barriers
b) Physical Barrier
c) Psychological Barriers
d) Cultural Barriers

Q.9 The element of face-to-face communication is _____
a) Word
b) Body Language
c) Tone of Voice
d) All of the above

Q.10 Tachycardia means
a) Decrease Heart Rate
b) Increase Heart Rate
c) Increase Blood Pressure
d) Decrease Blood Pressure

Q.11 DOT stands for
a) Directly Observed Testing
b) Directly Observed Therapy
c) Directly Observed Technique
d) Decrease Observed Therapy

Q.12 _____is not a disease but is an important risk factor for several complications that ultimately result in organ damage

a) Cancer b) Tuberculosis
c) Lymphoma d) Hypertension

Q.13 The health belief model developed in _____

a) 1954 b) 1964
c) 1974 d) 1984

Q.14 The quality of doctor-patient relationship is an important factor that influences_____

a) Patient Medication Adherence
b) Therapeutic Care
c) Patient Councelling
d) Medication Information Service

Q.15 Which one is a common maligancy among women?

a) Cervical Cancer b) Breast Cancer
c) Prostate Cancer d) Colorectal Cancer

Q.16 Patient having _____ is at a higher risk of Colectural Cancer

a) GERD b) Tuberculosis
c) Paralysis d) Diabetes

Q.17 Bacteria, Viruses & Parasites are the most common causes of_____

a) Diarrhea b) Dengue
c) Hypertension d) Angina

Q.18 _____is a broad term that encompasses a wide range of unpleasant body sensation

a) Grimacing b) Depression
c) Pain d) Muscle Spasm

Q.19 RPF stand for

a) Requirement for proposal
b) Request for postponed
c) Request for Plan
d) Request for Proposal

Q.20 Among the following which one is not a delivery factor

a) Warranty b) Quantity
c) Time d) Documentation

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Describe in brief the community pharmacy practice in 1970s & 1980s

Q.22 Describe the Ideal Quality & advantages of SOP. (Standard Operating Procedure)

Q.23 Write the components of Prescription

Q.24 Describe in brief the advantages of face-to-face communication

Q.25 Describe the barriers in Patients Counselling

Q.26 Write the effect of poor/ no Patient Counselling

Q.27 Describe the factor related to doctor influencing non-adherence

Q.28 Describe self-care during cough

Q.29 Describe any three roles of Pharmacist in promoting safe practice during self-medication

Q.30 Describe Independent Pharmacies

Q.31 Write the factors considered while deciding the structure & design of community Pharmacy.

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Describe the responsibilities of community pharmacist related to drug product

Q.33 Describe in brief any three steps involved in handling the prescription

Q.34 Describe in brief the barriers to communication

Q.35 Describe the counselling points for counselling patient with Hypertension

Q.36 Write in brief the strategies to overcome non-Adherence

Q.37 Describe in brief the measurement of Blood pressure by using sphygmomanometer.

Q.38 Describe the Cash Book.

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Roll No. .....

ER20-26T

2nd Year / Pharmacy

Subject : Pharmacy Law & Ethics

Time : 3 Hrs.

M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 For the first time in India, a chemist shop was opened in about 1811 by

a) Mr. Bathgate b) Mr. Gajjar
c) R.N. Chopra d) Mr. Gosh

Q.2 The Pharmacy Council reconstituted every

a) 10 years b) 15 years
c) 5 years d) 6 years

Q.3 Schedule "X" of Drug & Cosmetics Act Comprises

a) List of incurable disease
b) Guideline for clinical trials
c) List of generic drugs
d) None of the above

Q.4 AS per Drug & Cosmetics Act Schedule "FF" is related with

a) Paranteral Preparation
b) Ointment Formulation

c) Skin cosmetics Preparation
d) Ophthalmic Preparation

Q.5 In 1985 one of the following act was passed
a) Drug & magic remedies
b) Poisonous Act
c) Narcotic & Psychotropic Substances Act
d) Drug & Cosmetics Act

Q.6 Talisman, mantra & Kanawha come under
a) Misbranded Drugs
b) Spurious Drugs
c) Magic Remedies
d) None of the above

Q.7 Animal welfare board is established by
a) Central Government
b) State Government
c) Central Council
d) State council

Q.8 The latest Drug Price Control Order was passed by
a) 2012 b) 2013
c) 2015 d) 2014

Q.9 It means a science of morals or code of moral principles
a) Ethics
b) Morality
c) Law
d) Pharmaceuticals ethics

Q.10 Indian Pharmacopoeia Commission headquarter is located at

a) Delhi b) Mumbai

c) Hyderabad d) Ghaziabad

Q.11 CDSCO means_____

Q.12 Write the regulatory body of Australia.

Q.13 IPR mean_____

Q.14 How many phases are involved in clinical trial?

Q.15 License for blood storage Centre is valid for_____

Q.16 Human anatomical wastes are categorized into which category of biomedical waste_____

Q.17 The Disaster management act was made in_____

Q.18 The national Disaster management is headed by_____

Q.19 ICH means _____

Q.20 DTAB means _____

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Write the classification of medical devices with example.

Q.22 Write the names of consumer protection councils

Q.23 Explain principles of bioethics.

Q.24 Define biomedical waste, enlist the categories of biomedical waste.

Q.25 Write the objective of clinical establishment act.

Q.26 Write a short note on NDA.

Q.27 Write a short note on Loan License.

Q.28 Write the qualification Drug Inspector .

Q.29 Write a short note on Licensing Authority.

Q.30 Mention the ex-officio member of PCI.

Q.31 Write a short note on Clinical trial phase-IV

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Give the offense & penalties as per Narcotic drugs & Psychotropic substances act.

Q.33 Write the function of Animal welfare Board of India.

Q.34 What are the duties & function of FSSAI?

Q.35 Write a note on calculation of retail Price of a schedule formation.

Q.36 Write a note on Medical Termination of Pregnancy Act.

Q.37 Explain in brief the new drug development process.

Q.38 Write a note on e-governance of drug manufacture.

UB 1

No. of Printed Pages : 8
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2

2136

2nd Year./ Pharmacy.
Subject : Hospital and Clinical Pharmacy.

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (8x1=8)

Q.1 On the basis of no of beds medium hospital is

a) More than 500 beds
b) 200-500 beds
c) less than 100 beds
d) None of these

Q.2 Unit does dispensing is:-

a) Centralised b) Decentralised
c) both a and b d) none of these

Q.3 Method of sterilization is:-

a) Dry heat
b) moist heat
c) Radiation sterilization
d) all of these

Q.4 Chemically pyrogen are:-

a) Protein

b) carbohydrates

c) fatty acids

d) lipopoplysaccharides

Q.5 Which latin word is a used for ear drop.

a) Auristullae b) Capsula

c) Collunarium d) none of these

Q.6 Meaning of latin word jentaculum is

a) Meal b) Breakfast

c) in the morning d) once in a day

Q.7 Normal clotting time for human is

a) 3-6 min b) 5-8 min

c) 1-3 min d) 0-1 min

Q.8 Which in WBC

a) Neutrophills b) macrophages

c) B - Cells d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (8x1=8)

Q.9 Define the etiology.

Q.10 Full form of SGOT.

Q.11 DIS stands for_____.

Q.12 _____in particle size increase the bioavalability of drug.

Q.13 Define hospital pharmacy.

Q.14 Plastic syringes and catheters can be sterilized by_____.

Q.15 A genetically determined abnormal drug reaction is called_____.

Q.16 A partial or complete loss of memory is_____.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x5=40)

Q.17 Explain health delivery system at central level.

Q.18 Write short note on prepackaging of drugs.

Q.19 Define CSSR and give its objective.

Q.20 Write constraints on development of clinical pharmacy in India.

Q.21 Discuss analgesic drug interaction.

Q.22 Define ADR and its significance.

Q.23 Write about idiosyncracy.

Q.24 Define etiology and manifestation of disease.

Q.25 Define drug abuse and drug dependence.

Q.26 Discuss the source of drug information.

SECTION-D

Note: Long answer type questions. Attempt any three questions out of four questions. (8x3=24)

Q.27 Define biovailability and factors affecting it.

Q.28 Explain any two cardiovascular disease.

Q.29 Discuss about layout of sterile product area.

Q.30 Define drug interaction. Explain pharmacodynamic interaction.

No. of Printed Pages : 8
Roll No. .....

2136

2nd Year ./ Pharmacy

Subject : Hospital and Clinical Pharmacy

Time : 3 Hrs. M.M. : 80

SECTION-A

Note: Multiple choice questions. All questions are compulsory (20x1=20)

Q.1 Risk of drug interactions can be minimized by
- a) Monitoring the therapy
- b) Separating the interacting drugs
- c) Using simple therapeutic regimes
- d) All

Q.2 The term bioavailability refers to relative amount of drug that reaches
- a) Small intestine
- b) Stomach
- c) Liver
- d) Systemic circulation

Q.3 One is corrosive poison
- a) Manganese
- b) Sulphuric acid
- c) Insecticides
- d) Barbiturates

Q.4 Example of central government hospitals is
- a) Apollo hospitals
- b) Fortis Hospital
- c) All India Institute of Medical Science
- d) Max Hospital

Q.5 Ryal tubes are used for
- a) For gastric lavage in poisoning
- b) For analysis of gastric juices

c) For administration of fluids who can't imbibe enough amounts
d) All

Q.6 Preservatives in parental formulation includes
a) Chlorocresol
b) Benzyl alcohol
c) Benzalkonium chloride
d) All

Q.7 Advantages of floor stock system includes
a) Labeling is easy
b) Stability of items
c) Process of packaging
d) Availability of drugs at ward and units

Q.8 Drug addiction may be caused due to
a) Morphine b) Alprazolam
c) Nicotine d) All

Q.9 Pyrogens are metabolic products causing
a) Increase in body temperature
b) Increase in blood pressure
c) Increase in urination
d) All

Q.10 Process of complete destruction of all micro-organism in a system is
a) Simulation b) Stimulation
c) Sterilization d) Standardization

Q.11 Scalpel is used for
a) Deflation of urinary bladder
b) Affect incision
c) To assist respiration
d) All

Q.12 CCF stands for
a) Congestive chest failure
b) Congestive Cardiac Failure
c) Cardiac Coronary Flutter
d) Coronary Chest Failure

Q.13 Normal values of blood cholestrol lies in the range of
a) 110-200mg/dL b) 150-240 mg/dL
c) 100-150 mg/dL d) 250-350 mg/dL

Q.14 Medium size hospitals has the bed capacity of
a) 100-200 Beds
b) 300-500 Beds
c) 500-1000 Beds
d) More than 10000 Beds

Q.15 Two types of services provided by hospital are
a) Simple and complex
b) Clinical and Non clinical
c) Legal and Illegal
d) Education and Information

Q.16 Additional information given by the prescriber to the patient for haematinics
a) May cause diarrhoea
b) May experience Constipation
c) May change the colour of faces to brown black
d) May cause drowsiness

Q.17 Anaphylactic reactions or immediate hypersensitive type reaction does not result in
a) Urticaria b) Asthma
c) Artharalgia d) Oedema

Q.18 Bis in Die is translated in English as
a) Once a day b) Twice a day
c) Every hour d) Twice a week

Q.19 Administrator of Hospital is
a) CMO b) Director
c) MO d) HR Manager

Q.20 All are supportive services in a hospital except
a) Housekeeping
b) Staffing pattern
c) Pharmacy Services
d) Blood Bank

SECTION-B

Note: Short answer type questions. Attempt any ten questions out of eleven questions. (10x3=30)

Q.21 Illustrate a flow chart of material and men in the hospital pharmacy

Q.22 Define the terms:
(a) Narcotic drug b) Addictive drugs

Q.23 Describe the term "Hospital"

Q.24 Discuss the scope of Clinical pharmacy

Q.25 Tell the requirement and abilities required for Hospital pharmacist?

