

MANIPAL UNIVERSITY

THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

SUBJECT: HOSPITAL AND COMMUNITY PHARMACY (PPR 301)
(CREDIT BASED SYSTEM)

Tuesday, April 30, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

☞ Answer ALL questions.

☞ Long essay questions:

1. Define inventory and control. Discuss different methods of calculating economic order quantity.

(2+6 = 8 marks)

2. What is hospital formulary and hospital formulary system? Discuss the preparation aspects of hospital formulary.

(2+6 = 8 marks)

3. Define patient counseling. Explain the various steps involved in patient counseling.

(8 marks)

4. Short essay questions:

4A. Explain the procedure for procuring narcotics for ward stock.

4B. What is rational use of drugs? Discuss the factors contributing and strategies to overcome irrational use of drugs.

4C. Define medication adherence and explain the factors influencing medication adherence.

4D. Explain the Code of Ethics for a pharmacist in relation to his job and trade.

(4×4 = 16 marks)

5. Short answer questions:

5A. Explain the design characteristics of patient information leaflet.

5B. Enumerate the advantages of unit dose drug distribution system.

5C. Explain various parts of a prescription with an example.

5D. Enumerate the various quality control tests conducted for parenteral products in a hospital.

5E. Classify different types of hospital.

(2×5 = 10 marks)



MANIPAL UNIVERSITY
THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

SUBJECT: PHARMACEUTICAL BIOTECHNOLOGY (PBT 302)
(CREDIT BASED SYSTEM)

Friday, May 03, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all questions.**

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

✍ **Long essay questions:**

1. With the help of a neat labeled diagram, explain the aerator and agitator system of a typical fermentor.
2. Discuss recombinant DNA technology with respect to the following:
Selection criteria for Vectors, Limitations of bacteria as hosts, various enzymes used in this technology with their specific function.
3. Describe the production and standardization of posterior pituitary extract.

(8×3 = 24 marks)

4. **Short essay questions:**

- 4A. Enlist various substrates used for culturing animal cells and differentiate between anchorage dependant and independent cells.
- 4B. Give schematic representation of human plasma fractionation and its products.
- 4C. Compare and contrast between fluidized and packed bed enzyme bioreactors.
- 4D. What are the factors affecting extraction? Explain.

(4×4 = 16 marks)

5. **Short answer questions:**

- 5A. How does a filter aid help in recovery of fermentation product?
- 5B. Differentiate between primary screening and secondary screening.
- 5C. Yeast is preferred host to *E.coli* for the production of Hepatitis vaccine. Why?
- 5D. Mention the principle of turbidimetric assay method of antibiotic.
- 5E. What type of steel is used for the construction of fermentor? Mention the reason for selection.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013****SUBJECT: PHYSICAL PHARMACEUTICS AND BIOPHARMACEUTICS (PCE 303)
(CREDIT BASED SYSTEM)**

Monday, May 06, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all the questions.**

✍ **Long essay questions:**

1. Draw the flow curves for Newtonian and non Newtonian types of flow. Explain the working of Ostwald viscometer.

(4+4 = 8 marks)

2. Discuss gastric emptying and the various factors influencing it. Write about the various factors affecting protein binding.

(4+4 = 8 marks)

3A. Discuss the principle and working of Coulter counter apparatus.

3B. Explain the solubility method of analysis for complexation.

(5+3 = 8 marks)

4. **Write short notes on:**

4A. Discuss the various oxidative phase I reactions for carbon- carbon systems.

4B. Explain any four factors affecting renal excretion of drugs.

4C. Explain the Noye's – Whitney equation with its modifications.

4D. Explain two methods for the determination of order of reaction.

(4×4 = 16 marks)

5. **Short answer questions:**

5A. Draw electrical double layer and show what Zeta potential and Nernst potential refer to.

5B. What are structured vehicles? What are the properties a structured vehicle should possess?

5C. What are protective colloids?

5D. Define creaming and cracking.

5E. Define absolute and relative bioavailability.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013****SUBJECT: MEDICINAL CHEMISTRY – I (PCH 304)
(CREDIT BASED SYSTEM)**

Wednesday, May 08, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all the questions.**✍ **Long essay questions:**

- 1A. Define and classify local anesthetics on the basis of their chemical features giving examples. Outline the synthesis and use of lidocaine.
- 1B. Write a note on sympathomimetics with mixed mechanism of action.
- (5+3 = 8 marks)

- 2A. What are anticonvulsants? Discuss the SAR of benzodiazepines as anticonvulsants. Write the synthesis of Carbamazepine.
- 2B. Outline the synthesis and use of Triprolidine and Dicyclomine.
- (5+3 = 8 marks)

- 3A. What are anxiolytic agents? Explain the SAR of Benzodiazepines as anxiolytic agents. Write the synthesis of Chlordiazepoxide and Alprazolam.
- 3B. What are Central Muscle relaxants? Give three examples with their structure.
- (5+3 = 8 marks)

4. **Short essay questions:**

- 4A. What are prostaglandins? What is their importance in disease process?
- 4B. Discuss any two biotransformation reactions of phase II of drug metabolism.
- 4C. Classify general anesthetics giving the structure of one drug from each class. Write a note on the mechanism of action of inhalation anesthetics.
- 4D. Write a note on synthetic cholinergic blocking agents.
- (4×4 = 16 marks)

5. **Short answer questions:**

- 5A. Classify adrenergic blockers with one example and its structure.
- 5B. Write the synthesis of Dipyron and Phenacetin.
- 5C. Explain the biosynthesis of histamine.
- 5D. Outline the synthesis of methadone.
- 5E. Explain the importance of pKa.

