This question paper contains 3 printed pages]

PP—03—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B. Pharm. (Third Year) (Six Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

MEDICINAL CHEMISTRY-III

(Wednesday, 27-12-2023) CBP601T **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw structure, reactions wherever necessary.

1. Solve the following : 10×2=20

(*a*) What are tetracycline antibiotics ?

(*b*) Enlist the steps involved in preparation and purification in antibiotics.

(*c*) What are N1 and N4 substituted sulphonamides ?

(*d*) Name and draw heterocyclic ring present in :

(*i*) Nitrofurantoin

(*ii*) Pyrimethamine.

(*e*) Write a note on macrolide antibiotics.

(*f*) Define lead molecule and pharmacophore.

P.T.O.

(*g*) Name the target receptor for quinolone and chloroquine.

(*h*) Give structure and IUPAC name of dapsone.

(*i*) Enlist any *four* drugs that bind to ribosomal cell wall.

(*j*) Write chemical category of.

(*i*) Amphoterecin B.

(*ii*) Proguanil.

2. Solve any *two* of the following : 2×10=20

(*a*) What are β–lactum antibiotics ? Write chemical classification of β–lactums with at least *one* structure from each class. Explain the SAR of penicillin.

(*b*) Write chemical classification of antifungal drugs. write synthesis of tolnaftate.

(*c*) Explain chemistry , SAR and MOA of quinolones .

3. Solve any *seven* of the following : 7×5=35

(*a*) Write structure, IUPAC name and MOA of metronidazole.

(*b*) Enlist different physico-chemical parameters related to QSAR. Explain any *two*.

(*c*) Write chemical classification of antiviral drugs with at least *one* structure from each class.

(*d*) What are anthemintic drugs ? Write syntheris of Mebendazole.

(*e*) Write chemical classification of antimalarial drugs with suitabe structure.

(*f*) Write a note on combinational chemistry.

(*g*) Write a note on macrolide antibiotics.

(*h*) Explain the SAR of tetracycline.

(*i*) Write classification of Anti-TB drugs. Enlist target receptor for each category.

14445558ABC43A011FA301962253D27F

This question paper contains 2 printed pages]

PP—07—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

PHARMACOLOGY

Paper–III (BP-602T)

(Friday, 29-12-2023) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Illustrate your answer with neat sketch wherever necessary.

1. Answer the following : 10×2=20

(*a*) Define Asthma. Give its types.

(*b*) What are anti-diarrheal drug ? Give its examples.

(*c*) Write cases in which emetics are contraindicated.

(*d*) Define peptic ulcer. Write its types.

(*e*) What is respiratory stimulants ? Give its examples.

(*f*) What are emetics and anti-emetics ? Give its examples.

(*g*) What is drug resistance ?

(*h*) Write therapeutics uses of Ranitidine.

(*i*) Write mechanism of action and uses of Sulphonamides.

(*j*) What is the source of penicillin and streptomycin ?

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) Define antibiotics. Classify antibiotics on the basis of mechanism of action. Discuss pharmacology of penicillin.

(*b*) What are antitubercular agents ? Classify it with suitable example. Write pharmacology of INH (Isoniazide).

(*c*) What are anti-leprotic agents ? Classify it with suitable example. Explain pharmacology of dapsone.

3. Solve any *seven* of the following : 7×5=35

(*a*) Define and classify anti-asthmatic drugs. Write pharmacology of Salbutamol.

(*b*) Define and classify purgatives. Write therapeutic uses of purgatives.

(*c*) What are antitussive drugs ? Write pharmacology of Codeine.

(*d*) Explain in detail pharmacology of Sulphonamides.

(*e*) Discuss pharmacology of chloramphenicol.

(*f*) What are antiviral agents ? Explain pharmacology of Zidovudine.

(*g*) Explain the pharmacology of tetracycline.

(*h*) Discuss various general principles of treatment of poisoning.

(*i*) Write pharmacotherapy of tuberculosis.

DF08F75690F4CF209819E5CB2D32058F

This question paper contains 2 printed pages]

PP—11—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Sixth Semester) EXAMINATION

JANUARY, 2024

HERBAL DRUG TECHNOLOGY

Paper–(BP-603T)

(Monday, 01-01-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Draw neat labelled diagrams wherever necessary.

(*iv*) Figures to the right indicate full marks.

1. Solve the following : 10×2=20

(*a*) Define herb and herbal medicine.

(*b*) Define biopesticide with example.

(*c*) Define bhasma. Enlist *four* characteristics of bhasma.

(*d*) Write the biological source and uses of Ginseng.

(*e*) What is drug interaction ? Classify it.

(*f*) What are antioxidants ? Give examples.

(*g*) Define patent. Enlist the conditions for patent grant.

(*h*) Enlist any *four* industries involved in herbal medicine manufacturing.

(*i*) Write the biological source and marketed formulations of fenugreek.

(*j*) Enlist *four* herbal drugs used in hair care preparations.

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) Discuss the role of neutraceuticals used in prevention of Diabetes and Cancer.

(*b*) Discuss general requirements, infrastructural requirements, working space, storage area, equipments, SOP, health and hygiene for manufacturing of ASU drugs.

(*c*) Discuss WHO guidelines for assessment and stability testing of herbal drugs.

3. Solve any *seven* of the following : 7×5=35

(*a*) Discuss method of preparation, evaluation and storage for Asava.

(*b*) Discuss primary and secondary processing of raw herbal material.

