

MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: CLINICAL PHARMACY AND THERAPEUTICS (PPR 401)
(CREDIT BASED SYSTEM)**

Thursday, May 05, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1A. Write JNC-VII classification of hypertension.

1B. Explain the management of hypertension according to JNC-VII guidelines.

(2+6 = 8 marks)

2. Explain the etiopathogenesis and treatment of HIV.

(3+5 = 8 marks)

3A. Explain the clinical symptoms and the management of acute renal failure.

3B. Discuss treatment of multi-drug resistant tuberculosis.

(4+4 = 8 marks)

4. **Short Essay:**

4A. Explain the management of stable and variant angina.

4B. Describe treatment of hyperthyroidism.

4C. Discuss management of generalized tonic-clonic seizure.

4D. Explain goal and procedure of ward round participation by clinical pharmacist.

(4 marks × 4 = 16 marks)

5. **Short Answer:**

5A. Write differential diagnostic test for iron deficiency anemia.

5B. What is meant by causality assessment of ADR?

5C. Write DSM-IV criteria for schizophrenia.

5D. Write any two cardiac function tests with its normal value.

5E. What is emphysema?

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016

SUBJECT: INSTRUMENTAL AND BIOMEDICAL ANALYSIS (PQA 402) (CREDIT BASED SYSTEM)

Saturday, May 07, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer ALL questions.

✍ Draw neatly labeled diagram wherever necessary.

✍ Long Essay:

1A. Name HPLC column efficiency parameters and write the equation to calculate resolution.

1B. Explain the construction and working of katharometer.

(4+4 = 8 marks)

2. Explain the qualitative and quantitative applications of UV-Visible spectroscopy.

(8 marks)

3A. Write about Installation, Operational and Performance Qualification with respect to instrumental validation.

3B. Write the construction and working of glass electrode.

(4+4 = 8 marks)

4. Short Essay:

4A. i) What is quenching of fluorescence? List the factors affecting the same.

ii) Write a note on flame atomisation in atomic absorption spectroscopy.

(2+2 = 4 marks)

4B. Classify the detectors of IR Spectrometer. Explain the working of thermocouple.

(4 marks)

4C. i) Explain the types of scattering in nepheloturbidimetry

ii) Write the principle of 'X' rays diffraction studies.

(2+2 = 4 marks)

4D. i) List the applications of mass spectroscopy.

ii) Write a note on direct current plasma in atomic emission spectroscopy.

(2+2 = 4 marks)

5. **Short Answer:**

- 5A. Explain the theory of NMR spectroscopy in brief.
- 5B. What is thermal analysis? Classify the same.
- 5C. What is polarimetry? Name its applications.
- 5D. What are diffusion current and limiting current in polarography?
- 5E. Explain the role of supporting electrolyte in polarography.

(2 marks \times 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: INDUSTRIAL PHARMACY (PCE 403)
(CREDIT BASED SYSTEM)**

Tuesday, May 10, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Explain different stages of sugar coating in tablet dosage form with suitable diagrams. (8 marks)

2. Mention different methods used to measure the tonicity in sterile products and explain Class – I methods of tonicity adjustment in detail. (8 marks)

3A. Explain the Extraction of gelatin with the help of a flow-sheet.

3B. Mention different methods of Microencapsulation and explain any ONE method. (4+4 = 8 marks)

4. **Short notes:**

4A. Add a short note on propellants used in pharmaceutical aerosol systems.

4B. Mention the ingredients used in lipstick with their uses.

4C. Differentiate ointments and creams.

4D. Mention different methods of preparation of Liposomes and explain any ONE method. (4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Mention the diagnostic uses of radiopharmaceuticals with examples.

5B. Enlist different types of plastics used in pharmaceutical packaging with examples.

5C. Define “Manufacturing” in GMP.

5D. What are different approaches to increase the solubility of drugs in formulating Liquid Orals?

5E. Mention different raw materials used in the formulation of Liquid Orals with examples. (2 marks × 5 = 10 marks)



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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016

SUBJECT: INDUSTRIAL PHARMACY (PCE 403) (MAHE SYLLABUS)

Tuesday, May 10, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 75

1. **Answer ALL questions.**

- 1A. Mention different approaches used to increase the solubility of drugs in Liquid Orals and briefly discuss any TWO approaches.
- 1B. Explain Solution aerosol and Water based aerosol systems.
- 1C. Differentiate between Quality Assurance and Quality control functions as per GMP's.
- 1D. What are different types of glass and plastics used in pharmaceutical packaging?
- 1E. List the different methods of preparation of Microspheres. Explain any one method.
- 1F. Mention the precautions to be taken during the preparation of Radiopharmaceuticals.
- 1G. Explain any TWO tests to determine rate of release of medicament from semisolids.

(5 marks × 7 = 35 marks)

2. **Give TWO differences between:**

- 2A. Tip sealing and Pull sealing of ampoules
- 2B. Large volume and small volume parenteral solutions
- 2C. LAL test and Rabbit test in pyrogen testing
- 2D. Sterile Water for injection and Bacteriostatic water for injection.

(10 marks)

3. Describe the manufacturing of Tablet granules by wet granulation technique.

(10 marks)

4. Define a lipstick. Enlist a standard lipstick formula mentioning use of each ingredient and briefly explain the manufacturing procedure.

(10 marks)

5. Explain the different steps involved in the large scale production of hard gelatin capsules.

(10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: MEDICINAL CHEMISTRY – II (PCH 404)
(CREDIT BASED SYSTEM)**

Thursday, May 12, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL questions.**

✍ **Long Essays:**

1. Outline the method of synthesis of the following:

1A. Mercaptopurine

1B. Phenoxymethyl penicillin

1C. Chlorgaunil

1D. Hydrocortisone

(2 marks × 4 = 8 marks)

2A. Explain the mechanism of action and synthetic route of the following:

i) Clonidine ii) Acetazolamide iii) Procainamide

2B. Classify calcium channel blockers giving the structures from each class. Mention their medicinal uses.