(2×5 = 10 marks)



MANIPAL UNIVERSITY

THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

SUBJECT: PHARMACOLOGY – I (PHA 305)
(CREDIT BASED SYSTEM)

Friday, May 10, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all questions.**✍ **Long essay questions:**

1. Classify anticoagulants with examples. Explain the mechanism of action of heparin. List out the advantages of low molecular heparin.

(3+3+2 = 8 marks)

2. Discuss the muscarinic actions of cholinergic drugs.

(8 marks)

3. Describe the pharmacological actions of glucocorticoids carbohydrate, fat, protein metabolism and inflammation.

(8 marks)

4. **Short essay questions:**

- 4A. With an example explain the structure and the mechanisms involved in the G-protein coupled receptors.
- 4B. Describe the dynamics of drug excretion through kidney with suitable examples.
- 4C. How do the potassium sparing diuretic drugs act? Explain it with a neat picture.
- 4D. List the positive inotropic drugs used in CHF. With a neat diagram explain their mechanisms of action.

(4×4 = 16 marks)

5. **Short answer questions:**

- 5A. Fexofenadine but not terfenadine is safe to administer along with erythromycin.
- 5B. Succinylcholine produces dual block.
- 5C. Pravastatin is free from rhabdomyolysis toxicity.
- 5D. It is beneficial to administer a beta-blocker along with amlodipine, but not with verapamil in angina.
- 5E. Ambroxol is a drug for reducing cough.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013****SUBJECT: PHARMACOGNOSY- II (PCO 306)
(CREDIT BASED SYSTEM)**

Monday, May 13, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all questions. Draw neat labeled diagrams and structure wherever necessary.**

✍ **Long essay questions:**

1. Define essential oils. Explain the different methods used for extraction of the same.
2. Write a note on droplet counter current chromatography and column chromatography for the separation of the phytoconstituents.
3. Define glycosides. Write a detailed account of Cyanogenetic glycosides.

(8×3 = 24 marks)

4. **Short essay questions:**

- 4A. Describe the morphology and powder characters of: a) Fennel b) Cassia
- 4B. Give the biogenesis of cocaine from ornithine.
- 4C. Give the diagnostic characters, chemical nature and uses of Male fern.
- 4D. Explain Shikimic acid pathway for the Biosynthesis of secondary metabolites.

(4×4 = 16 marks)

5. **Short answer questions:**

- 5A. Alcohol volatile oils
- 5B. Phytosols
- 5C. Borntragers test
- 5D. Citrus Bioflavonoids
- 5E. Combined Umbelliferone test

(2×5 = 10 marks)



MANIPAL UNIVERSITY

THIRD YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

SUBJECT: PHARMACEUTICAL JURISPRUDENCE (PMA 307)

(CREDIT BASED SYSTEM)

Wednesday, May 15, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer all the questions.

✍ Long essay questions:

- 1A. Describe the objectives of Pharmacy Act. Who are the ex-officio members of Pharmacy Council of India?
- 1B. What is MAPE and how it is calculated?
- 2A. Define the following according to the Narcotic Drugs and Psychotropic Substances Act:
i) Charas ii) Manufactured Drug iii) Medicinal Hemp iv) Opium
- 2B. Briefly explain licensing procedure for non-bonded manufactory.
- 3A. Mention qualifications required and duties of Drug Inspector.
- 3B. Discuss Phase I, Phase II, Phase III and Phase IV of clinical trials.

(8×3 = 24 marks)

4. Short note questions:

- 4A. i) Write a short note on Pharmaceutical Enquiry Committee.
ii) Discuss in brief the ethics that a pharmacist should observe in relation to his job. (4 marks)
- 4B. i) What were the objectives of passing Drugs and Magic Remedies (Objectionable Advertisement) Act, 1954 and describe briefly offences and penalties provided under the Act.
ii) Enlist the product centers of USFDA. (3+1 = 4 marks)
- 4C. i) What are the qualifications of a Food Inspector?
ii) Discuss the main provisions of the Sales Promotion Employees Act 1976 relating to issue of appointment letter. (3+1 = 4 marks)

4D. Write briefly about Patent Filing Procedure. (4 marks)

5. Short answer questions:

- 5A. Write the objectives of Medical Termination of Pregnancy Act.
- 5B. Outline Institutional Animals Ethics Committee.
- 5C. Discuss registration committee under Insecticides Act.
- 5D. Outline provision of Opening and Closing hours of Establishment under The Bombay Shops and Establishments Act.
- 5E. Briefly write about “Geographical indications” and “Trademark”.

(2×5 = 10 marks)

