Reg. No.										

MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY 2015

SUBJECT: CLINICAL PHARMACY AND THERAPEUTICS (PPR 401)

(CREDIT BASED SYSTEM)

Tuesday, July 21, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Write management of early onset Parkinson's disease and advanced Parkinson's disease.

(8 marks)

2A. Discuss role of insulin in diabetes management.

2B. Draw treatment chart for type 2 diabetes mellitus management.

(3+5 = 8 marks)

3A. Enlist various professional activities of clinical pharmacist.

3B. Describe the goals and procedures of any two professional activities.

(2+6 = 8 marks)

4. **Short Essay:**

4A. Write the management of uncomplicated urinary tract infections.

4B. Define drug information and explain the need of drug information centers.

4C. Explain the prescribing guidelines for pregnant women.

4D. Differentiate between blue bloater and pink puffer.

(4 marks × 4 = 16 marks)

5. **Short Answer:**

5A. Enumerate features of serious adverse drug reaction.

5B. What is pregnancy categories of drugs "A" and "B"?

5C. Write the clinical significance of pulmonary function tests.

5D. Write the importance of DOTS in tuberculosis management.

5E. Enlist etiology of peptic ulcer.

(2 marks × 5 = 10 marks)

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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

SUBJECT: INSTRUMENTAL AND BIOMEDICAL ANALYSIS (PQA 402)

(CREDIT BASED SYSTEM)

Thursday, July 23, 2015

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

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

Long Essays:

1A. What are ISO 9000 and ICH? Write the categories of the same.

1B. Explain the liquid and gas sample handling in IR spectroscopy.

(4+4 = 8 marks)

2A. Explain the working of HPLC instrument.

2B. Write any four detectors used in HPLC and discuss the principle of each in brief.

(4+4 = 8 marks)

3A. Explain the construction and working of photomultiplier tube.

3B. Write the qualitative application of UV-Visible spectroscopy.

(4+4 = 8 marks)

4. **Short Essays:**

4A. i) Define the terms molecular ion peak and base peak.

ii) What is thermal analysis? Write its Pharmaceutical applications.

(2+2 = 4 marks)

4B. i) Explain the phenomenon of florescence with energy level diagram.

ii) Write the types of interferences in atomic emission spectroscopy.

(2+2 = 4 marks)

4C. Classify indicator electrodes. Explain the construction and working of glass electrode.

(4 marks)

4D. Explain the conductometric titration for the mixture of strong acid and weak acid vs strong base.

(4 marks)

5. **Short Answers:**

5A. Differentiate NMR and ESR spectroscopy.

5B. Write the Bragg's law for diffraction.

5C. Write a note on fuel and oxidants used in flame photometer.

5D. Why nephelometry is more sensitive than turbidometry?

5E. Differentiate Optical rotary dispersion and Circular Dichroism

(2 marks × 5 = 10 marks)

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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

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

Saturday, July 25, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Explain different types of additives required in tablet dosage form with an example.
2. Define Osmotic pumps. What is the basic principle involved in Osmotic Pumps. Classify osmotic pumps and briefly describe any one type of osmotic pumps.
3. Explain four quality control tests for parenterals.

(8 marks × 3 = 24 marks)

4. **Short Notes:**

4A. Mention different evaluation tests for HARD gelatin capsules and explain any two tests.
4B. Define a tooth paste. Write the functions and importance of abrasives with two examples.
4C. Explain foam aerosol system.
4D. Explain different filling methods of Liquid orals.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Mention any four therapeutic applications of Radiopharmaceuticals with examples.
5B. Mention all the evaluation tests for glass as packaging material.
5C. Define Quality Assurance as per GMP.
5D. Mention the names of different bases used in semisolid dosage form.
5E. Define base adsorption in capsule dosage form and write the formula used to calculate the same.

(2 marks × 5 = 10 marks)

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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

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

Tuesday, July 28, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1A. Classify antianginal agents giving the structure of one agent from each class. Give the structure and mechanism of action of erythrityl tetranitrate. Write the synthesis of verapamil.

1B. Write the mechanisms of action and structures of the following:

i) Losartan ii) Prazosin iii) Nifedipine iv) Fenofibrate

(4+4 = 8 marks)

2A. Discuss the stereochemistry and SAR of Penicillins.

2B. Discuss in detail the chemistry of DNA alkylators as anticancer agents with suitable examples.

(4+4 = 8 marks)

3A. Explain SAR of quinolones and sulphonamides giving the structures of two of them.

3B. Classify anti amoebic agents with examples. Write the mechanism of action and synthesis of metronidazole.