Q.26 Define the terms:
a) Pharmacy Therapeutic Committee
b) Hospital pharmacy

Q.27 Enlist the different drug induced disease with example

Q.28 Discuss the role of computer in Hospital Pharmacy

Q.29 Tell the significance of medication history review

Q.30 Outline the treatment for insecticide poisoning

Q.31 Describe the mechanism of drug interactions

SECTION-C

Note: Long answer type questions. Attempt any six questions out of seven questions. (6x5=30)

Q.32 Explain the functions and composition of hospital and formulary system

Q.33 Discuss the patho-physiology of
(a) Rheumatoid arthritis
(b) Peptic Ulcers

Q.34 Explain the common daily terminology used in daily practice of medicine

Q.35 Describe the central sterile department with its lay out and facilities

Q.36 Describe the general treatment of narcotic poisoning and heavy metal poisoning

Q.37 Discuss the adverse drug reactions and their reporting methods

Q.38 Classify hospitals. Give its organization, management and health delivery system in India?

Roll No. Chandan Patel UHSR EXAMINATIONS Paper ID: 10417/June, 25

B. Pharmacy 1st Semester
Pharmaceutical Inorganic Chemistry

Time: Three hours M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section –A (Attempt all questions)

2x10=20

Q.1 **Define the following:**

(a) Define half-life and write down its formula.
(b) What are expectorants? Give two drug examples.
(c) What is the role of fluoride in treatment of dental caries?
(d) What are the different sources of impurities in pharmaceutical substance?
(e) Write down the precautions to be taken while handling a radioactive substance.
(f) What is ORS? Write down its formula and uses.
(g) Define buffers. Give formula for estimation of pH of buffer solutions.
(h) What are dentrifiers? Give two examples.
(i) Write down the definition and uses of acidifiers.
(j) Define haematinics and give two examples.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Define radioactivity. Discuss in detail various methods for measurement of radioactivity. 10

Q.3 Discuss in detail the limit test of chlorides and sulphates. 10

Q.4 What are antacids? Write down their classification and uses. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Discuss the physiological acid base balance in human body. 5

Q.6 Write a note on combination antacids. 5

Q.7 Discuss the uses and assay of sodium chloride 5

Q.8 Illustrate the role of fluoride in treatment of dental caries. 5

Q.9 What are the different methods for measurement of isotonicity? 5

Q.10 Discuss iodine and its preparations as antimicrobial agents. 5

Q.11 Write down the properties of α, β, and Y radiations. 5

Q.12 What are cathartics? Write down their classification and uses. 5

Q.13 Define desensitizing agents. Write down their mode of action and uses. 5

Chandan Patel/ UHSR EXAMINATIONS

Roll No.....Pof.....

Paper ID: 10317/June, 25

B. Pharmacy 1st Semester
Pharmaceutics-I

Time: Three hours

M. Marks: 75

***IMPORTANT NOTE:**

1. **Attempt all of the following questions.**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.**
3. **Do not use lead/graphite pencil on the answer sheets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section –A (Attempt all questions)

Q.1 **Define the following:** 2x10=20

(a) Pharmacopoeia and Formulary.
(b) Emulsion and Suspension.
(c) hygroscopic and eutectic mixture.
(d) Suppositories and Enemas.
(e) Flocculated and deflocculated suspension.
(f) Paste and Ointments.
(g) Solution and Dispersion.
(h) o/w and w/o emulsions.
(i) Chemical and Physical incompatibility.
(j) Effervescent and Effloroscent powders.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 What is a prescription? Discuss its part, handling and sources of errors in prescription. 10

Q.3 Differentiate monophasic and biphasic liquid dosage forms while giving examples. What are different methods of preparation of suspension? Discuss stability issues and methods to overcome them. 10

Q.4 Write a detailed note on suppositories, its advantages, disadvantages. Discuss suppositories bases in detail. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write a note on career in pharmacy. 5

Q.6 Write a comprehensive note on excipients used in formulation of solid dosage forms. 5

Q.7 Give significance of powders as dosage form. Discuss preparation of effervescent powders. 5

Q.8 Give selection criteria for selection of excipients for liquid dosage forms. 5

Q.9 How the profession of pharmacy developed in India? 5

Q.10 Give methods for distinguishing types of emulsion? 5

Q.11 Give methods for enhancing solubility of poorly soluble APIs. 5

Q.12 Elaborate physical incompatibilities in pharmaceutical preparation. 5

Q.13 Write down the methods for enhancing solubility of poorly soluble APIs. 5

BHARAT KUK

Chandan Patil

Roll No.....

UHSR EXAMINATIONS

Paper ID: 10217/June, 25

B. Pharmacy 1st Semester
Pharmaceutical Analysis-I

Time: Three hours

M. Marks: 75

**IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

In case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

SECTION –A (Attempt all questions)

Q.1 **Define the following:** 2x10=20

(a) Define accuracy and precision.
(b) How to prepare 0.1 N Iodine solution?
(c) What do you mean by normality?
(d) Write the importance of the Nernst equation.
(e) What is the importance of the common ion effect in gravimetry
(f) Give two examples for redox indicators.
(g) Give an example of personal error and operative error.
(h) What is Null point potentiometry?
(i) Write about acid base indicator.
(j) Write a principle of Mohr's method.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Discussion the preparation and standardization of 5+5=10
(a) Potassium Permanganate [KmnO4].
(b) Oxalic Acid.

Q.3 Explain principle of polarography and construction and working of dropping mercury electrode and rotating platinum electrode. 10

Q.4 Define and classify errors? Describe the various methods to minimize the errors. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Define limit test. Describe the limit test of chloride. 5

Q.6 What are the primary and secondary standards? Give the ideal requirements of a primary standard. 5

Q.7 What is non-Aqueous titration? Describe various types of solvent used in non-aqueous titration. 5

Q.8 Derive the Henderson Hesselbatch equation. 5

Q.9 Write a note on Mohr's method of precipitation titration in details. 5

.10 Write the principle and applications of Polarographic analysis 5

.11 What is redox titration? Write a short note on oxidation and reduction. 5

.12 Classify complexometric titrations. Explain each type with suitable examples. 5

.13 Write a note on conductometry titration with conductrometric titration curve. 5

BHARAT KUK

7

Chandan Patel

Roll No. 487805

UHSR EXAMINATIONS

Paper ID: 10117/June, 25

B. Pharmacy 1st Semester
Human Anatomy and Physiology-I

Time: Three hours

M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section –A (Attempt all questions)

2x10=20

Q.1 (a) Illustrate the structure and function of a cell.
(b) Write a note on meninges and their types.
(c) Write the functions of the adrenal gland.
(d) Classify receptors.
(e) List the cranial nerves.
(f) Write about cell junctions with an example.
(g) Write a note on passive transport with examples.
(h) Define reflex activity.
(i) List the functions of the thymus and its disorders.
(j) Classify Hormones.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Give a detailed note on the structure and function of the brain. 10

Q.3 Describe in detail the physiology of skeletal muscle contraction. 10

Q.4 Define tissue and explain in detail the types of connective tissue. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Define homeostasis and explain about the negative feedback system. 5

Q.6 Write a detailed note about the generation of an action potential. 5

Q.7 Explain the structure and functions of the eye. 5

Q.8 Define tract. Write the functions of afferent and efferent nerve tracts. 5

Q.9 Structurally classify joints. Explain the hinge joint in detail. 5

Q.10 Write a note on the thyroid gland and its disorders. 5

Q.11 Illustrate the structure and functions of skin. 5

Q.12 Write a note on the forms of intracellular signaling. 5

Q.13 Differentiate between the sympathetic and parasympathetic nervous system. 5

BHARAT KUK

Control Control

Gurjant Singh

Roll No. 210225 July, 2024/10217

B. Pharmacy 1st Semester
Pharmaceutical Analysis-I

Time: Three hours M. Marks: 75

Note:
1. **Attempt all the questions as per the instructions given.**
2. **Don't write anything on the question paper, except Roll No.**
3. **Read the instructions carefully, mentioned in the answer book.**
4. **Use only blue/black ink pen for attempting answers.**
5. **Don't use pencil for attempting answers.**

Section-A

Q.1 2x10=20

(a) What do you understand by the term molality?
(b) Write chemical reaction occur in standardization of sodium hydroxide with potassium phthalate.
(c) How you will prepare 100ml 0.1N HCl solution (molarity of concentrated HCl is: 11.6M)?
(d) What do you know about adsorption indicator? Give suitable example.
(e) Give one example of each weak acid and weak base.
(f) What do you mean by co-precipitation?
(g) Calculate the oxidation number for element iodine in potassium iodate.
(h) What are the masking agents? Give one example.
(i) Which type of compounds are analyzed using diazotization titrations?
(j) What is the coordination number for ethylene diamine? Also draw its chemical structure.

Section-B

(Long answer type questions: Answer any two questions out of the following three questions). 10x2=20

Q.2 What do you understand by conductometric titrations? Comment on working and construction of conductivity cell also give applications of conductometry. 10

Q.3 What are the redox titrations? Summaries various types of redox titration with examples. 10

Q.4 What are errors and classify them? Define accuracy and precision. Describe the steps to minimize errors. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 What are the primary and secondary standards? Give the ideal requirements of a primary standard. 5

Q.6 How you will estimate ephedrine hydrochloride using non-aqueous titration? 5

Q.7 Explain the principle involved in the estimation of strong acids and weak acid against a strong base. 5

Q.8 What are indicators? Explain the theory of indicators used in acid-base titrations? 5

Q.9 Explain Volhard's method of precipitation titration for estimating halides in given compound. 5

Q.10 Define and classify ligands with examples. 5

Q.11 Explain principle and applications of diazotization titration. 5

Q.12 How iodimetry is different from iodometry? Explain with an example. 5

Q.13 What is a polarographic curve? Mention different areas in the polarographic curves. 5

Roll No. 310 235

July, 2024/10417

B. Pharmacy 1st Semester
Pharmaceutical Inorganic Chemistry

M. Marks: 75

Time: Three hours

Note:
1. Attempt all the questions as per the instructions given.
2. Don't write anything on the question paper, except Roll No.
3. Read the instructions carefully, mentioned in the answer book.
4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

Section-A

2x10=20

Q.1 **Attempt all of the following questions.**

(a) Write chemical reaction of limit test for iron.
(b) What are buffer isotonic solutions?
(c) Write medicinal use of sodium bicarbonate.
(d) What are expectorant and emetics?
(e) Write down the use of ammonium chloride.
(f) Write chemical formula of sodium thiosulphate and ammonium chloride.
(g) Define astringent with suitable example.
(h) What is Arrhenius concept of acid and base?
(i) Write any three applications of radioactive substances
(j) Give any two properties of an antidote.

Section-B

10x2=20

(Long answer type questions: Answer any two questions out of the following three questions).

Q.2 What are impurities? Explain different sources of impurities in pharmaceuticals with examples. 10

Q.3 What are antimicrobials? Write mechanism of action and classification. Write the preparation and uses of hydrogen peroxide. 10

Q.4 Describe radiopharmaceutical with its various properties. Give storage conditions, precautions and pharmaceutical applications of radioactive substances. 10

Section-C

5x7=35

(Short answer type questions: Answer any seven questions, out of the following nine questions).

