MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

SUBJECT: MEDICINAL CHEMISTRY – II (PCH 404)
(CREDIT BASED SYSTEM)

Friday, May 05, 2017

Time: 10:00 – 13:00 Hrs.　　　　　　　　　　　　　　　　Max. Marks: 50

✍　**Answer ALL the questions.**

✍　**Long Essays:**

1A.　Explain the MOA and uses of ACE inhibitors. Write the synthesis of methyl dopa.

1B.　What are anti hyperlipidemic agents? Classify them with examples. Write the MOA and synthesis of Clofibrate.

(4+4 = 8 marks)

2.　Discuss the chemistry and SAR of amino glycoside antibiotics. Write the structure and uses of the following:

　　i)　Cloxacillin　　ii)　Azithromycin　　iii)　Sulbactam iv)　Cefuroxime

(4+4= 8 marks)

3A.　Classify anti malarial agents giving the structure of one agent from each class and outline the method of synthesis of pyrimethamine.

3B.　What are sulpha drugs? Classify them giving one structure under each class. Write their mechanism of action.

(4+4 = 8 marks)

4.　**Short Essays:**

4A.　Define anticoagulants. Classify with one example. Outline the synthesis any one anticoagulant agent.

4B.　Write the structure and uses of two anticancer antibiotics. Give the synthesis of cyclophosphamide.

4C.　Outline the synthesis and MOA of Niclosamide and Acyclovir.

4D.　Explain the SAR of dihydropyridines.

(4 marks × 4 = 16 marks)

5.　**Short Answers:**

5A.　Write the synthesis and uses of ethacrynic acid.

5B.　What are anti thyroid agents? Give the MOA and structure of one of them.

5C.　Give the structure and use of isosorbide dinitrate and iopanioc acid.

5D.　What are gonadal hormones? Write the structure and uses of two gonadal hormones.

5E.　Write short notes on prodrugs.

(2 marks × 5 = 10 marks)

ぶんかんかん

Reg. No.									

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

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

Monday, May 08, 2017

Time: 10:00 – 13:00 Hrs.　　　　　　　　　　　　　　　　Max. Marks: 50

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

✍　**Long Essay:**

1A.　Write a note on detectors used in HPLC.

1B.　Write the properties of carrier gases used in GC with suitable examples.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(4+4 = 8 marks)

2.　Explain sources of radiations, construction and working of prisms, gratings and photomultiplier tube for UV Visible spectrometer.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(8 marks)

3A.　Write a brief note on components of good laboratory practices.

3B.　Explain principle and a brief procedure in the conductometric titration of mixture of mineral acid and vinegar against caustic soda.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(4+4 = 8 marks)

4.　**Short Essay:**

4A　i)　Write the structural requirements for drug to exhibit fluorescence.

　　ii)　Write a note on Zeeman correction in atomic absorption spectroscopy.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2+2 = 4 marks)

4B.　Write problems of sample handling in IR spectroscopy. Explain the sample handling of liquids.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(4 marks)

4C.　i)　Explain the instrumentation of nephelo-turbidimeter with the help of diagram.

　　ii)　Write a note on Bragg's equation.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2+2 = 4 marks)

4D.　i)　Classify mass spectrometers.

　　ii)　Explain Inductively Coupled Plasma discharge in atomic emission spectroscopy.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2+2 = 4 marks)

5.　**Short answer:**

5A.　Differentiate NMR and ESR spectroscopy.

5B.　What is thermal analysis? List its pharmaceutical applications.

5C.　Write the formula to calculate the specific optical rotation for solids and liquids.

5D.　Write the advantages and disadvantages of Size Exclusion Chromatography.

5E.　List the application of polarography.

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(2 marks × 5 = 10 marks)

※豫豫豫※

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

SUBJECT: CLINICAL PHARMACY AND THERAPEUTICS (PPR 401)
(CREDIT BASED SYSTEM)

Wednesday, May 10, 2017

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Define drug information. Discuss the systematic approaches for answering drug information query.

$$(1+7 = 8 \text{ marks})$$

2. Discuss clinical symptoms and management of Schizophrenia.

(8 marks)

3. Explain stepwise management of chronic asthma with help of a treatment algorithm.

(8 marks)

✍ **Short Essay:**

4. Describe role of fibrates and nicotinic acid in management of Hyperlipidemia.
5. Explain NYHA classification for heart failure.
6. Explain the management of thyroid storm.
7. Explain management of uncomplicated malaria.

$$(4 \text{ marks} \times 4 = 16 \text{ marks})$$

✍ **Short Answer:**

8. Write role of α- glucosidase inhibitor in diabetes treatment.
9. Define drug interactions and give an example of clinically significant drug interaction.
10. What is meant by DMARDs and give two examples?
11. Write any two H.Pylori eradication regimens.
12. What are RBC indices?

$$(2 \text{ marks} \times 5 = 10 \text{ marks})$$

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

SUBJECT: PHARMACEUTICAL MANAGEMENT (PMA 407)
(CREDIT BASED SYSTEM)

Friday, May 12, 2017

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long essay questions:**

1.   What is meant by 'Motivation' and 'Leadership'? Discuss Maslow's need hierarchy theory and Herzberg's two factor theory of motivation.