(*c*) Write chemical constituents and uses of Ginger, Fenugreek and Ashwagandha.

(*d*) Discuss the possible herb-drug and herb-food interactions of Ginkobiloba.

(*e*) Write the principle of Ayurveda and Unani system of medicine.

(*f*) Discuss the case study of Neem.

(*g*) Discuss the present and future scope of herbal drug industry.

(*h*) What are natural excipients ? Classify it with example.

(*i*) Describe process of preparation of phytosomes.

3564192C60C540B03A2807A9D28F98D2

This question paper contains 2 printed pages]

PP—15—2023

FACULTY OF PHARMACEUTICAL SCIENCES AND TECHNOLOGY

B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

JANUARY, 2024

BIOPHARMACEUTICS AND PHARMACOKINETICS

(BP-604T)

(Wednesday, 03-01-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

1. Answer the following : 10×2=20

(*i*) Define Bioavailability and Bioequivalence.

(*ii*) Enlist *three* methods which are used to define the K_{max} and V_{max}.

(*iii*) What is dosage regimen ?

(*iv*) Define Biopharmaceutics and Pharmacokinetics.

(*v*) Give applications of bioequivalence study.

(*vi*) Differentiate between active and passive form of drug absorption.

(*vii*) What is meant by therapeutic equivalence ?

(*viii*) What is Glomerular filtration rate ?

(*ix*) Enlist factors affecting protein drug binding.

(*x*) Enlist any *three* major factors which affect tissue permeability.

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) What are compartment model ? Give its advantages and disadvantages.

(*b*) Explain physicochemical factors affecting drug absorption.

(*c*) Discuss methods of measuring bioavailiability.

3. Solve any *seven* of the following : 7×5=35

(*i*) Explain caternary model along with its advantages and disadvantages.

(*ii*) What are applications of Renal clearance ?

(*iii*) Describe physiological modelling in detail.

(*iv*) Explain apparent volume of drug distribution in detail.

(*v*) Write a note on in vitro drug disolution model.

(*vi*) Explain one compartment open model extravascular administration.

(*vii*) Explain various factors causing non-linearity.

(*viii*) Explain open and closed models.

(*ix*) Elaborate loading and maintenance dose in detail.

This question paper contains 2 printed pages]

PP—19—2023

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

B.Pharm. (VI Semester) EXAMINATION

JANUARY, 2024

PHARMACEUTICAL BIOTECHNOLOGY

Paper BP605T

(Friday, 5-1-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

1. *All* questions are compulsory : 10×2=20

(*a*) Define Biotechnology.

(*b*) What is enzyme immobilisation ?

(*c*) Define protein engineering.

(*d*) Give applications of Biosensor.

(*e*) Define vectors.

(*f*) What is meant by vaccine ?

(*g*) Define humoral and cellular immunity.

(*h*) Give structure of MHC.

(*i*) Define hypersensitivity reactions.

(*j*) Give types of mutation.

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) Describe in detail fermentors of large scale with its diagrams.

(*b*) Describe in detail hybridoma technology and its applications.

(*c*) Describe in detail R-DNA technology and its applications.

3. Solve any *seven* : 7×5=35

(*a*) Give basic principles of genetic engineering.

(*b*) Give a brief introduction of PCR.

(*c*) Draw a neat labelled diagram of immunoglobulin.

(*d*) Describe in detail storage condition and stability of official vaccine.

(*e*) Describe in brief about blood products and plasma substitutes.

(*f*) Define Microbial Biotransformation and give its applications.

(*g*) Explain difference between Eukaryotes and Prokaryotes.

(*h*) Explain in detail production of penicillin.

(*i*) Explain in brief immune suppression.

This question paper contains 2 printed pages]

PP—26—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Third Year) (Sixth Semester) EXAMINATION

JANUARY, 2024

PHARMACEUTICAL QUALITY ASSURANCE

Paper BP606T

(Monday, 8-1-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

(*iii*) Figures to the right indicate full marks.

1. Answer the following questions : 10×2=20

(*a*) What do you mean by IPQC ?

(*b*) Write the responsibilities of head of quality assurance.

(*c*) What are the objectives of ICH ?

(*d*) Write vision and mission of NABL.

(*e*) What do you mean by HVAC System ?

(*f*) Write the functions of packaging.

(*g*) Write in detail product recall procedure.

(*h*) Write importance of documentation in Pharmaceutical Industry.

(*i*) Write contents of Reports and Documents.

(*j*) What is Installation Qualification ?

P.T.O.

2. Solve any *two* of the following : 2×10=20

(*a*) Explain importance and general principles of Analytical Method Validation.

(*b*) Discuss in detail subpart D, F and G of good laboratory practices.

(*c*) Explain steps in ISO 14000 registration process.

3. Solve any seven of the following : 7×5=35

(*a*) Write full process of NABL accreditation.

(*b*) Describe elements of Total Quality Management.

(*c*) Describe in detail utilities and maintenance of sterile areas.

(*d*) Write in detail about 'Handling of return good and waste disposal'.

(*e*) Describe in detail "Good Warehousing Practice".

(*f*) Comment on 'Batch Formula Record' and 'Standard Operating Procedure'.

(*g*) Describe principle, scope and types of validation.

(*h*) Explain design, construction and plant layout of premises of pharmaceutical industry.

(*i*) Describe quality control test of rubber closure.

5E5E75324E50788F08014368F495740D