Q.5 Define the various theories of acid and base with examples. 5

Q.6 Give the principle and reaction involved in the limit test of chloride. 5

Q.7 Write in detail about acidifiers. 5

Q.8 Elaborate method of preparation and uses of aluminium hydroxide gel. 5

Q.9 Write a note on a cathartics with examples. 5

Q.10 What are haematinics? Explain the preparation and uses of ferrous sulphate. 5

Q.11 What is antidote? Write a note on sodium thiosulphate. 5

Q.12 Define dentifrises. Write the role of fluoride in treatment of dental caries. 5

Q.13 Explain in detail GM counter employed for the measurement of radioactivity. 5

Roll No. 310235 July, 2024/10317

B. Pharmacy 1st Semester
PHARMACEUTICS-I

Time: Three hours M. Marks: 75

Note: 1. Attempt all the questions as per the instructions given.
2. Don't write anything on the question paper, except Roll No.
3. Read the instructions carefully, mentioned in the answer book.
4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

Section-A

Q.1 **Attempt all of the following questions:** 2x10=20

(a) Indian pharmacopoeia (I.P.)
(b) What are the stability issues of suspension?
(c) Liniments and lotions.
(d) What are the emulsifying agents?
(e) United State Pharmacopoeia (U.S.P.)
(f) Enemas.
(g) Preparation of gel.
(h) Geometric dilutions.
(i) Proof spirit.
(j) Isotonic solutions.

Section-B

(Long answer type questions: Answer any two questions out of the following three questions). 10x2=20

Q.2 Explain in detail about parts of handling of prescription. 10

Q.3 Discuss the factor effecting of posology. 10

Q.4 Explain pharmacy as career. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 Write the techniques of solubility enhancement. 5

Q.6 Differentiate flocculated and deflocculated suspension. 5

Q.7 Classify different types of pharmaceutical incompatibility with examples. 5

Q.8 Write the excipients used in semi-solid dosage form. 5

Q.9 Write the preparation of gargles and mouth washes. 5

Q.10 Explain and classify different type of powder ? 5

Q.11 Write paediatric dose calculation based on age and body weight ? 5

Q.12 Classify different types of dosage form with examples. 5

Q.13 Write the history of pharmacy profession in India. 5

Roll No. 310235

July, 2024/10117

B. Pharmacy 1st Semester
Human Anatomy and Physiology-I

Time: Three hours

M. Marks: 75

Note: 1. Attempt all the questions as per the instructions given.
2. Don't write anything on the question paper, except Roll No.
3. Read the instructions carefully, mentioned in the answer book.
4. Use only blue/black ink pen for attempting answers.

Section-A

Q.1 **Attempt all of the following questions.** 2x10=20

(a) What are the functions of epithelial tissues?
(b) Enumerate two principles of cell communication.
(c) Define cell division.
(d) What is hormone?
(e) Give names of two hormone of adrenal gland.
(f) Write neurotransmitter of para sympathetic nervous system.
(g) Mention functions of skin.
(h) What are ventricles?
(i) Give two functions of brain stem.
(j) Explain joint.

Section-B

(Long answer type questions: Answer any two questions out of the following three questions). 10x2=20

Q.2 Discuss origin and functions of cranial nerves. 10

Q.3 What do you understand by tissue? Describe location and functions of connective tissue. 10

Q.4 Explain sympathetic nervous system. Discuss structure and functions of sympathetic nervous system. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 Give an account of cell communication. 5

Q.6 Discuss features and functions of bone. 5

Q.7 Draw a clean and labelled diagram of human ear. 5

Q.8 Describe physiology of ball and socket joint. 5

Q.9 Explain physiology of muscle contraction. 5

Q.10 Discuss hormones of pituitary gland. 5

Q.11 Give structure and functions of nose. 5

Q.12 What are cell junctions? Explain with neat diagram. 5

Q.13 Write a note on neurotransmitters. 5

956728

Roll No.....

Aug., 2023/30317

B. Pharmacy 3rd Semester-2023
Pharmaceutical Microbiology

Time: Three hours

M. Marks: 75

Note: 1. **It is compulsory to attempt all questions of Section-A.**
2. **Answer all parts of a question/section at one place only.**
3. **Draw neat and well-labelled diagrams wherever necessary.**
4. **Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.**

Section–A

2x10=20

Q.1
(a) Differentiate bactericidal and bacteriostatic.
(b) What is dark field microscopy?
(c) Outline the differences between gram-positive and gram-negative bacteria.
(d) State the demerits of ethylene oxide sterilization.
(e) Define disinfectant. Give two examples.
(f) What is sterilization and its advantages?
(g) Define microbial contamination.
(h) What do you mean by primary cell culture?
(i) Enlist the different staining techniques for bacteria.
(j) Give the general aspects of environmental cleanliness.

Section–B

10x2=20

Long answer type questions: Answer any two questions out of the following three questions.

Q.2 (a) Classify bacteria on the basis of nutritional requirements. 5+5=10
(b) Write a note on raw materials used for preparation of culture media. 5+5=10

Q.3 **Elaborate on the following:**
(a) The factors influencing disinfection.
(b) Sterility test methods. 5+5=10

Q.4 **Give an account on the following:**
(a) Assessment of microbial contamination and spoilage.
(b) Standardization of vitamins.

Section-C

5x7=35

Short answer type questions: Answer any seven questions out of the following nine questions.

Q.5 Write a note on IMViC tests used for identification of bacteria. 5
Q.6 Write a detailed note on the spoilage and its types. 5
Q.7 Explain different sources of contamination in an aseptic area and method of prevention. 5
Q.8 Give an account on moist heat and dry heat sterilization. 5
Q.9 How the antimicrobial activity of a new substance is tested? 5
Q.10 Discuss the application of cell cultures in pharmaceutical industry and research. 5
Q.11 Give a detailed note on the different types of preservatives used in pharmaceutical industry. 5
Q.12 Describe the chemical methods of sterilization. 5
Q.13 Explain the phase contrast microscopy.

Roll No. 21515

May, 2022/30317

B. Pharmacy 3rd Semester-2022
Pharmaceutical Microbiology

Time: Three hours

M. Marks: 75

Note: 1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.
portant: 4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

SECTION-A

2x10=20

Q.1 (a) What are the factors affecting the resolution power of a microscope?
(b) Which stain can be used to demonstrate the structure of a spore?
(c) What is the nutritional nature of Escherichia coli?
(d) What is the function of a 'Maintenance Culture Medium'?
(e) Name the part of the growth curve showing a rapid growth of bacteria.
(f) Define Mycology.
(g) Name the causative agent of Plague.
(h) What is the main use of 'Sabouraud Medium'?
(i) Define the attenuation of a pathogen.
(j) Name the pathogen which causes tuberculosis in humans.

SECTION-B

10x2=20

Long answer type questions. Answer any two questions out of the following three questions.

Q.2 Define mutation and discuss the factors affecting this process in bacteria. 10

Q.3 Discuss the steps involved in the sterilization by moist heat. Explain its applications, merits and demerits. 10

Q.4 Briefly explain the method involved in the microbiological assay of Streptomycin. 10

SECTION-C

5x7=35

Short answer type questions. Answer any seven questions out of the following nine questions.

Q.5 Discuss the composition and applications of an 'Enriched Culture Medium'. 5

Q.6 Explain the method for determining the viable bacterial count in a drug product. 5

Q.7 Briefly explain the technique for performing the 'Phenol Coefficient Test'. 5

Q.8 What are the nutritional requirements of fungi? 5

Q.9 Discuss the method for carrying out the 'Sterility Test' on an injectable product. 5

Q.10 What are 'Cell Cultures'? Write their applications in the discovery and development of pharmaceutical products. 5

Q.11 Explain the method for the 'Microbial Stability Testing' of a substance. 5

Q.12 Briefly explain the salient features of the design and layout of an 'Aseptic Area'. 5

Q.13 Discuss the method of cultivation for a pathogenic Virus. 5

Aug . 2023/30317

oll No 957053

B. Pharmacy 3rd Semester-2023
Pharmaceutical Microbiology

M. Marks 75

me Three hours

ote: 1. It is compulsory to attempt all questions of Section-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.
4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

Section-A

2x10=20

1 (a) Differentiate bactericidal and bacteriostatic
(b) What is dark field microscopy?
(c) Outline the differences between gram-positive and gram-negative bacteria
(d) State the demerits of ethylene oxide sterilization
(e) Define disinfectant Give two examples
(f) What is sterilization and its advantages?
(g) Define microbial contamination
(h) What do you mean by primary cell culture?
(i) Enlist the different staining techniques for bacteria
(j) Give the general aspects of environmental cleanliness

Section-B

10x2=20

Long answer type questions: Answer any two questions out of the following three questions.

2 (a) Classify bacteria on the basis of nutritional requirements 5+5=10
(b) Write a note on raw materials used for preparation of culture media 5+5=10

3 **Elaborate on the following:**
(a) The factors influencing disinfection
(b) Sterility test methods 5+5=10

4 **Give an account on the following:**
(a) Assessment of microbial contamination and spoilage
(b) Standardization of vitamins 5+5=10

Section-C

5x7=35

Short answer type questions: Answer any seven questions out of the following nine questions.

5 Write a note on IMViC tests used for identification of bacteria 5
6 Write a detailed note on the spoilage and its types. 5
7 Explain different sources of contamination in an aseptic area and method of prevention. 5
8 Give an account on moist heat and dry heat sterilization 5
9 How the antimicrobial activity of a new substance is tested? 5
0 Discuss the application of cell cultures in pharmaceutical industry and research. 5
1 Give a detailed note on the different types of preservatives used in pharmaceutical industry 5
2 Describe the chemical methods of sterilization 5
3 Explain the phase contrast microscopy

Aug. 2023/30117

Roll No

B. Pharmacy 3rd Semester-2023
Pharmaceutical Organic Chemistry II

M. Marks: 75

Time: Three hours

Note: 1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only
3. Draw neat and well-labelled diagrams wherever necessary.
4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

SECTION-A

2x10=20

Q.1 (a) Write structure and uses of cyclobutane
(b) Write structure and medicinal uses of Triphenylmethane
(c) Write the structure and uses of DDT
(d) Write structure and uses of Cresols
(e) Give the compositions of fats and oils
(f) Write structure and uses of Chloramine
(g) Define Huckle's rule
(h) Define sulphonation with example
(i) Define rancidity and its significance
(j) Define activating and deactivating groups with examples

SECTION-B

10x2=20

Long answer type questions. Answer any two out of the following three questions.

Q.2 What is electrophilic aromatic substitution reaction? Discuss the mechanism of halogenations and Friedel craft alkylation reaction

Q.3 Define the various analytical constants used to assess the quality of oils and discuss the principle involved in their determination

Q.4 What are aromatic amines? Discuss the basicity and effect of substituents on basicity of aromatic amines. Give synthesis & uses of aryl diazonium salt.

SECTION-C

5x7=35

Short answer type questions. Answer any seven out of the following nine questions.

Q.5 Write short note on acidity of Phenols with example.
Q.6 Explain Baeyer's strain theory and its limitations.
Q.7 Write short note on reactions of cyclopropane with example
Q.8 Give any three synthetic chemical reactions of Phenanthrene
Q.9 Write short note on reactions of polynuclear hydrocarbons.
Q.10 Give structure and uses of BHC and Cresol
Q.11 Write short note on drying and hydrogenation of oils.
Q.12 Discuss in brief Friedel crafts acylation
Q.13 Write short note on Baeyer's strain theory.