(6+2 = 8 marks)

3A. Explain the mechanism of action of sulpha drugs. Outline the synthesis of sulphamethoxazole

3B. What is combinatorial chemistry? Explain the principle involved and its applications.

3C. Classify prodrugs and explain their uses.

(4+2+2 = 8 marks)

4. **Short Essays:**

4A. Outline the method of synthesis of metronidazole and INH.

4B. Explain the SAR of Tetracyclines and mention their specific uses.

4C. What are Antihyperlipidemic agents? Classify them giving the structure of one agent from each class. Write the synthesis and uses of Warfarin sodium.

4D. Explain the role of nucleosides in the design of antiviral agents. Outline the synthesis of amantadine.

(4 marks × 4 = 16 marks)

5. **Short notes:**

- 5A. How are DNA intercalators used in the management of cancer?
- 5B. What are macrolide antibiotics? Give the structure and specific use of one macrolide antibiotic.
- 5C. Write the synthesis, chemical name and specific use of one organic radio-opaque diagnostic agent.
- 5D. What are hypoglycemic agents? Classify them with examples.
- 5E. Explain the important structural features of hormonal thyroxine.

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: PHARMACOLOGY – II (PHA 405)
(CREDIT BASED SYSTEM)**

Saturday, May 14, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL questions.**

✍ **Long Essays:**

1. Describe the physiology of gastric acid secretion with a neat diagram. Explain how omeprazole is useful as an antiulcer drug. Mention two adverse effects of omeprazole.
(4+3+1 = 8 marks)
2. Central dopaminergic pathways are involved in the therapeutic and toxic effects of antipsychotic drugs. Explain. Describe the mechanism of action of lithium and list its two toxicities.
(4+2+2 = 8 marks)
3. With a neat diagram describe the lifecycle of plasmodium and label the sites of action of drugs affecting its lifecycle. Explain the terms: Radical cure and suppressive cure, mentioning the drugs producing these effects.
(4+4 = 8 marks)

4. **Short Essays:**

- 4A. Describe the mechanism of action of zidovudine
 - 4B. Explain the molecular and cellular mechanism of action of opioid receptor agonists
 - 4C. Explain the principles of radioimmunoassay
 - 4D. Describe the mechanism of action of cyclosporine
- (4 marks × 4 = 16 marks)

5. **Give Reasons:**

- 5A. Sulfonamides are ineffective in the presence of pus.
 - 5B. Aminoglycosides are not active against anaerobic organisms.
 - 5C. Flucytosine, given orally as an antifungal drug can produce anaemia, leukopenia and thrombocytopenia as adverse effects.
 - 5D. Combination of levodopa with carbidopa decreases the GI adverse effects considerably.
 - 5E. The dose of phenytoin needs to be reduced when used along with valproic acid.
- (2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: PHARMACOGNOSY – III (PCO 406)
(CREDIT BASED SYSTEM)**

Tuesday, May 17, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Draw neat labeled diagrams wherever necessary.**

✍ **Long Essays:**

1A. Explain the method of cultivation, collection and preparation of Pepper.

1B. Describe the Life Cycle of Ergot.

(4+4 = 8 marks)

2A. Explain the role of Neem as an insecticide.

2B. Define and classify enzyme reactors. Compare and contrast between stirred tank reactor and fluidized bed reactor.

(4+4 = 8 marks)

3A. Give the source and structure of Ephedrine. Explain its method of isolation, estimation.

3B. Give the source and chemical constituents of Milk Thistle and Nathapodytes

(6+2 = 8 marks)

4. **Short Essays:**

4A. Discuss the Wu-Xing and Yin and Yang theories of Traditional Chinese Medicine.

4B. Give an account of sensitivity tests in the diagnosis of Allergy.

4C. Explain the principle and procedure involved in the detection of heavy metals by Atomic absorption spectroscopy.

4D. Give the nutritional requirements for the maintenance of Plant tissue culture.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Chemical tests for Strychnine and Brucine

5B. Any four herbal research institutes of India

5C. Define probiotics with examples

5D. Structure and uses of Niphatesine-D and Cephalosporin C

5E. Source, active constituents and use of Chirata

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY**FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2016****SUBJECT: PHARMACEUTICAL MANAGEMENT (PMA 407)
(CREDIT BASED SYSTEM)**

Thursday, May 19, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

1. What is 'Trial Balance'? Discuss the methods of preparation of trial balance with specimen format.

(2+6 = 8 marks)

2. Define 'Leadership' and 'Motivation'. Discuss any one theory from each.

(2+6 = 8 marks)

3. Why Materials Management is important aspect in Pharmaceutical production? Write a note on Economic Order Quantity.

(3+5 = 8 marks)

4. **Short note questions:**

4A. Write a brief note on scope and importance of Environmental Studies.

4B. Demand is dependent of various factors. Explain various factors that determine the demand.

4C. With a diagram, discuss marketing communication process in detail.

4D. Discuss different pricing strategies adopted by marketing organizations.

(4 marks × 4 = 16 marks)

5. **Short answer questions:**

5A. Enlist styles and theories of Leadership.

5B. Define 'Planning' and 'Organizing'.

5C. What is PDCA cycle in TQM?

5D. Enlist the benefits of ISO standards.

5E. Define a transaction and discuss 'Credit' and 'Cash Transactions'.

(2 marks × 5 = 10 marks)

