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AM—03—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Pharm. (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

MEDICINAL CHEMISTRY-III

BP–601T

(Tuesday, 17-12-2024) **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*) Figures to the right indicate full marks.

1. Solve the following : 2×10=20

(*a*) Write structure and uses of cephalexin.

(*b*) Mention the steric parameters used in QSAR.

(*c*) Outline the synthesis of dapsone.

(*d*) Write the structure of any *two* antitubercular antibiotics.

(*e*) Define and classify prodrugs.

(*f*) Write structure and uses of mebendazole.

(*g*) Give the structure and uses of any *one* antiviral drug.

(*h*) Name any *two* sulfonamides used in treatment of Burn therapy.

(*i*) Write the structure and uses of chloroquine.

(*j*) Give the structure and uses of folate reductase inhibitors.

P.T.O.

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

(*a*) What are beta lactum antibiotics ? Give the degradation products of penicillins. Write a short note on β-lactamase inhibitors.

(*b*) What are antifungal agents ? Describe in detail about polyene antifungal agents.

(*c*) What are antimalarial drugs ? Explain life cycle of malaria. Outline the synthesis of chloroquine and primaquine.

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

(*a*) Write SAR of tetracyclines antibiotics.

(*b*) Write a note on uninary tract anti-infective agents.

(*c*) What are first line antitubercular drug ? Write the structure of any *two* anti-tubercular drugs. Give synthesis of INH.

(*d*) Write a note on combinatorial chemistry and its applications.

(*e*) Describe the chemistry and synthesis of chloramphenicol.

(*f*) Define and classify anthelmintics. Write the synthesis of diethyl carbamazine citrate (DEC).

(*g*) What are sulphonamides ? Explain their SAR and MOA.

(*h*) Name the *four* anti-amoebic drugs with structure. Give the synthesis of metronidazole.

(*i*) Explain the modern concept of rational drug design.

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AM—07—2024

FACULTY OF PHARMACEUTICAL SCIENCE

B.Pharm. (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

PHARMACOLOGY-III

(Thursday, 19-12-2024) (BP602T) **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 point only.

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

1. Answer the following : 10×2=20

(*a*) Write a short note on Asthma.

(*b*) Define the Rhythm and Cycle.

(*c*) Define the acute and chronic toxicity.

(*d*) Write a note on chemotherapy.

(*e*) Write a note on Antimalarial drugs.

(*f*) Enlist the anti-fungal drugs.

(*g*) Write a short note on management of COPD.

(*h*) Write a note on Nasal decongestants.

(*i*) Write a note on clotrimazole

(*j*) Write a short note on constipation.

P.T.O.

2. Long answer questions (any *two*) : 2×10=20

(*a*) Write in detial on :

(*i*) Appetite stimulants and suppressants.

(*ii*) Antibiotics.

(*b*) Explain in detail on :

(*i*) Antileprotic drugs

(*ii*) Anthelmentics.

(*c*) Write in detail on immunopharmacology.

3. Short answer questions (any *seven*) : 7×5=35

(*a*) Discuss about :

(*i*) Genotoxicity

(*ii*) Tetratogenicity

(*b*) Write in detail about chemotherapy of malignancy.

(*c*) Write a note on antiamoebic drugs.

(*d*) Explain in detail about antiviral drugs.

(*e*) Write in detail about Anti-TB drugs.

(*f*) Write a short note on Anti-ulcer drugs.

(*g*) Discuss about treatment of COPD.

(*h*) Write a note on respiratory stimulants.

(*i*) Discuss about emetics and antiemetics.

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AM—11—2024

FACULTY OF SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

HERBAL DRUG TECHNOLOGY

BP–603-T

(Saturday, 21-12-2024) **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*) Figures to the right indicate full marks.

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

(*a*) Define herbal medicine with example.

(*b*) Give *two* examples of waxes used in herbal cosmetics.

(*c*) Mention the constituents and uses of spirulina.

(*d*) Write any *two* plant based bioinsecticides and their biological source.

(*e*) Write the source of Hypericum and Amla.

(*f*) What is gutika ? Give example.

(*g*) What is schedule T ?

~~(*h*)~~ Write any *two* plant-based bioinsecticides and their biological source.

(*i*) What are Asava and Arishta ?

(*j*) Define bioprospecting and biopiracy

b) write any 1 example of microbian pesticides. with its biological source.

P.T.O.

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

(*a*) Describe the WHO guidelines for the assessment of herbal drugs.

(*b*) Explain the importance of garbling, drying and preservation in the processing of herbal raw materials.

(*c*) Explain good agricultural practices in cultivation of medicinal plants including organic farming.

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

(*a*) Write the scope and future prospects of herbal drug industry.

(*b*) Write a note on stability testing of herbal drugs.

(*c*) Explain the health benefits and role of ashwagandha and ginseng as nutraceuticals.

(*d*) Give the source of saffron, hibiscus and Bhringraj. Explain their role in cosmetics.

(*e*) Give a brief account on plant-based industries and institution in India.

(*f*) Give the source, chemical constituents and uses of any *two* natural gums.

(*g*) Explain the diluents and viscosity builder from natural source with *two* examples.