Roll No 111053

August, 2023/30417

B. Pharmacy 3rd Semester-2023
Pharmaceutical Engineering

Time: Three hours

M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

Section-A

2x10=20

Q 1 (a) Define black body and grey body
(b) What is vapour pressure?
(c) How can the problems of sticking and clogging of sieves in the size reduction equipment be prevented?
(d) Distinguish between filtration and clarification
(e) What are the factors that influence rate of corrosion?
(f) What are the applications of FBD?
(g) Differentiate between pressure filtration and vacuum filtration
(h) What is the significance of critical speed of ball mill?
(i) What are the factors affecting the selection of a mixer?
(j) What is calandria? Enlist its uses

Section-B

10x2=20

Long answer type questions: Answer any two questions out of the following three questions.

Q 2 Discuss in detail about principle, construction, working, uses, merits and demerits of silverson emulsifier with the help of a neat diagram 10

Q 3 With the help of a neat diagram, explain the concept of film and overall heat transfer in forced convention. Also, deduce relevant mathematical equations 10

Q 4 Write the principle of belt conveyor with a neat labelled diagram. Describe the construction and working of belt conveyor system for solid transport. 10

Section-C

5x7=35

Short answer type questions. Answer any seven out of the following nine questions.

Q 5 What are the differences between bins and silos? Explain with a diagram 5

Q 6 Describe the electrochemical theory of corrosion 5

Q 7 Classify various devices for measurement of flow of fluids. Explain Bernoulli's theorem and give its applications in pharmaceutical industry. 5

Q 8 Write a short note on continuous centrifuges 5

Q 9 With a neat diagram, describe principle, working and applications of filter press. 5

Q 10 Discuss any fractioning column of your choice with a labelled diagram. 5

Q 11 Describe the principle, working and applications of freeze dryer. 5

Q.12 Describe principle, working and applications of perforated basket centrifuge. 5

Q 13 Distinguish between 'plate column' and 'packed towers'. How is absolute alcohol made? 5

Roll No 9 5 1 0 5 3

Aug . 2023/30217

B. Pharmacy 3rd Semester-2023
Physical Pharmaceutics-I

M. Marks 75

Time Three hours

Note: 1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.
4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

SECTION–A

2x10=20

Q 1 (a) Define real solution
(b) Define HLB scale.
(c) Define Raoult's law
(d) Why drop of liquid hanging in air is spherical in shape?
(e) Define glassy state
(f) What is critical micelles concentration?
(g) List various types of surfactants according to their use as per HLB scale.
(h) Define salvation and association.
(i) Define the term sublimation with examples.
(j) What is liquid crystal? Name its two types

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Describe determination and applications of dipole moment and dissociation constant. 10
Q.3 Demonstrate various methods used for determination of surface and interfacial tension. 10
Q.4 Differentiate between amorphous and crystalline solids with proper examples and also explain the phenomenon of polymorphism with examples. 10

SECTION-C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Elaborate the electrometric and colorimetric pH determination methods. 5
Q.6 Explain mechanism of solute solvent interaction Mention the reason of solubility in different type of solvents. 5
Q.7 Classify surface active agents Discuss their applications in pharmaceutical system. 5
Q.8 How will you determine optical activity? Explain. 5
Q.9 Explain the term Eutectic mixtures with proper examples. 5
Q 10 Discuss the distribution law along with its applications and limitations 5
Q 11 Write a note on flow properties of powders 5
Q.12 Give the statement and postulates of kinetic molecular theory of ideal gases 5
Q.13 Discuss the thermodynamic treatment of stability constants.

Roll No.....

Dec., 2021/40417

B. Pharmacy 4th Semester-2021

PHARMACOLOGY-I

Time: Three hours

M. Marks: 75

Note: 1. **It is compulsory to attempt all questions of Section-A.**
2. **Answer all parts of a question/section at one place only.**
3. **Draw neat and well-labelled diagrams wherever necessary.**

Important note: 4. **Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.**

Section –A

Q.1 **Write in short on the following:** 2x10=20

(a) Explain antagonist.
(b) What is enzyme inhibition?
(c) What do you mean by drug addiction?
(d) Define tachyphylaxis.
(e) Give names of two cardiac stimulants.
(f) Define elimination.
(g) Explain phamacodynamics.
(h) Define ANS.
(i) Write names of two sympatholytics.
(j) Give function and clinical uses of isoprenaline.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Write names of all possible routes of drug administration. Describe the intramuscular and oral routes of drug administration in detail. 10

Q.3 Classify parasympathomimetics. Give pharmacological actions, mode of action and therapeutic uses of neostigmine. 10

Q.4 **Explain the following in short:** 5+5=10

(a) JAK-STAT binding receptors.
(b) Essential drugs.

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write about membrane transport.
Q.6 Explain G protein coupled receptors.
Q.7 Explain drug distribution?
Q.8 Write in brief on clinical trial phase.
Q.9 Describe the drug treatment of glaucoma.
Q.10 Write functions of sympathetic system.
Q.11 Describe local anesthetic agents.
Q.12 Discuss noncompetitive antagonism.
Q.13 Give an account of factors modifying drug action.

Roll No. 223993 4H-3 Jan., 2024/40417

B. Pharmacy 4th Semester
PHARMACOLOGY-I

Time: Three hours M. Marks: 75

Note: 1. Attempt all the following questions as per the instructions.
2. Don't write anything on the question paper, except Roll No.
3. Read the instructions carefully, mentioned in the answer book.
4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

Section –A

Q.1 **Answer all of the following questions:** 2x10=20

(a) What are the essential drugs and give examples.
(b) Enlist Phase-II metabolic reactions with example.
(c) Explain the JAK-STAT binding receptor transduction mechanism.
(d) What are the factors affecting the absorption of drug?
(e) Write about the functions of ANS.
(f) What are the drugs used in myasthenia gravis?
(g) Write the mechanism of action of sodium valproate.
(h) What is the role of GABA in central nervous system?
(i) Give the difference between sedatives and hypnotics.
(j) What do you mean by drug abuse? Also give examples.

Section –B

Long answer type questions: Answer any two out of the following three questions. 10x2=20

Q.2 Explain the different preclinical evaluation phase in drug discovery. 10

Q.3 Classify antiepileptics. Explain detail pharmacology of any one benzodiazepine. 10

Q.4 Classify antiparkinson drugs. Explain at least one drug from each category with detailed pharmacology. 10

Section- C

Short answer type questions: Answer any seven out of the following nine questions. 5x7=35

Q.5 Write short note on sources of drugs. 5

Q.6 Write short note on absorption of drugs. 5

Q.7 Write short note on pharmacovigilance. 5

Q.8 Write short note on pharmacokinetic drug-drug interaction. 5

Q.9 Write short note on signal transduction mechanisms. 5

Q.10 Explain various stages of general anaesthetics. 5

Q.11 Classify neurotransmitters. Explain any one neurotransmitter with pharmacological actions. 5

Q.12 Explain mechanism of action of disulfiram with diagram. 5

Q.13 Write short note on CNS stimulants. 5

Roll No.....

Jan., 2024/40217

B. Pharmacy 4th Semester
Medicinal Chemistry-I

Time: Three hours

M. Marks: 75

Note:
1. **Attempt all the following questions as per the instructions.**
2. **Don't write anything on the question paper, except Roll No.**
3. **Read the instructions carefully, mentioned in the answer sheet.**
4. **Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.**

Section –A

Q.1 **Give the structure, chemical name, mechanism of action and medicinal uses of the following:** 2x10=20

(a) Phenylephrine.
(b) Isoproterenol.
(c) Oxymetazoline.
(d) Prazosin.
(e) Pilocarpine.
(f) Ipratropium bromide.
(g) Benztropine mesylate.
(h) Lorazepam.
(i) Chlorpromazine.
(j) Droperidol.

Section –B

Long answer type questions: Answer any two out of the following three questions. 10x2=20

Q.2 Classify anticonvulsants with examples. Describe three hydantoins as anticonvulsants, covering each aspect. 10

Q.3 Describe in detail halothane, methoxyflurane and ketamine along with synthesis. 10

Q.4 Describe the effect of physicochemical properties on biological activity. 10

Section- C

Short answer type questions: Answer any seven out of the following nine questions 5x7=35

Q.5 Discuss SAR of sympathomimetic agents. 5

Q.6 Discuss SAR of parasympathomimetic agents. 5

Q.7 Describe one cholinesterase reactivator drug. 5

Q.8 Give indications of tropicamide and scopalamine. 5

Q.9 What are the adverse effects of naphazoline and hydroxyamphetamine. 5

Q.10 How drug metabolism is connected with stereochemical aspects? 5

Q.11 Discuss SAR of morphine analogues. 5

Q.12 Write a note on the history of medicinal chemistry. 5

Q.13 Give synthesis of salbutamol and tolazoline. 5

Roll No.....

Jan., 2024/40117

B. Pharmacy 4th Semester
Pharmaceutical Organic Chemistry-III

Time: Three hours

M. Marks: 75

Note:
1. **Attempt all the following questions as per the instructions.**
2. **Don't write anything on the question paper, except Roll No.**
3. **Read the instructions carefully, mentioned in the answer sheet.**
4. **Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.**

Section-A

Q.1 **Answer all of the following questions:** 2x10=20

(a) Define alternative axis of symmetry with example.
(b) What are chiral molecule? Give example.
(c) Define plane of symmetry with example.
(d) Illustrate with example of E and Z nomenclature.
(e) What are atropisomerism? Write the example.
(f) What are fused heterocyclic compounds? Give example.
(g) Give the reason for basicity of pyridine.
(h) Give the basic structure and uses of azepines.
(i) What is Dakin reaction?
(j) Enlist the importance of Oppenauer-oxidation reaction.

Section-B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Define configuration. Explain the sequence rule for R S and D L system of nomenclature of optical isomers. 10

Q.3 Define and classify heterocyclic compounds with examples and explain aromaticity and reactivity of Furan, Pyrrole and Thiophene. 10

Q.4 Give various methods of determination of configuration of geometrical isomers. 10

Section-C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Distinguish between configuration and conformation with example. 5

Q.6 Explain the reaction of chiral molecule in which bonds to the chiral centre are not broken and generation of second chiral centre. 5

Q.7 Discuss conformational isomers in Ethane. 5

Q.8 Discuss the various conformational isomers of n-Butane. 5

Q.9 Discuss the systematic nomenclature of heterocyclic compounds. 5

Q.10 Explain the relative aromaticity and reactivity of thiophen in contrast to furan and pyrrole. 5

Q.11 Outline the Skraups synthesis of quinoline. 5

Q.12 Describe the method of synthesis and reactions of imidazole. 5

Q.13 Explain the mechanism involved in Claisen-Schmidt condensation. 5

l No.....

Jan., 2024/40217

B. Pharmacy 4th Semester
Medicinal Chemistry-I

ne: Three hours

M. Marks: 75

te:
1. **Attempt all the following questions as per the instructions.**
2. **Don't write anything on the question paper, except Roll No.**
3. **Read the instructions carefully, mentioned in the answer sheet.**
4. **Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.**

Section –A

.1 **Give the structure, chemical name, mechanism of action and medicinal uses of the following:** 2x10=20

(a) Phenylephrine.
(b) Isoproterenol.
(c) Oxymetazoline.
(d) Prazosin.
(e) Pilocarpine.
(f) Ipratropium bromide.
(g) Benztropine mesylate.
(h) Lorazepam.
(i) Chlorpromazine.
(j) Droperidol.

