

MANIPAL UNIVERSITY
FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015
SUBJECT: CLINICAL PHARMACY AND THERAPEUTICS (PPR 401)
(CREDIT BASED SYSTEM)

Tuesday, May 05, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

- 1A. Explain the role of ACE inhibitors in the management of hypertension.
1B. Explain the management of complicated urinary tract infection (UTI).
(3+5 = 8 marks)
- 2A. Differentiate between iron deficiency anemia and megaloblastic anemia.
2B. Explain the management of osteoarthritis.
(3+5 = 8 marks)
- 3A. Mention the clinical features of hypothyroidism.
3B. Explain the management of hyperthyroidism.
(3+5 = 8 marks)

4. **Short Essay Questions:**

- 4A. Outline the pharmacotherapy of type 2 diabetes mellitus.
4B. Explain the management of human immunodeficiency virus infection.
4C. Explain the management of generalized tonic clonic seizures.
4D. Define adverse drug reactions (ADRs) and mention four predisposing factors for ADRs.
(4 marks × 4 = 16 marks)

5. **Short Answer Questions:**

- 5A. Classify drug information resources with suitable examples.
5B. Write a short note on diagnostic test for Tuberculosis.
5C. Enlist main clinical symptoms of Parkinsonism.
5D. Define drug interaction and classify drug interaction with one example for each.
5E. Mention the management of uremia in chronic renal failure.
(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015****SUBJECT: INSTRUMENTAL AND BIOMEDICAL ANALYSIS (PQA 402)
(CREDIT BASED SYSTEM)**

Thursday, May 07, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

- ✍ **Answer ALL the questions.**
✍ **Draw neatly labeled diagram wherever necessary.**

✍ **Long Essay:**

- 1A. What is analytical method validation? Write the validation parameters as per ICH guidelines.
1B. Explain the molecular vibrations observed in IR spectroscopy.

(4+4 = 8 marks)

- 2A. Explain the principle of photometric titration with two examples.
2B. Explain the effect of solvent and pH on absorption spectra.

(4+4 = 8 marks)

3. Differentiate the following terminology in chromatography:
3A. Isocratic elution and gradient elution
3B. Normal phase chromatography and reversed phase chromatography
3C. Dry packing and wet packing
3D. Isothermal programming and linear programming.

(2 marks × 4 = 8 marks)

4. **Short Essay:**

- 4A. i) Write the applications of mass spectroscopy.
ii) Explain the principle of atomic emission spectroscopy.

(2+2 = 4 marks)

- 4B. i) Define the term quenching of fluorescence. Write the factors affecting the same.
ii) Differentiate Optical rotary dispersion and Circular Dichroism.

(2+2 = 4 marks)

- 4C. i) Differentiate elastic and inelastic scattering with examples.
ii) What is crystal lattice? Write its types.

(2+2 = 4 marks)

- 4D. Explain the construction of a polarographic apparatus. Write the advantages of dropping mercury electrode.

(4 marks)

5. **Short Answer:**

- 5A. Explain the theory of NMR spectroscopy in brief.
- 5B. Write any four applications of flame photometry.
- 5C. What is atomization? List the type of atomizers used in atomic absorption spectroscopy.
- 5D. Explain the principle of conductometric titration of strong acid and a weak base.
- 5E. What is thermal analysis? Write its Pharmaceutical applications.

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015****SUBJECT: INDUSTRIAL PHARMACY (PCE 403)
(CREDIT BASED SYSTEM)**

Saturday, May 09, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Define and classify liposomes. Mention different methods of preparation of liposomes. Explain any one important method in detail.

(8 marks)

2. Discuss in detail Quality control testing of Tablets with respect to tests like Weight variation, Disintegration time, Friability and Hardness.

(8 marks)

3. Mention different manufacturing methods of soft gelatin capsules and explain Rotary die process with a neat diagram. Enlist different methods of microencapsulation and explain any one method.

(4+4 = 8 marks)

4. **Short Essay:**

4A. Discuss different filling methods in Liquid Orals.

4B. Mention the different routes through which intraocular absorption occurs and factors affecting intraocular absorption of the drug.