(*h*) Discuss the machinery and equipment required for herbal drug industry as per GMP.

(*i*) Write a note on herbal drug and herb-food interaction with example.

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AM—15—2024

FACULTY OF PHARMACEUTICAL SCIENCE AND TECHNOLOGY

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

NOVEMBER/DECEMBER, 2024

BIOPHARMACEUTICS AND PHARMACOKINETICS

BP-604-T

(Tuesday, 24-12-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours *Maximum Marks—75*

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

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

(*iii*) Answer to the point only.

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

(*a*) Define absorption and distribution.

(*b*) What is meant by protein binding of drug ?

(*c*) What is vd ?

(*d*) What are phases of Biotransformation ?

(*e*) Give objectives of bioavailability.

(*f*) Define C_{max} and AUC.

(*g*) In one compartment open model 'open' means what ?

(*h*) What is meant by loading dose and maintenance dose ?

(*i*) Define Non-linearity.

(*j*) Define clearance.

P.T.O.

2. Solve any *two* : 2×10=20

(a) Explain different mechanisms of drug absorption through GIT.

(b) Explain different methods to enhance bioavailability of poorly soluble drug.

(c) Explain in detail factors causing non-linearity.

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

(a) Explain any *five* factors affecting protein-drug binding.

(b) Explain in brief factors affecting renal excretion of drug.

(c) Explain in brief about excretion of drug through bile and saliva.

(d) Write about In vitro-In vivo co-relation.

(e) Explain pharmacokinetic methods of measurement of bioavailability.

(f) Write in brief about physiological model.

(g) Explain in brief about calculation of loading and maintenance dose.

(h) Write about one compartment open model I.V. (Bolus).

(i) Write about in-vitro drug dissolution models.

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AM—19—2024

FACULTY OF PHARMACEUTICAL SCIENCE & TECHNOLOGY

B.Pharma. (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

PHARMACEUTICAL BIOTECHNOLOGY

(BP-605T)

(Friday, 27-12-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours *Maximum Marks—75*

N.B. :— (1) *All* questions are compulsory.

(2) Figures to the right indicate full marks.

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

(*a*) What is immune stimulation ?

(*b*) Write the steps involved in *r*DNA technology.

(*c*) Write applications of Enzyme immobilizatin.

(*d*) What is hypersensitivity ?

(*e*) Draw a well labelled diagram of fermenter.

(*f*) Enlist applications of Biotechnology in Pharmaceutical Sciences.

(*g*) What is upstream processing ?

(*h*) Write the use of Plasma Substitutes.

(*i*) What is humoral immunity ?

(*j*) Give difference between eukaryotes and prokaryoles.

P.T.O.

2. Solve any *two* : 2×10=20

(*a*) Explain applications of *r*DNA technology with production of Insulin.

(*b*) What is hybridoma technology ? Give its applications.

(*c*) Explain in detail about methods of enzyme immobilization.

3. Solve any *seven* : 7×5=35

(*a*) Explain types of antibodies and draw a well labelled structure of immunoglobulin.

(*b*) How vectors play an important role in *r*DNA technology ?

(*c*) Explain the production of vitamin B_{12}.

(*d*) Write in detail about southern blotting technique.

(*e*) Write about requirements, media and equipments used in fermentation.

(*f*) Explain type-II hypersensitivity with *one* example.

(*g*) Describe the structure and functions of MHC.

(*h*) Define Mutation. Give its types and explain with *one* example.

(*i*) Write about collection, processing and storage of whole human blood.

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AM—26—2024

FACULTY OF SCIENCE & TECHNOLOGY

B.Pharma. (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

PHARMACEUTICAL QUALITY ASSURANCE

(BP-606T)

(Monday, 30-12-2024) 04/01/2025 **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours *Maximum Marks—75*

N.B. :— (1) Answer to the point only.

(2) Figures to the right indicate full marks.

(3) *All* questions are compulsory.

1. Answer *all* the questions : 10×2=20

(*a*) Define quality assurance and quality control.

(*b*) What is need of validation ?

(*c*) What is meant by primary and secondary packaging ?

(*d*) Differentiate between calibration and validation.

(*e*) Defne total quality management.

(*f*) Enlist different elements of QbD.

(*g*) Write the different objectives of environmental management system.

(*h*) Give the benefits of ISO 14001 certification.

(*i*) What is the importance of packaging ?

(*j*) What is meant by master formula record ?

P.T.O.

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

(*a*) Describe in detail different ICH stability testing guidelines.

(*b*) Discuss in detail qualification of UV-visible spectrophotometers.

(*c*) Explain in brief different components of GMP.

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

(*a*) Explain different philosophies of Total Quality Management (TQM).

(*b*) Write a note on process of harmonization of ICH.

(*c*) Describe in short different tools of QbD.

(*d*) Explain different steps of ISO 14,000/9000 registration process.

(*e*) What is validation ? Explain its different types.

(*f*) Comment on Training and Hygiene in pharmaceutical industry.

(*g*) Write objectives, contents and importance of SoP.

(*h*) Explain in detail about Quality Audit.

(*i*) Describe in brief about evaluation of complaints.