Section –B

Long answer type questions: Answer any two out of the following three questions. 10x2=20

Q.2 Classify anticonvulsants with examples. Describe three hydantoins as anticonvulsants, covering each aspect. 10

Q.3 Describe in detail halothane, methoxyflurane and ketamine along with synthesis. 10

Q.4 Describe the effect of physicochemical properties on biological activity. 10

Section- C

Short answer type questions: Answer any seven out of the following nine questions 5x7=35

Q.5 Discuss SAR of sympathomimetic agents. 5

Q.6 Discuss SAR of parasympathomimetic agents. 5

Q.7 Describe one cholinesterase reactivator drug. 5

Q.8 Give indications of tropicamide and scopalamine. 5

Q.9 What are the adverse effects of naphazoline and hydroxyamphetamine. 5

Q.10 How drug metabolism is connected with stereochemical aspects? 5

Q.11 Discuss SAR of morphine analogues. 5

Q.12 Write a note on the history of medicinal chemistry. 5

Q.13 Give synthesis of salbutamol and tolazoline. 5

UHSR EXAMINATIONS

(BPHRS6P1/January, 2026)
Roll No. S.O.1096

Q.P. Code: 60117

B. Pharmacy 6th Semester
Medicinal Chemistry-III

M. Marks: 75

Time: Three hours

***IMPORTANT NOTE:**

1. **Attempt all of the following questions.**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer booklets, cross any blank spaces of more than two lines before the END stamp after you finish the exam.**
3. **Do not use lead/graphite pencil on the answer booklets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section-A (Attempt all of the following questions) 2x10=20

Q.1 (a) What is the chemical classification of β-lactam antibiotics? Give two examples with structures.
(b) Write the SAR of tetracyclines.
(c) Draw the chemical structures of chloroquine and quinine.
(d) What are macrolide antibiotics? Give two examples.
(e) Write the synthesis of isoniazid.
(f) Write the SAR of quinolones.
(g) Name two azole antifungal agents and draw their structures.
(h) What are anthelmintics? Name two examples with uses.
(i) Write the development and SAR of sulphonamides.
(j) Define pharmacophore. How is it used in drug design?

Section-B 10x2=20

Long answer type questions. Answer any two questions out of the following three questions.

Q.2 Discuss the SAR, mechanism of action, and chemical degradation of β-lactam antibiotics. 10

Q.3 Write a detailed account of antimalarial drug classes. Explain the SAR of 4-aminoquinolines and synthesis of chloroquine. 10

Q.4 What is QSAR? Explain different physicochemical parameters used in QSAR and the Hansch equation. 10

Section-C 5x7=35

Short answer type questions. Answer any seven questions out of the following nine questions.

Q.5 Discuss classification and SAR of macrolides. 5

Q.6 Write classification and mechanism of action of antitubercular agents. 5

Q.7 What are antifungal antibiotics? Discuss SAR of amphotericin B and nystatin. 5

Q.8 Describe the mechanism of action and side effects of sulphonamides. 5

Q.9 Explain the difference between solid-phase and solution-phase combinatorial synthesis. 5

Q.10 What are urinary tract anti-infectives? Discuss any two with their mechanism and SAR. 5

Q.11 Write synthesis and applications of acyclovir. 5

Q.12 Draw structures and explain therapeutic uses of two antiprotozoal agents. 5

Q.13 Define prodrugs. Explain with examples how prodrugs improve pharmacokinetics. 5

UHSR EXAMINATIONS

Q.P. Code: 60517

ANQP Code: BPHRS6P5

January, 2026

B. Pharmacy 6th Semester
Pharmaceutical Biotechnology

Roll No.....

Time: 3 hours M. Marks: 75

*** **IMPORTANT NOTE:**

1. **Attempt all of the following questions. Preferably attempt all the questions serially.**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer booklet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.**
3. **Do not use black lead/graphite pencil on the answer booklets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section-A

2x10=20

Q.1 **Answer all the following questions.**

(a) Define the term interferons.
(b) What is recombinant DNA technology?
(c) Write down two applications of enzyme biotechnology.
(d) What are the uses of cell culture?
(e) What is the importance of gene therapy?
(f) Write a short note on plasmid present in bacteria.
(g) What are transposons?
(h) What is the role of DNA ligase in genetic engineering?
(i) What are therapeutic proteins? Give examples.
(j) Explain the term cloning vectors.

Section-B

10x2=20

(Long answer type questions: Answer any two questions out of the following three questions).

Q.2 Define fermentation and discuss in detail the continuous and batch fermentation. 10

Q.3 Define enzyme immobilization? Discuss various methods of immobilization detail. 10

Q.4. Discuss the production of hormone insulin via genetic engineering process. 10

Section-C

5x7=35

(Short answer type questions: Answer any seven questions, out of the following nine questions).

Q.5 Explain mutation and its types. 5

Q.6 Define biotechnology and give its pharmaceutical applications. 5

Q.7 Give brief introduction on PCR. 5

Q.8 Discuss the production of amylase and penicillinase. 5

Q.9 Define Biotransformation. Write the biotransformation reaction with examples. 5

Q.10 Discuss about various blood products and plasma substitutes. 5

Q.11 Explain biosensor and its working. 5

Q.12 Give the differences between cellular and humoral immunity. 5

Q.13 Discuss the structure and functions of immunoglobulins. 5

UHSR EXAMINATIONS

(BPHRS6P2) January, 2026
Roll No. 20196

Q.P. Code: 60217

B. Pharmacy 6th Semester
Pharmacology-III

Time: Three hours

M. Marks: 75

*** **IMPORTANT NOTE:**

1. **Attempt all of the following questions.**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer booklet, cross any blank spaces of more than two lines before the END starts after you finish the exam.**
3. **Do not use black lead/graphite pencil on the answer booklets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section-A (Attempt all of the following questions)

Q.1 **Answer all the following questions.** 2x10=20

(a) Name two anti-asthmatic drugs.
(b) What are expectorants?
(c) Give two examples of nasal decongestants.
(d) What are digestants?
(e) Define chemotherapy.
(f) Give two examples of penicillin antibiotics.
(g) Name two antitubercular drugs.
(h) What are immunosuppressants?,
(i) What is genotoxicity?
(j) Define chronopharmacology.

Section-B

10x2=20

(Long answer type questions: Answer any two questions out of the following three questions).

Q.2 Classify and explain the pharmacology of drugs acting on the respiratory system. 10

Q.3 Discuss the principles of toxicology and management of heavy metal poisoning. 10

Q.4. Write a note on immunopharmacology, including immunostimulants and immunosuppressants. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 Briefly explain the mechanism of action of anti-asthmatic drugs. 5

Q.6 Write a short note on drugs used in constipation. 5

Q.7 Write a note on antitubercular drugs. 5

Q.8 Define and classify toxicity based on duration. 5

Q.9 Describe the clinical symptoms and treatment of organophosphorus poisoning. 5

Q.10 Differentiate between immunostimulants and immunosuppressants with examples. 5

Q.11 List the uses of antitussives and expectorants. Explain their mechanism of action. 5

Q.12 Discuss the use of antiulcer agents. 5

Q.13 Write a note on the chemotherapy of sexually transmitted diseases. 5

UHSR EXAMINATIONS

(BPHRS6P4) January, 2026
Roll No. 501096

Q.P. Code: 60417

B Pharmacy 6th Semester
Biopharmaceutics and Pharmacokinetics

Time: Three hours

M. Marks: 75

*** **IMPORTANT NOTE:**

1. **Attempt all of the following questions. Preferably attempt all the questions serially**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer booklet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.**
3. **Do not use black lead/graphite pencil on the answer booklets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section-A

Q.1 **Answer all the following questions.** 2x10=20

(a) What are clinical pharmacokinetics and its significance?
(b) Write the names of 07 compendial dissolution apparatus as per USP.
(c) Explain the meaning of 'Drug Product Performance'
(d) Give the schematic representation of two compartment open model-IV bolus.
(e) Mention the unit of Cmax, tmax and AUC
(f) Mention the rate-limiting steps in drug absorption.
(g) Define the term 'absorption'. Why we determine this term?
(h) Write Noyes–Whitney equation and the terms used in the equation.
(i) What is meant by compartment models?
(j) Mention any four applications of performing Pharmacokinetic studies.

Section-B

(Long answer type questions: Answer any two questions out of the following three questions). 10x2=20

Q.2 Discuss the mechanisms of drug absorption in detail with at least two suitable examples of each mechanism. 10

Q.3 (a) What is significance of measure the drug bioavailability? 3+7=10
(b) Discuss all the methods and techniques to measure bioavailability of drug.

Q.4. (a) Define loading and maintenance dose 2+8=10
(b) Discuss in detail the Michaelis Menten equation.

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 Write a note on non-linear pharmacokinetics. 5
Q.6 Discuss drug protein interaction and its relevance. 5
Q.7 What is AUC? Discuss trapezoidal method of its calculation. 5
Q.8 Discuss the method of ddetermining ka using the Wagner-Nelson Method for Oral Dosing. 5
Q.9 Discuss the kinetics of protein binding. 5
Q.10 Write a note on IVIVC. 5
Q.11 How would you adjust the drug dose in renal failure? 1x5=5
Q.12 Define the terms:
(a) Clearance
(b) Total body clearance
(c) Hepatic clearance
(d) Renal clearance
(e) Drug elimination 5
Q.13 Write a note on bioequivalence.

Flow through
Recirculating

UHSR EXAMINATIONS

(BPHRS6P3) January, 2026
Roll No. S010096

Q.P. Code: 60317

B. Pharmacy 6th Semester
Herbal Drug Technology

Time: Three hours
M. Marks: 75

***IMPORTANT NOTE:**

1. **Attempt all of the following questions. Preferably attempt all the questions serially**
2. **Do not leave blank spaces of more than two lines in the writing area on the answer booklet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.**
3. **Do not use lead/graphite pencil on the answer booklets for answering the questions.**

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section–A (Attempt all questions)

Q.1 2x10=20

(a) What are bioinsecticides? Give example.
(b) What does biodynamic farming mean for growing medicinal plants?
(c) Name two common pests that attack medicinal plants.
(d) Differentiate between Aristas and Asawas in Ayurveda?
(e) Write two health benefits of nutraceuticals.
(f) Give two examples of herbs used as food supplements.
(g) What is the significance of WHO & ICH guidelines for natural drugs?
(h) Name the gums and waxes of natural origin, used in herbal cosmetics?
(i) What do bioprospecting and biopiracy mean?
(j) What is Schedule Z in the Drugs and Cosmetics Act for Ayurvedic, Siddha, and Unani (ASU) medicines?

Section–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Write in detail the different Indian systems of medicine—Ayurveda, Siddha, Unani, and Homeopathy. Compare their principles, approaches to treatment, and types of formulations used. 10

Q.3 Discuss the patenting and regulatory requirements of natural products in India with special emphasis on Farmers' and Breeders' Rights. 10

Q.4 Discuss various types of conventional and novel herbal drug delivery systems, giving suitable examples. 10

Section-C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write a note on significance and challenges involved in stability testing of phyto-pharmaceuticals. 5

Q.6 What are Good Agricultural Practices (GAP)? How these are important for growing medicinal plants? 5

Q.7 Discuss the biological pest management practices in the cultivation of herbal plants. 5

Q.8 Write a note on how Ayurvedic powders (*Churna*) and mineral preparations (*Bhasma*) are prepared and standardized. 5

Q.9 Discuss the role of herbal ingredients in skin care and hair care products. 5

Q.10 Discuss the role of nutraceuticals in the management of cardiovascular and gastrointestinal diseases. 5

Q.11 Write a note on organic farming in the cultivation of medicinal plants. 5

Q.12 Write a short note on herbal excipients, giving suitable examples. 5

Q.13 Discuss herb–drug interactions, giving examples and their side effects.