4C. Explain FUSION method of preparation for anhydrous and emulsion semisolids.

4D. Write about storage and distribution of Water for Injection.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Write a note on Personnel hygiene as per Good manufacturing practices.

5B. Define Rouge. Mention any two types of rouges.

5C. Name the different parts of aerosol valve assembly.

5D. What are different types of glass and plastics used in pharmaceutical packaging?

5E. Mention any four precautions to be taken during the preparation of Radiopharmaceuticals.

(2 marks × 5 = 10 marks)



Reg. No.									
----------	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY
FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015
SUBJECT: MEDICINAL CHEMISTRY – II (PCH 404)
(CREDIT BASED SYSTEM)

Tuesday, May 12, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1A. Classify diuretics with examples according to their site of action. Explain SAR of thiazide diuretics giving the structures of any two.

1B. Write the synthesis and Mechanism of action of clonidine and bezafibrate. (4+4 = 8 marks)

2A. What are antisense drugs? Give their uses.

2B. Classify sulpha drugs by giving one structure under each class.

2C. Outline the scheme for the synthesis of mebendazole and ethambutol. (1+3+4 = 8 marks)

3A. Discuss the chemistry, mechanism of action and SAR of Tetracyclines.

3B. Write the structures of three antipseudomonal cephalosporins.

3C. Write the chemistry of Beta lactamase inhibitors with suitable examples. (4+2+2 = 8 marks)

4. **Short Essays:**

4A. Classify antineoplastic agents. Give two examples from each class with structures.

4B. Classify antiviral drugs in detail and write agents used in the management of herpes virus.

4C. Classify antitubercular agents and write the role of combination therapy.

4D. What is the dysrhythmia? Classify antidysrhythmic agents giving the structures of one agent from each class. Outline the method of preparation and brand name of diltiazem.

(4 marks × 4 = 16 marks)

5. **Short Notes:**

5A. What are DHFR inhibitors? Write structures of any two.

5B. Write the structures, chemical name and uses of Isosorbidedinitrate and dicoumarol.

5C. Give MOA and structure of losartan and propylthiouracil.

5D. What are diagnostic agents? Write the synthesis and specific uses of any one of them.

5E. Classify steroid hormones in detail and how are they used as oral contraceptives agents. (2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY
FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015
SUBJECT: MEDICINAL CHEMISTRY – II (PCH 404)
(MAHE SYLLABUS)

Tuesday, May 12, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 75

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1A. What is the dysrhythmia? Classify antidysrhythmic agents giving the structures of one agent from each class. Outline the method of preparation, chemical name of procainamide and diltiazem.

1B. Write the mechanism of action and synthesis of glyceryltrinitrate.

(7+3 = 10 marks)

2A. What are antihypertensive agents? Explain the mechanism of action of ACE inhibitors giving the structure of any two. Outline the method of preparation of nifedipine.

2B. Classify sulpha drugs with examples. Explain the synergistic action of Co-trimoxazole. Give the method of preparation of any one sulpha drug.

(5+5 = 10 marks)

3A. Classify antitubercular agents with one example. Write the synthesis and IUPAC name of PAS.

3B. Discuss the mechanism of action and SAR of aminoglycoside antibiotics.

(5+5 = 10 marks)

4A. Mention the medicinal uses of diuretics. Classify them with examples. Explain the mechanism of action and synthesis of furosemide.

4B. Classify steroidal hormones with examples. Write the synthesis and uses of ethinyl estradiol.

(6+4 = 10 marks)

5. **Short Essays:**

5A. Write the methods of preparation of Clofibrate and nalidixic acid.

5B. Classify penicillins with example. Explain the stereochemistry and degradation reactions of penicillins.

5C. Write the structures, mechanism of action and specific uses of:

i) Azathioprine

ii) Methotrexate

iii) Cisplatin

5D. Give the synthesis and uses of furazolidone and chlorpropamide.

5E. Write the uses and synthesis of clotrimazole and warfarin sodium.

5F. What are pro drugs? Classify them with examples. Explain their applications with examples.

