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# SP—03—2024

## FACULTY OF SCIENCES AND TECHNOLOGY

## B. Pharm. (Sixth Semester) EXAMINATION

## APRIL/MAY, 2024

## MEDICINAL CHEMISTRY-III

## Paper BP-601-T

**(Wednesday, 15-05-2024)** **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks—75*

*Note :—* (*i*) *All* questions are compulsory.

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

1. Answer the following : 2×10=20

(*a*) Give outline synthesis of chloramphenicol.

(*b*) Give MOA of $\beta$-lactum antibiotic.

(*c*) Give ideal requirements of prodrug.

(*d*) Draw the structure and IUPAC name of Pamaquine.

(*e*) Give the synthetic pathway for Acyclovir.

(*f*) Classify Quinolones with chemical structure of one drug of each category.

P.T.O.

(*g*) Write a note on azole as antifungal agents.

(*h*) Give the structure and uses of ornidazole.

(*i*) Draw the structure and IUPAC name of Niclosamide.

(*j*) Enlist $N_1$ and $N_4$ substituted sulphonamide and draw any *one* drug from it.

2. Answer any *two* from the following : 2×10=20

(*a*) (*i*) Explain in detail about SAR and MOA of Sulphonamide.

(*ii*) Classify penicillin on the basis of chemical moiety.

(*b*) (*i*) Discuss about SAR, MOA, biotransformation and synthesis of INH.

(*ii*) Discuss about SAR of Quinolone as antibacterial agent.

(*c*) Classify antimalarial agent on the basis of chemical moiety. Explain SAR of Quinolones as antimalarial agents.

3. Answer any *seven* from the following : 7×5=35

(*a*) Discuss in detail about SAR of tetracycline class of antibiotic.

(*b*) Explain in detail about pharmaceutical and pharmacokinetic applications of prodrug.

(*c*) Briefly discuss about :

(*i*) Carrier linked prodrug

(*ii*) Synthetic pathway of PAS.

(*d*) What are antiviral agents ? Classify them with at least *one* example from each class.

(*e*) Explain in short :

(*i*) Partition coefficient

(*ii*) Parallel synthesis.

(*f*) Draw the structure, IUPA name, MOA and synthesis of Dapsone.

(*g*) Draw the structure of the following :

(*i*) Norfloxacin

(*ii*) Mebendazole

(*iii*) Ethambutol

(*iv*) Sulphapyridine

(*v*) Ketoconazole.

(*h*) Give the synthesis of Miconazole and Metronidazole.

(*i*) How would you classify Anthelmintics on the basis of chemical structure ? Give synthesis of DEC.

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# SP—07—2024

## FACULTY OF SCIENCES AND TECHNOLOGY

## B.Pharm. (Sixth Semester) EXAMINATION

## APRIL/MAY, 2024

PHARMACOLOGY-III

**(Friday, 17-05-2024)** (BP602T) **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks*—75

*Note :—* (*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*) What are the adverse effects of Tetracyclines ?

(*b*) What are antiemetics ?

(*c*) How to carminatives act ?

(*d*) What are fluoroqunolones ? Give examples.

(*e*) Enumerate various antidotes available.

(*f*) Differentiate between expectorants and antitussives.

P.T.O.

(*g*) Define chronotherapy and write their applications.

(*h*) What is amoebiasis ? Mention any *four* drugs used in the treatment of it.

(*i*) Write about the treatment for organophosphorous poisoning.

(*j*) Mention *four* classes of antibiotics acting by inhibiting cell wall synthesis.

(*k*) What are nasal decongestants ? Give examples.

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

(*a*) Classify anti-ulcer agents with examples. Write mechanism of action and therapeutic uses of PPIs.

(*b*) Classify penicillin. Write mechanism of action, adverse effects and uses of Penicillin-G.

(*c*) Classify antitubercular agents. Explain mechanism of action of INH and Rifampicin.

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

(*a*) What is bronchial asthma ? Classify drugs used in its treatment.

(*b*) Outline the steps involved in the elimination of orally ingested poisons.

(*c*) Classify antiviral and antiretroviral agents with examples.

(*d*) Write mechanism of action, adverse effects and uses of corticosteroids.

(*e*) Write clinical symptoms of heavy metals poisoning. Add a note on their antidotes.

(*f*) Classify antileprotic drugs with examples. Write about Dapsone.

(*g*) Write about drugs used in treatment of urinary tract infection.

(*h*) What are prokinetic drugs ? Write pharmacology of Metaclopramide.

(*i*) What is biological clock ? With some example explain chronothera .

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# SP—11—2024

## FACULTY OF PHARMACEUTICAL SCIENCE

## B.Pharm. (Sixth Semester) EXAMINATION

## APRIL/MAY, 2024

## HERBAL DRUG TECHNOLOGY

Paper BP-603-T

**(Monday, 20-05-2024)** **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks—75*

*Note :—* (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only.

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

1. Solve *all* of the following : 10×2=20

(*a*) Define herb and herbal medicine.

(*b*) Write characteristics of herbal dyes.

(*c*) Give role of honey as health food.

(*d*) Give the significance of herbarium.

(*e*) Enlist *four* dietary supplements under neutraceuticals.

P.T.O.

(*f*) Write advantages of bioinsecticides.

(*g*) Define Patent.

(*h*) Give the biological source of any *one* herb used as perfume.

(*i*) What are hair tonics ?