Roll No. 24218

Dec., 2024/60517

B. Pharmacy 6th Semester
Pharmaceutical Biotechnolgy

Time: Three hours

M. Marks: 75

Note:
1. **It is compulsory to attempt all questions of Section-A.**
2. **Attempt any two questions from Section-B.**
3. **Attempt any seven questions from Section-C.**
4. **Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.**

SECTION–A

Q.1 **Write short note on the following:** 2x10=20

(a) Name any two methods of enzyme Immobilization.
(b) What is the role of transducers in biosensor?
(c) Give two applications of genetic engineering in medicine.
(d) Define the term Immunity.
(e) DNA Ligase Restriction Endonuclease enzyme is used for which purpose?
(f) Name the immunoglobulin which is responsible for Rh immune response.
(g) Give full form of ELISA. Give its application also.
(h) Differentiate between Mutants and Mutagens.
(i) Who discovered Penicillin? Why is more effective against Gram Positive Bacteria?
(j) Define Fermentation. Give two examples of Fermenter.

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Explain in detail biotechnological production of hormone insulin by using rDNA technology.

Q.3 Discuss Hybridoma Technology in detail. Add a note on the applications of hybridoma technology.

Q.4 Write a descriptive note on:
a. ELISA
b. Western Blotting Technique

SECTION- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Describe the principle of biosensor. Explain different types of biosensors.

Q.6 Explain production of enzyme amylase or protease. Discuss their applications also.

Q.7 Differentiate between Eukaryotic and Prokaryotic genome with help of diagram.

Q.8 Classify immunity. Compare and contrast cellular and Humoral Immunity.

Q.9 What do you understand by interferon? Write a descriptive note on Polymerase.

Q.10 Chain Reaction (PCR).

Q.11 What are the different types of fermentation methods? Discuss.

Q.12 Give basic principles of genetic engineering.

Q.13 Draw a labelled diagram of fermenter.

Roll No. 6376718

Dec., 2024/60417

B. Pharmacy 6th Semester
Biopharmaceutics & Pharmacokinetics

Time: Three hours

M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

SECTION–A

Q.1 **Write short note on the following:** 2x10=20

(a) Why is a compartment called "open" compartment?
(b) Draw a typical plasma concentration Vs time plot for IV drug administration and indicate the pharmacokinetic parameters.
(c) What is meant by active drug absorption?
(d) What are hepatic clearance and its units?
(e) What is meant by pinocytosis?
(f) Name an acidic and basic plasma protein.
(g) Give two examples of proprietary drugs.
(h) Enumerate the different classes of drugs according to BCS.
(i) What is meant by generic substitutes? Give two examples.
(j) What is meant by bioequivalence?

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Discuss the factors influencing drug elimination from the body.

Q.3 Explain non-linear pharmacokinetics. Discuss the tests conducted for confirming non-linear pharmacokinetic behaviour of drugs.

Q.4 Briefly discuss the essential features of a bioequivalence protocol.

SECTION- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 What is Vd? Highlight its clinical importance.

Q.6 What is the difference between absolute and relative bioavailability?

Q.7 Describe the pharmacokinetics of a drug administered by IV rapid injection.

Q.8 Derive equations to calculate Tmax.

Q.9 Write a note on challenges for percutaneous permeation of drugs.

Q.10 Briefly describe plasma protein binding of drugs and its clinical significance.

Q.11 What are Phase-1 and Phase-2 biotransformations? Give two examples for each.

Q.12 What are the advantages of IV infusion?

Q.13 Write a short note on waiver from bioequivalence studies.

Roll No...37.631.8..... Dec., 2024/60117

B. Pharmacy 6th Semester
Medicinal Chemistry-III

Time: Three hours M. Marks: 75

Note: 1. It is compulsory to attempt **all questions of Section-A.**
2. Attempt **any two questions from Section-B.**
3. Attempt **any seven questions from Section-C.**
4. Use only blue/black ink pen to attempt answers. **Use of pencil is prohibited.**

SECTION–A

Q.1 **Answer all of the following questions:** 2x10=20

(a) What are acid and penicillinase resistant penicillins? Give the examples along with special chemical features responsible for acid and penicillinase resistant properties.
(b) Give the nomenclature of basic cephalosporins.
(c) What are quinolones? Give example of any two such drugs along with chemical structure bearing quinolone scaffold.
(d) Name any two drugs from class aminoglycosides and draw their structure.
(e) What are steric parameters, used in QSAR analysis? Mention its importance.
(f) What are beta lactam antibiotics? Give their examples along with chemical structure.
(g) Give the basic skeleton of tetracycline along with the numbering system.
(h) Write the life cycle of malaria.
(i) Name various physiochemical parameters used as descriptors in drug design.
(j) Give the nomenclature of basic cephalosporins.

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 What are antiprotozoals? Write the classification of antiprotozoal drugs.

Q.3 What are β-lactam antibiotics? Discuss in detail the classification and mechanism of action.

Q.4 Define tuberculosis and its types. Write the classification of antituberculosis drugs.

SECTION- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write short note on synthetic antitubular agents.

Q.6 Describe the synthesis, structure and mechanism of action of nitrofurantoin.

Q.7 Explain the mechanism of action of aminoglycosides.

Q.8 What is docking in the CADD? Discuss its importance in the drug designing process.

Q.9 What are macrolide antibiotics? Discuss the SAR of these antibiotics.

Q.10 Write down the synthesis and uses of chloramphenicol.

Q.11 Write the basic concept and various approaches used in drug designing.

Q.12 Write the molecular docking approach for drug discovery.

Q.13 Discuss the mechanism of action and SAR of sulphonamides.

Roll No..... 376518

Dec., 2024/60217

B. Pharmacy 6th Semester
Pharmacology-III

Time: Three hours

M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

SECTION–A

Q.1 **Write short note on the following:** 2x10=20

(a) Chronopharmacology
(b) Emetics
(c) Laxatives
(d) Biological clock
(e) Immunosuppressants
(f) Clindamycin
(g) Prophylactic therapy
(h) Antacids
(i) Aminoglycosides
(j) Albendazole

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Classify drugs used an anti-viral agents and discuss the pharmacology of anti-HIV drugs in detail.

Q.3 Describe the general principles of treatment of poisoning. Discuss the clinical symptoms and management of mercury poisoning.

Q.4 Describe the pharmacology of penicillins.

SECTION- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Describe the pharmacology of Co-trimazole.

Q.6 Discuss the drugs used in the management of COPD.

Q.7 Enumerate the general principles of antimicrobial therapy in brief.

Q.8 Discuss the chemotherapeutic management of UTIs.

Q.9 Describe the basic knowledge of carcinogenicity.

Q.10 Classify antiulcers drugs and describe the pharmacology of PPIs.

Q.11 Describe the pharmacology of antiasthmatic drugs.

Q.12 Discuss the concept of protein drugs.

Q.13 Discuss the pharmacology of antitubercular drugs.

Roll No. 376306

Jan., 2025/60617

B. Pharmacy 6th Semester

Quality Assurance

Time: Three hours

M. Marks: 75

Note:
1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

SECTION–A

Q.1 Answer all of the following questions: 2x10=20

(a) Enlist the benefits of ISO 14000.
(b) What are the elements of QbD?
(c) Write the importance of SOP in manufacturing?
(d) Define accuracy and precision.
(e) Name any two parameters for qualification of UV-visible spectrophotometer.
(f) What the general principles of validation?
(g) Explain secondary packing material.
(h) Enlist the significances of batch formula record.
(i) Name any four types of closures.
(j) What is DMF? Give its importance.

SECTION–B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Explain the purchase specifications and maintenance of stores for raw materials.

Q.3 How do you handle disposal of waste products in pharmaceutical unit.

Q.4 Discuss in detail the design, construction, plant layout and requirement of environmental control in sterile manufacturing unit.

SECTION- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Describe in detail the features of ISO 9000 and ISO 14000.

Q.6 What is QSEM and discuss in detail Q-series guidelines.

Q.7 Explain the procedure for qualification of pH meter.

Q.8 Explain briefly the protocol for conducting non-clinical lab studies.

Q.9 How do you audit vendor for ensuring purchase specification?

Q.10 Protocol for conduct of a nonclinical laboratory study.

Q.11 Explain the quality review and quality documentation.

Q.12 Write in detail about batch formula record and master formula record.

Q.13 Explain the disqualification of testing facilities.

Roll No. 430990

UHSR EXAMINATIONS

Paper ID: 70117/May. 25

B. Pharmacy 7th Semester
Instrumental Methods of Analysis

Time: Three hours

M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

Section –A (Attempt all questions)

Q.1 (a) Define Isocratic and gradient elution in HPLC. 2x10=20
(b) Give principle and two limitations of Flame Photometry.
(c) Define the term Electrophoretic Mobility.
(d) Define $E^{1\%}_{1cm}$ value of a compound.
(e) Give the differences between TLC and Paper chromatography.
(f) Give principle of Ion exchange chromatography.
(g) Define Hypsochromic and hyperchromic shifts.
(h) Define the term 'Fermi Resonance'.
(i) Give principle and two applications of spectrofluorimetry.
(j) What is solvent cut off in UV-Vis spectroscopy?

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Discuss the principle, instrumentation and working of double beam UV-Vis Spectrophotometer. Draw a neat and well labeled flow diagram of it. 10

Q.3 Discuss the principle, instrumentation and applications of HPLC. Draw a neat and well labeled block diagram of HPLC unit. 10

Q.4 Discuss the factors affecting vibrational frequency in IR spectroscopy taking suitable examples. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Discuss any two detectors used in Gas Chromatograph. 5

Q.6 Give the principle and methodology of Paper Chromatography. 5

Q.7 Define the term 'Fluorescence'. Discuss the factors affecting it. 5

Q.8 Discuss Principle and methodology of Gel electrophoresis. 5

Q.9 Discuss principle and methodology of Affinity Chromatography. 5

Q.10 Discuss the principle, applications and limitations of Nepheloturbidometry. 5

Q.11 Discuss the interferences observed in AAS. 5

Q.12 Discuss the detectors used in IR Spectrophotometers. 5

Q.13 Discuss the principle and methodology of column chromatography. 5

UHSR EXAMINATIONS

Roll No. .....