5G. What are anthelmintics? Classify them with examples. Give the structures and chemical names of any three of them.

(5 marks × 7 = 35 marks)



MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACOLOGY – II (PHA 405)
(CREDIT BASED SYSTEM)

Thursday, May 14, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer ALL the questions.

✍ Long Essays:

1. Diagrammatically show the potential sites of action of antidepressants. Explain the antidepressant mechanisms of actions of various classes of antidepressants.

(3+5 = 8 marks)

2. With an illustration show how HIV replicates in human cells. With appropriate examples describe how various classes of anti-HIV drugs inhibit the HIV-proliferation in the host.

(4+4 = 8 marks)

3. With a neat flow chart describe the sequential events involved in the New Drug Discovery and Development.

(8 marks)

4. Short Essays:

4A. Draw a picture of GABA_A-receptor-gated-chloride-channel and explain how various sedative-hypnotics affect the function of this channel.

4B. Discuss the mechanism of action of Proton Pump Inhibitors (PPI).

4C. The sites and mechanisms of action of different classes of antiamoebic drugs.

4D. Explain, with pictures, the steps involved in the bacterial protein synthesis and drugs affecting them.

(4 marks × 4 = 16 marks)

5. Give reasons for the following:

5A. Ethanol is administered in methanol intoxication

5B. For children below the age of 12 years, aspirin is not given in fever of unknown origin

5C. Trimethoprim + sulfamethoxazole for bacterial infections

5D. Dimercaprol is contraindicated in iron poisoning

5E. Tacrolimus is more suitable for liver-transplantation

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACOGNOSY – III (PCO 406)
(CREDIT BASED SYSTEM)

Saturday, May 16, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer ALL the questions.

✍ Draw neat labeled diagrams wherever necessary.

✍ Long Essays:

1A. Give the biological source, method of isolation and uses of Gymnemic acids.

1B. Describe the role of Red Squill as a pesticide.

(4+4 = 8 marks)

2A. Give the theory of extraction and comment on the factors affecting extraction process.

2B. Write an essay on enzyme Papaine.

(4+4 = 8 marks)

3. Describe Cinchona under a suitable pharmacognostic scheme.

(8 marks)

4. Short Essays:

4A. Explain the basic principles of Siddha medicine.

4B. Classify Allergens based on their path of entry into body with suitable examples. Add a note on inhalant allergens.

4C. Discuss the applications of Plant Tissue Culture.

4D. Give tests for identification of Digitoxin. Write the source and chemical constituents of topoisomerase inhibitors.

(4 marks × 4 = 16 marks)

5. Short Answers:

5A. Biological source, active constituents and uses of Colchicum

5B. Herbal industries in India

5C. Differentiate between sacchariferous and non-sacchariferous sweetening agents.

5D. Dolastatin and Bryostatin

5E. Functional foods

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY
FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015
SUBJECT: PHARMACEUTICAL MANAGEMENT (PMA 407)
(CREDIT BASED SYSTEM)

Tuesday, May 19, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

Answer ALL the questions.

Long Essays:

1. Explain in detail Decision Making Models.
2. With specimen format discuss the method for preparation of balance sheet and profit and loss account.
3. Factors to be considered for selection of an ideal location to setup a Pharmaceutical unit. Discuss in detail.

(8 marks × 3 = 24 marks)

Short Note Questions

- 4A. Explain briefly 'Definition, Scope and Importance' of Environmental Studies.
- 4B. Demand is dependent of various factors. Explain various factors that determine the demand.
- 4C. Define "Promotion". Write a detail note on various elements of promotion mix.
- 4D. What are the social, legal and ethical issues affecting pharmaceutical market? Discuss.

(4 marks × 4 = 16 marks)

Short Answer Questions

- 5A. Define 'Leadership'. Enlist different leadership theories.
- 5B. Define 'Motivation'. Enlist theories of Motivation.
- 5C. Write briefly about six sigma and its importance.
- 5D. What is Total Quality Management? Enlist principles of TQM.
- 5E. What is meant by sales promotion?

(2 marks × 5 = 10 marks)