(*j*) What are probiotics ? Give example.

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

(*a*) Define and classify herbal excipients with example. Describe the role of herbal excipient in cosmetics.

(*b*) Explain the WHO and ICH guidelines for assessment of herbal drugs.

(*c*) Describe in detail the morphological and microscopical methods of identification and authentication of herbal material.

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

(*a*) What are neutraceuticals ? Discuss on the present market scenario and scope of neutraceuticals.

(*b*) Give the ideal characteristics of leha and churna.

(*c*) Enlist various bioinsecticies and explain any *two* in detail.

(*d*) Write the possible side effects of Ginseng and Ephedra.

(e) Discuss Garlic as a neutraceutical.

(f) Write the side effects and possible interactions of Kava-Kava.

(g) Write in detail about organic farming.

(h) Write a note on stability testing of herbal drug.

(i) Explain the regulation of manufacture of ASU drugs in India.

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# SP—15—2024

## FACULTY OF SCIENCE AND TECHNOLOGY

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

## APRIL/MAY, 2024

BIOPHARMACEUTICS AND PHARMACOKINETICS

Paper BP604-T

**(Wednesday, 22-05-2024)** **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks—75*

*Note :—* (*i*) *All* questions are compulsory.

(*ii*) Answer to the point only

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

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

1. Solve the following : 10×2=20

(*a*) Give Michaelis-Menten equation for non-linearity.

(*b*) What is sink condition ?

(*c*) Define total body clearance.

(*d*) What do you mean by bioequivalence ?

(*e*) Mention the objectives of bioavailability studies.

(*f*) Define biotransformation. Give drug metabolizing enzymes.

(*g*) Define gastric emptying.

P.T.O.

(*h*) Enlist pharmacokinetic and pharmacodynamic parameter.

(*i*) Give the factors affecting protein binding of drugs.

(*j*) Define absorption and distribution of drug.

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

(*a*) Explain non-renal of drug excretion of drugs.

(*b*) Explain any *five* methods for enhancement of bioavailability.

(*c*) Explain factors affecting absorption of drugs.

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

(*a*) Give phase-I and phase-II reactions.

(*b*) What is pH partition hypothesis ?

(*c*) Give causes for non-linearity.

(*d*) What is loading dose and maintenance dose ?

(*e*) Explain one compartment open model for intravenous bolus administration.

(*f*) Give factors affecting distribution of drugs.

(*g*) Explain binding of drugs to HSA.

(*h*) What is first pass effect metabolism ?

(*i*) Explain blood brain barrier.

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# SP—19—2024

## FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

## B.Pharma. (Sixth Semester) EXAMINATION

## APRIL/MAY, 2024

PHARMACEUTICAL BIOTECHNOLOGY

Paper BP-605 T

**(Saturday, 25-05-2024)** **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks*—75

*Note* :— (*i*) *All* questions are compulsory.

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

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

(*a*) Define plasmid with example.

(*b*) Differentiate between vaccine and serum.

(*c*) What is PCR ? Give *two* examples.

(*d*) Define immunity. List types of it.

(*e*) Give different types of ELISA.

(*f*) Give application of enzyme in medicine.

(*g*) What is cosmid vector ?

P.T.O.

(h) Define Toxoids. Give an example.

(i) What is biotechnology ?

(j) Define immunoglobulins.

2. Solve any *two* : 2×10=20

(a) Describe the production of hepatitis B vaccine.

(b) Describe the general method of recombinant DNA technology.

(c) Explain in detail PCR.

3. Solve any *seven* : 7×5=35

(a) What is mutation ? Describe different types of mutation.

(b) Outline general method for production of peniciline.

(c) What is vaccine ? Give application of microbial biotransformation.

(d) Write production of monoclonal antibodies.

(e) Write a note on storage and stability of vaccine.

(f) Write in detail different types of fermenter.

(g) Define prokaryotic and eukaryotic enzyme.

(h) Describe principle involved in hydrid technology.

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# SP—26—2024

## FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

## B. Pharm. (Sixth Semester) EXAMINATION

## APRIL/MAY, 2024

PHARMACEUTICAL QUALITY ASSURANCE

**(Tuesday, 28-05-2024)** (BP606T) **Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours* *Maximum Marks—75*

*Note :—* (*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*) Define :

(*i*) Quality assurance

(*ii*) Quality control.

(*b*) What is TQM ?

(*c*) Enlist any *four* Q-series guidelines.

P.T.O.

(*d*) What is ISO 9000 ?

(*e*) Mention objectives of NABL.

(*f*) Write a note on personnel hygiene.

(*g*) Discuss the importance of packaging in pharmaceutical industry.

(*h*) Give the objectives of GLP.

(*i*) What do you mean by product recall ?

(*j*) Define calibration and validation.

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

(*a*) Explain in detail batch formula record and master formula record.

(*b*) Describe in detail quality control test for glass container.

(*c*) Write about equipment selection in Pharmaceutical Industry.

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

(*a*) Explain in brief components of GMP.

(*b*) Describe the process of harmonization.

(*c*) Write responsibilities of personnel in pharmaceutical industry.

(*d*) What is study director ? Give its responsibilities in detail.

(*e*) Give the steps of registration for ISO 1400.

(*f*) Explain the qualification of UV-visible spectrophotometer.

(*g*) What is quality audit ? Write its different in detail.

(*h*) Explain in detail elements of QbD.

(*i*) Describe philosophies of TQM.