Paper ID: 70217/May, 25

B. Pharmacy 7th Semester
Industrial Pharmacy

Time: Three hours

M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

SECTION –A (Attempt all questions)

Q.1 **Define the following:** 2x10=20

(a) Platform technology
(b) CDSCO
(c) GLP
(d) MoU
(e) Clinical Research protocol
(f) SUPAC
(g) IND
(h) Technology transfer
(i) ISO 9000
(j) State licensing authority

Section - B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Write a detailed note on pilot plant scale up considerations for solid and oral liquids. 10

Q.3 Write a detailed note on regulatory requirements and approval procedures for new drugs in India. 10

Q.4 Write a detailed note on WHO guidelines on technology transfer of pharmaceutical products. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write briefly about common technical documents and its components. 5

Q.6 Write a short note on the concept of total quality management. 5

Q.7 Write a brief note on role of biostatistics in pharmaceutical product development. 5

Q.8 Write a short note on management of clinical studies in new drug development. 5

Q.9 Write a brief note on various agencies involved in transfer of technology (TOT) in India. 5

Q.10 Write a brief note on SUPAC guidelines. 5

Q.11 Write a short note on drug development teams and non-clinical drug development. 5

Q.12 Write a brief note on organization and responsibilities of CDSCO. 5

Q.13 Write a short note on the ISO 9000 series of quality systems standards. 5

UHSR EXAMINATIONS

Roll No. 480990

Paper ID: 70317/May. 25

B. Pharmacy 7th Semester
Pharmacy Practice

Time: Three hours

M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

SECTION –A (Attempt all questions)

Q.1 (a) Define Hospital.
(b) Define Adverse Drug reactions.
(c) Define therapeutic drug monitoring.
(d) What is medication adherence?
(e) Enumerate the steps in patient counselling.
(f) Give any two sources of information.
(g) Give examples of any two OTC drugs.
(h) Define Dosing Pattern.
(i) Define investigational new drug.
(j) Enumerate any two haematological tests. 2x10=20

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Describe the types of drug distribution systems. 10

Q.3 Elaborate the organization and functions of the pharmacy and therapeutic committee. 10

Q.4 Discuss the principles and method of Purchase and inventory control. 10

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Classify hospitals on the clinical and non- clinical basis. 5

Q.6 Give the legal requirements for establishment and maintenance of a drug store. 5

Q.7 Write a note on Therapeutic drug monitoring. 5

Q.8 Analyse the role of Drug and Poison information centre. 5

Q.9 Give the Code of ethics for community pharmacy. 5

Q.10 Write the functions and responsibilities of clinical pharmacist. 5

Q.11 Justify the Rational use of common over the counter medications. 5

Q.12 Write notes on types of materials stocked in drug store and their storage conditions. 5

Q.13 Write the role of hospital pharmacist in Investigational use of drugs. 5

UHSR EXAMINATIONS

Roll No. 4720990 Paper ID: 70417/June, 25

B. Pharmacy 7th Semester
Novel Drug Delivery System

Time: Three hours M. Marks: 75

***IMPORTANT NOTE:

1. Attempt all of the following questions.
2. Do not leave blank spaces of more than two lines in the writing area on the answer sheet, cross any blank spaces of more than two lines before the END stamp after you finish the exam.
3. Do not use lead/graphite pencil on the answer sheets for answering the questions.

A case of use of Unfairmeans will be made if instructions at 2 & 3 are not complied.

SECTION –A (Attempt all questions)

Q.1 **Discuss the followings:** 2x10=20

(a) Controlled release
(b) Organic polymer
(c) Monoclonal antibodies
(d) Electroporation
(e) Opsonization
(f) Lag time and Flux
(g) Nebulizers
(h) Microspheres
(i) Bioadhesion
(j) Reservoir system

Section-B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 What are the advantages of microencapsulation? Discuss the methods of microencapsulation with suitable examples.

Q.3 How would you select a suitable drug candidate for controlled drug delivery systems? Explain the role of ion exchange resins in designing the controlled drug delivery systems.

Q.4 Enumerate the applications of gastroretentive drug delivery systems. Describe the formulation aspects of high density systems.

Section-C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Explain the applications of polymers in formulation of controlled drug delivery systems.

Q.6 Discuss the methods for the preparation of nanoparticles.

Q.7 What do you understand by intrauterine drug delivery systems? Discuss its applications.

Q.8 Describe the formulation of gastroadhesive drug delivery systems.

Q.9 Explain briefly the formulation aspects of buccal drug delivery systems.

Q.10 Compare and contrast the sonophoresis and iontophoresis.

Q.11 Write an exhaustive note on ocuserts.

Q.12 What are the various pathways for the permeation through skin? Discuss the basic components of transdermal drug delivery system.

Q.13 Discuss briefly the formulation of nasal sprays and nebulizers.

16/3/21

Roll No.....

March, 2021/70117

B. Pharmacy 7th Semester-2021
Instrumental Methods of Analysis

Time: Three hours

M. Marks 75

Note:

1. It is compulsory to attempt all question of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Answer all parts of a question/section at one place only.
5. Draw neat and well-labelled diagrams wherever necessary.

Section –A

2x10=20

Q.1 (a) Enlist various factors affecting capillary electrophoresis.
(b) Which material is suitable to be used as material for construction for sample cells in IR- Spectroscopy?
(c) What is the difference between per and post column derivatization in GC?
(d) Name the compounds which show π-π^* transitions in UV spectroscopy.
(e) What is Hook's Law?
(f) What is auxochrome?
(g) Give the principle of paper chromatography?
(h) Name the detectors used in Gas chromatography.
(i) What is affinity chromatography?
(j) Give advantages of adsorption chromatography.

Section –B

10x2=20

Long answer type questions. Answer any two questions out of the following three questions.

Q.2 (a) What is singlet, doublet and triplet state? Elaborate factors affecting fluorescence.
(b) Discuss the working principle of Gel Chromatography.

Q.3 What is the role of electronic transitions in U.V. spectroscopy? Discuss the instrumentation and its application in pharmaceutical industry.

Q.4 What types of injector, pumps and detector systems are used in HPLC? Enlist its pharmaceutical importance.

Section- C

5x7=35

Short answer type questions. Answer any seven questions out of the following nine questions.

Q.5 Discuss the instrumentation of Atomic absorption spectroscopy.

Q.6 Explain instrumentation and applications of Nephaloturbidometry technique.

Q.7 Write a short note on capillary electrophoresis.

Q.8 Discuss principle and applications of flame photometry.

Q.9 Elaborate methodology of paper chromatography.

Q.10 Write a note on the methods used for making the sample suitable for GC analysis.

Q.11 Elaborate the properties of ion exchange resins and factors affecting ion exchange.

Q.12 Discuss the fundamental modes of vibration in polyatomic molecules.

Q.13 Discuss Mull and Pressed Pellet Technique of sample preparation in IR Spectroscopy.

Roll No.....

April, 2023/70117

B. Pharmacy 7th Semester-2023
Instrumental Methods of Analysis

Time: Three hours

M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Answer all parts of a question/section at one place only.
3. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

Section -A

2x10=20

Q.1 (a) State principle of affinity chromatography.
(b) Differentiate cation and anion exchangers with example.
(c) Enlist advantage and disadvantage of paper chromatography.
(d) Define chromohpore and auxochromes with examples.
(e) What is Eddy diffusion?
(f) Differentiate between absorptivity and transmittance.
(g) Enlist factors affecting fluorescence.
(h) Give advantages of reverse phase chromatography.
(i) What is the role of ligand in chromatography?
(j) Differentiate between per and post column derivatization in GC.

Section –B

10x2=20

Long answer type questions. Answer any two questions out of the following three questions.

Q.2 Explain principle, instrumentation, sampling techniques and application of IR spectroscopy.

Q.3 Discuss the principle, methodology, disadvantages and applications of TLC.

Q.4 Describe Beer Lambert's law, detectors used and pharmaceutical importance of UV spectroscopy.

Section- C

5x7=35

Short answer type questions. Answer any seven questions out of the following nine questions.

Q.5 Discuss interferences and instrumentation of atomic absorption spectroscopy.

Q.6 Explain derivatization, temperature programming and pharmaceutical importance of gas chromatography.

Q.7 Differentiate between adsorption and partition chromatography. Give applications of column chromatography.

Q.8 Write about methodology and applications of ion exchange chromatography.

Q.9 Discuss in brief about theory and application of nepheloturbidometry technique.

Q.10 Write short note on Gel chromatography.

Q.11 Give an account on various techniques used in electrophoresis.

Q.12 Explain various types of detectors used in HPLC.

Q.13 Explain interferences and applications of flame photometry.

Roll No.....

Feb. 2022/70217

B. Pharmacy 7th Semester-2022
Industrial Pharmacy

Time: Three hours

M. Marks: 75

Note:

1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.

SECTION –A

Q.1 Answer the following in brief: 2x10=20

(a) What are the functions of NRDC?
(b) What are the MoUs?
(c) Write the names of various agencies involved in transfer of Technology.
(d) Define the BE studies.
(e) What is the role of Small Industries Development Bank of India?
(f) What is the meaning of Out of specifications?
(g) Briefly explain the Clinical Research Protocol.
(h) Define pilot plant scale-up.
(i) What is the six sigma concept?
(j) What is the role of NABL under the Quality Council of India?

SECTION –B

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.2 Discuss historic overview of regulatory affairs.
Q.3 What are the WHO guidelines for technology transfer?
Q.4 Discuss the documentation required for equipment qualification and validation.
Q.5 What are the regulatory requirements for non-clinical drug development?
Q.6 Briefly explain the role of biostatistics in pharmaceutical product development.
Q.7 Discuss the organization and responsibilities of CDSCO.
Q.8 What is the ISO 9000 series of quality systems?
Q.9 What are the responsibilities of the State Licensing Authority?
Q.10 Discuss general considerations for an IND application.

SECTION- C

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.11 Discuss the regulatory requirements and approval procedure for New Drugs.
Q.12 Discuss the concepts of Total Quality Management and Quality by Design.
Q.13 Define platform technology. Briefly explain the SUPAC guidelines.

Roll No.

Time: Three hours

B. Pharmacy 7th Semester-2022
Pharmacy Practice

March, 2022/70317

M. Marks: 75

Note:
1. It is compulsory to attempt all question of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
4. Answer all parts of a question/section at one place only.
5. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

Section –A

Q.1 (a) What are primary hospitals? 2x10=20
(b) Define pharmacokinetic drug interactions.
(c) What is an adverse drug reaction?
(d) Define hospital formulary.
(e) Define therapeutic drug monitoring.
(f) What is drug information services?
(g) What are internal and external training programs?
(h) Define idiosyncrasy and teratogenicity.
(i) What is patient counselling?
(j) Write down the responsibility of hospital pharmacists.

Section –B

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.2 Write about organization and functions of a hospital pharmacy in detail.

Q.3 Write a note on pharmacy and therapeutic committee in detail.

Q.4 Write an exhaustive note on drug store management and inventory control.

Section- C

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.5 Write in detail about types of drug interactions.

Q.6 Comment on the role of pharmacist in medication adherence.

Q.7 Explain rational use of OTC medications in detail.

Q.8 What do you mean by prescribed medication order? Discuss its interpretation and legal requirements.

Q.9 Write a short note on interpretation of clinical laboratory tests.

Q.10 Give detailed information of investigational use of drugs.

Q.11 Discuss the services involved in nursing homes and role of pharmacist in community health education.

Q.12 Write about patient counselling and special cases that require the pharmacist.

Q.13 What are the key components of community pharmacy management? Discuss their significance.

Roll No .....

B. Pharmacy 7th Semester-2021 August, 2021/70317
Pharmacy Practice

Time: Three hours M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.

Important: 4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

SECTION-A

Q.1 Multiple choice questions. (Attempt all questions). 1x20=20

(i) The component of lead time:
(a) Internal (b) External
(c) Both a and b (d) Lateral

(ii) Which of the following is a medication related problem?
(a) Untreated diseases (b) Medication overdose
(c) Improper drug selection (d) All of the above

(iii) The pharmacy and therapeutics committee should hold its meeting at least_____ per annum:
(a) 6 times (b) 4 times
(c) 2 times (d) 12 times

(iv) Which of the following set of instructions need to be exercised while dispensing for out-patients?
(a) Medicines with prescription only (b) Dispensing from outside pharmacy
(c) Recording of patient treatment (d) All of the above

(v) The refilling of controlled substances falling in following schedule is strictly prohibited:
(a) Schedule I (b) Schedule III
(c) Schedule II (d) Schedule IV

(vi) Which of the following statement is correct about informed consent in a clinical trial?
(a) Patients injected with placebo and doses. (b) Signed document of the recruited patient for the clinical trial procedures is obtained.
(c) The subjects do not know which study treatment they shall receive (d) Fake treatment.