2.   Define Accountancy. Explain any six Accounting concepts.

3.   Discuss plant site selection and layout for a pharmaceutical manufacturing unit.

(8 marks × 3 = 24 marks)

4.   **Short note questions:**

4A.   What is the importance of Environmental studies?
4B.   Explain exceptions of Law of demand and add a note on supply function.
4C.   Briefly explain "Segmentation", "Targeting" and "Positioning".
4D.   What pricing strategies are employed in Pharmaceutical Industry?

(4 marks × 4 = 16 marks)

5.   **Short answer questions:**

5A.   What is meant by Programmed and Non-programmed Decisions?
5B.   Ten roles of a Manager suggested by Mintzberg.
5C.   What are the features of ISO 14000 series of standards?
5D.   What is PDCA cycle of Total Quality Management?
5E.   Differentiate Micro and Macroeconomics.

(2 marks × 5 = 10 marks)

꒞꒰꒞꒰꒞꒰

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

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

Monday, May 15, 2017

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 and collection of Belladonna.

1B. Give the source, uses and chemical test for a drug containing:

   i)   Quinine   ii)   Strychnine.

                                                           (4+4 = 8 marks)

2A. Explain the different methods of pest control. Add a note on the mode of action of Red squill.

2B. Enlist the different types of enzyme reactors. Compare and contrast between batch and continuous flow reactors.

                                                           (4+4 = 8 marks)

3A. Give the source, method of isolation, test for identity and chromatographic estimation of Glycyrrhizin.

3B. Give the classification of nutraceuticals based on their characters with suitable examples

                                                           (6+2 = 8 marks)

4. **Short Essays:**

4A. Discuss the principles of Traditional Chinese Medicine.

4B. Give the classification of Allergens based on their path of entry into body. Add a note on mechanism of action of allergens.

4C. What are Tinctures? Describe the method of preparation of Tincture Asafoetida.

4D. Classify various Plant Tissue Culture methods and write a brief note on suspension culture.

                                                       (4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Powder characters of Kurchi.

5B. Give the names, location and functions of any two Herbal Institutes of India.

5C. Source and active constituents of any two botanicals used in the management of pain and inflammation.

5D. Source, structure and uses of Octopamine and Laminine.

5E. Source, active constituents and use of Gentian and Stevia.

                                                       (2 marks × 5 = 10 marks)

❀❀❀❀❀

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

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

Wednesday, May 17, 2017

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions**

✍ **Draw a labeled diagram wherever necessary.**

✍ **Long Essays:**

1. With the help of a diagram, explain protein synthesis in bacteria and mechanisms of the drugs affecting it.

(3+5 = 8 marks)

2. Classify antiepileptic drugs. Discuss the mechanism, adverse effect and drug interactions of phenytoin.

(3+5 = 8 marks)

3. Discuss the life cycle of malarial parasite along with drug interventions.

(8 marks)

4. **Short Essays:**

4A. Discuss, with suitable examples, the principle and method of four-point bioassay.

4B. List the adverse effects of NSAIDs.

4C. Explain the mechanisms of action of metoclopramide.

4D. Write the mechanism of action of cyclosporine.

(4 marks × 4 = 16 marks)

5. **Give reasons for the following:**

5A. Streptomycin is ineffective against Clostridium difficile.

5B. Lamivudine and zalcitabine combination is contraindicated.

5C. Colchicine is used for gout therapy.

5D. Atropine and pralidoxime given in organophosphorus poisoning.

5E. Morphine is contraindicated in head injury.

(2 marks × 5 = 10 marks)

❀❀❀❀❀

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – MAY 2017

SUBJECT: INDUSTRIAL PHARMACY (PCE 403)
(CREDIT BASED SYSTEM)

Friday, May 19, 2017

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Discuss the various types of aerosol systems for formulation of Aerosol.

(8 marks)

2. What is pyrogen? Explain the methods to determine the presence of it in the sterile products.

(8 marks)

3. Mention different methods of manufacturing hard gelatin capsules in large scale. Explain any ONE method in detail. What are different methods of Microencapsulation?

(6+2 = 8 marks)

4. **Short Notes:**

4A. Discuss the various types of bases used in ointment formulation.

4B. Discuss the manufacturing of liquid shampoos.

4C. Explain different filling methods of Liquid Orals.

4D. Mention the different methods of preparation of Niosomes and explain any one method.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Mention FOUR diagnostic uses of radiopharmaceuticals.

5B. Mention FOUR quality control tests for microcapsules.

5C. Define Bloom strength and base absorption.

5D. Define liposomes. Enlist methods used to prepare liposomes.

5E. What are the materials used in film coating solution

(2 marks × 5 = 10 marks)