(vii) Which of the following is a valid therapeutic use of interaction?
(a) Instructing patient to take levofloxacin with milk or antacid (b) Use of probenecid with penicillin
(c) Treatment of depression with MAO inhibitor and citalopram (d) Giving aspiring with warfarin

(viii) The case control studies are called as:
(a) Disease-oriented systems (b) Complication-oriented systems
(c) Drug-oriented systems (d) Dose-oriented systems

(ix) Which of the following phase of clinical trial involves first time human trial in a small number of patients?
(a) Phase I (b) Phase III
(c) Phase II (d) Phase IV

(x) Which of the following is characteristics of good clinical practices?
(a) The FDA's requirements for how trials are conducted and documented (b) Widely accepted standards of practice during clinical trials
(c) Clinical practices that adhere to the best standards of care (d) Regulations set in place by Government that how clinical trials are supposed to be managed

(xi) Which of the following terms does not describe an adverse drug reaction?
(a) Idiosyncracy (b) Teratogenicity
(c) Anaphylaxis (d) Placebo effect

(xii) Patient counselling helps to:
(a) Pass time at old age (b) Motivate the patient to take medicine for improvement of his/her health status
(c) Develop business relations with pharmacist (d) Know chemical structure of drug

PTO for the remaining questions

(xiii) **Pharmacovigilance is done for monitoring of:**
(a) Pharmacy students
(b) Unethical practices
(c) Drug safety
(d) Drug price

(xiv) **The incidence ADR is highest in:**
(a) Children
(b) Women
(c) Elderly
(d) Men

(xv) **Which of the following is contraindicated during pregnancy due to its teratogenicity:**
(a) Folic acid
(b) Retinol
(c) Calcium
(d) Iron

(xvi) **Which of the following responsibility of the clinical pharmacist is in direct patient care area?**
(a) Reviewing of each patient's drug administration forms periodically to ensure all doses have been administered
(b) Identify drugs brought into the hospital by patients.
(c) Providing drug information to physicians and nurses
(d) Supervision of drug administration techniques.

(xvii) **Which of the following reaction is called augmented adverse drug reactions?**
(a) Genetically determined effects.
(b) Rebound effect on discontinuation.
(c) Idiosyncracy.
(d) Allergic reactions and anaphylaxis

(xviii) **Which of the following age related physiological change in geriatric patient may affect drug distribution?**
(a) Increased serum albumin level
(b) Increased total body fat
(c) Increased total body water.
(d) Increased body mass.

(xix) **Which of the following drug is usually avoided with breastfeeding?**
(a) Ibuprofen
(b) Naproxen
(c) Propranolol
(d) Methotrexate

(xx) **Which of the following statement is appropriate description of average costs?**
(a) The cost of the consumption of medicines is a good example of variable costs.
(b) Independent of the number of units of production and include heating, lighting and fixed staffing costs.
(c) The total costs (i.e. all the costs incurred in the delivery of a service) of a health care system divided by the units of production.
(d) The value of opportunities which have been lost by utilizing resources in particular service or health technology.

SECTION-B

(Long answer type questions: Answer any two out of the following three questions)

Q.2 Write about organization and functions of hospital pharmacy in detail. 10

Q.3 **Write a short note on the following:**
(a) Drug distribution systems for in-patients.
(b) Legal requirements for prescribed medication order. 5+5=10

Q.4 Write an exhaustive note on adverse drug reactions (ADRs). 10

SECTION-C

(Short answer type questions: Answer any seven of the following nine questions).

Q.5 Write in detail about community pharmacy management. 5

Q.6 Comment on rational use of OTC medicines. 5

Q.7 Enlist inventory control methods. Explain EOQ and VED analysis in detail. 5

Q.8 What do you mean by budgeting? Discuss its objectives and types. 5

Q.9 Explain role of pharmacist in prescription adherence. 5

Q.10 Give an account of classification of hospitals on variety of criteria. 5

Q.11 Discuss drug information systems. 5

Q.12 Write about tachyphylaxis and idiosyncracy. 5

Q.13 What are the key components of hospital formulary? Discuss their significance. 5

Roll No. 78957

March, 2021/70417

B. Pharmacy 7th Semester-2021
Novel Drug Delivery System

Time: Three hours

M. Marks: 75

Note:
1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.

SECTION –A

Q.1 (a) What is polymer membrane permeation-controlled drug delivery system? 2x10=20
(b) How NDDS will be helpful in improving the efficacy of an ocular formulation?
(c) What are the factors that limit ready use of polyhydroxybutyrate (PHB) as carrier in NDDS?
(d) Contrast O/W versus W/O emulsions.
(e) Write two potential uses of calcium phosphate foam.
(f) Write names of two methods used in liposome preparation.
(g) Contrast bioadhesion versus mucoadhesion.
(h) What are SLNPs based NDDS?
(i) What do you mean by biocompatibility?
(j) What do you mean by CMC?

SECTION –B

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.2 What do you mean by targeted drug delivery? Discuss in brief.

Q.3 Write in brief manufacture and functioning of implants.

Q.4 What is required HLB value? Discuss role of HLB value in development of emulsion based formulation.

Q.5 Discuss role of various ingredients used in development of inhalers.

Q.6 Discuss factors that regulate permeation across the membrane. Write names of two permeation enhancers.

Q.7 What are the factors that play important role in process of microencapsulation?

Q.8 Discuss the effect of substituent on the acidity of carboxylic acids.

Q.9 Discuss various factors that can regulate sustained release of an active medicament over an extended time period.

Q.10 Discuss in brief niosomes and non-ionic detergents.

SECTION- C

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.11 **Write note on the following:**
(a) Applications of monoclonal antibodies.
(b) Discuss various factors that regulate adhesion of materials to biological surface.

Q.12 **Discuss the following:**
(a) Liposomes in drug targeting.
(b) Intraocular barrier and methods to overcome.

Q.13 Discuss in brief various bonding mechanisms operative in mucoadhesion.

Roll No.....

B. Pharmacy 7th Semester-2021 August, 2021/70417
Novel Drug Delivery System

Time: Three hours M. Marks: 75

Note:
1. It is compulsory to attempt all questions of SECTION-A.
2. Answer all parts of a question/section at one place only.
3. Draw neat and well-labelled diagrams wherever necessary.

Important: 4. Use only blue/black ink pen for attempting answers. Use of pencil is prohibited.

SECTION –A

Q 1: (a) Define nanoparticles. 2x10=20
(b) What is HAT medium used in hybridoma technology?
(c) What do you mean by first pass effect?
(d) What are immunoliposomes?
(e) What are amphipathic compounds?
(f) Give two examples each of TWEEN and SPAN based surfactants.
(g) Write two applications of naso-pulmonary based NDDS.
(h) What is pH of skin? What is its role in transdermal based NDDS?
(i) What is hybridoma?
(j) What do you mean by passive targeting of the medicament?

SECTION –B

Short answer type questions. Answer any seven questions out of the following nine questions. 5x7=35

Q.2 Write in brief about uses of monoclonal antibodies in cancer therapy. 5

Q.3 What do you mean by 'active drug targeting'? 5

Q.4 Discuss in brief the factors that regulate permeation of drugs across skin. 5

Q.5 What are the common risks associated with IUDs? 5

Q.6 What are the characteristics of mucoadhesive system? 5

Q.7 What are detergents? Name some detergents with different surface charges and their specific use in NDDS development. 5

Q.8 Describe name and functioning of some plasticizers widely used in development of NDDS. 5

Q.9 What are the salient features of ocular drug delivery? 5

Q.10 Describe in brief the functioning of permeation enhancers. 5

SECTION- C

Long answer type questions. Answer any two questions out of the following three questions. 10x2=20

Q.11 What do you mean by microencapsulation? Discuss in brief the various factors influencing microencapsulation efficiency. 10

Q.12 What are floating osmotic pumps? Discuss advantages of osmotic pumps over conventional oral drug delivery systems. 10

Q.13 Describe in brief various components of osmotically controlled drug delivery system. 10

Roll No....

B. Pharmacy 8th Semester-2021 July, 2021/80317
Pharmaceutical Marketing

Time: Three hours M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
Important: 4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

Section-A

Q.1 (a) What do you mean by retail pharmacy? 2x10=20
(b) Define direct mail.
(c) What is personal selling?
(d) What do you mean by marketing channel?
(e) Define segmentation.
(f) Define market research.
(g) Give the example of product mix.
(h) Give two examples of selling.
(i) Explain marketing.
(j) Give industrial buying methods. 10x2=20

Section-B

(Long answer type questions: Answer any two questions out of the following three questions).

Q.2 **Write short note on the following:** 5+5=10
(a) Market research.
(b) OTC product.

Q.3 Discuss role of medical representatives in pharmaceutical marketing. 10

Q.4. Discuss pharmaceutical promotion methods. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 Write a note on DPCO. 5

Q.6 Write a note on NPPA. 5

Q.7 Write a note on motivation. 5

Q.8 Write a note on product cycle. 5

Q.9 Write a note on exhibitions. 5

Q.10 Write a note on product branding. 5

Q.11 Write a note on prescribing habits. 5

Q.12 Write a note on competition. 5

Q.13 Write a note on target market. 5

Roll No. 820226 Aug., 2021/60117

B. Pharmacy 8th Semester-2021
Medicinal Chemistry-III

Time: Three hours M. Marks: 75

Note: 1. It is compulsory to attempt all questions of Section-A.
2. Attempt any two questions from Section-B.
3. Attempt any seven questions from Section-C.
Instant: 4. Use only blue/black ink pen to attempt answers. Use of pencil is prohibited.

Section-A

Q.1 (a) Give historical background for development of drugs. 2x10=20
(b) SAR of penicillin.
(c) Give chemical structure of any two cephalosporin drugs.
(d) What are prodrugs? Give suitable examples with structures.
(e) Name the organism which causes malaria. Mention different steps/mechanism by which malaria can be avoided.
(f) Give synthetic route of chloroquine.
(g) Describe the classification of quinolones with structures.
(h) Give the life cycle of virus.
(i) Discuss the mechanism of action of sulphonamides.
(j) What do you mean by pharmacophore mapping?

Section-B

(Long answer type questions: Answer any two questions out of the following three questions). 10x2=20

Q.2 Discuss the various physiochemical parameters used in drug designing. 10

Q.3 What are sulphonamides? Discuss the historical development of sulphonamides along with classification. 10

Q.4 What are antiviral agents? Write their classification along with chemical structures. Discuss the synthetic route of acyclovir. 10

Section-C

(Short answer type questions: Answer any seven questions, out of the following nine questions). 5x7=35

Q.5 What are aminoglycoside antibiotics? Discuss their mechanism of action. Describe the SAR of aminoglycoside antibiotics. 5

Q.6 Give the SAR of macrolide antibiotics. 5

Q.7 Describe the applications of prodrugs in context of medicinal chemistry. 5

Q.8 Give classification of antimalarial agents. Describe the SAR of any one classification. 5

Q.9 Discuss the SAR of quinolones. Also give the synthetic route of ciprofloxacin. 5

Q.10 Give a detailed classification of antiviral agents along with the chemical structures. 5

Q.11 Describe the various approaches of drug designing. 5

Q.12 Discuss the mechanism action of antimalarial drugs. Enroute the synthesis of chloroquine. 5

Q.13 What is docking in the CADD? Discuss its importance in the drug designing process. 5