(4+4 = 8 marks)

4. **Short Essays:**

4A. Write the mechanism of action of any one drug under each of the following classes of antibiotics:

i) Amino glycoside ii) Isoxazoline iii) Macrolide iv) Naphthacene

4B. Classify antimalarial drugs giving one example from each class with their structure.

4C. Classify anticoagulants with examples. Outline the synthesis of:

i) Dicoumarol ii) Tolbutamide

4D. Give the method of preparation and uses of: i) PAS ii) INH

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Give the composition and uses of co-trimoxazole.

5B. Write the structure of one polyene antifungal antibiotic mentioning its use and mechanism of action.

5C. Give the synthetic route of diethyl stilbestrol.

5D. Classify anti dysrhythmic agents giving the structure of one agent from each class.

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

(2 marks × 5 = 10 marks)

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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

SUBJECT: PHARMACOLOGY – II (PHA 405)

(CREDIT BASED SYSTEM)

Thursday, July 30, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Define the terms: General anaesthesia and local anaesthesia. Describe the uses and limitations of thiopentone as a general anaesthetic. Write briefly on pre-anaesthetic medication.

(2+3+3 = 8 marks)

2. Describe the lifecycle of malarial parasite and indicate the possible targets of antimalarial drugs. Describe the mechanism of action of any one antimalarial drug. Mention its adverse effects.

(4+2+2 = 8 marks)

3. Provide a diagrammatic depiction of the factors involved in the control of vomiting and indicate the sites of action of antiemetic drugs. Describe the mechanism of antiemetic action of any one.

(5+3 = 8 marks)

4. **Short Essays:**

4A. Describe the mechanism(s) of antiepileptic action of sodium valproate.

4B. Mechanisms of bacterial protein synthesis and how antimicrobials inhibit these.

4C. Explain the mechanism of action of alkylating agents.

4D. Describe the merits and limitations of radioimmunoassay.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. What is the rationale for the use of disulfiram in chronic alcoholism?

5B. Use of clozapine mandates periodic leukocyte counts.

5C. Castor oil is not a good purgative for pregnant women.

5D. Among tetracyclines, only doxycycline can be safely administered in renal insufficiency.

5E. The dose of cyclosporine will need to be reduced in a patient receiving ketoconazole.

(2 marks × 5 = 10 marks)

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FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

SUBJECT: PHARMACOGNOSY – III (PCO 406)

(CREDIT BASED SYSTEM)

Saturday, August 01, 2015

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

- **Answer ALL the questions.**
- **Draw neat labeled diagrams wherever necessary.**

Long Essays:

1. Describe Rauwolfia under a suitable pharmacognostic scheme.

(8 marks)

2A. Define immobilization. Explain covalent binding and entrapment methods for immobilizing enzymes.

2B. Discuss the insecticidal principles of Pyrethrum with their mechanism of action.

(4+4 = 8 marks)

3A. Discuss various nutritional requirements of a plant tissue culture medium.

3B. Give the source and method of isolation of Hesperidin.

(4+4 = 8 marks)

4. **Short Essays:**

4A. Give an account of the application of HPLC for the analysis of plant constituents.

(4 marks)

4B. Explain basic principles of Siddha.

(4 marks)

4C. Classify allergens based on their path of entry into the body.

(4 marks)

4D. i) What are Probiotics? Give examples of Probiotics.

ii) Draw the structures of Niphatesine D and Cephalosporin

(2+2 = 4 marks)

5. **Short Answers:**

5A. Source, active constituents and uses of Milk thistle

5B. CDRI and NBRI

5C. Ideal requirements for sweetening agents

5D. Identification tests for Cardiac glycosides

5E. Source, active constituents and uses of Nux vomica

(2 marks × 5 = 10 marks)

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MANIPAL UNIVERSITY

FOURTH YEAR B. PHARM. DEGREE EXAMINATION – JULY/AUGUST 2015

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

Monday, August 03, 2015

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

✍ **Answer ALL the questions.**

✍ **Long Essays Questions:**

1. Define 'Leadership' and 'Motivation'. Explain any one theory from each.
2. Enlist and explain accounting concepts.
3. Why Materials Management is important aspect in Pharmaceutical production? Write a note on economic Order Quantity.

(8 marks × 3 = 24 marks)

4. **Short Note Questions:**

4A. Discuss in brief 'Ethical Issues in Environmental Studies'.

4B. Define equilibrium law of demand and supply.

4C. What is meant by "Product"? What is the usefulness of Product Life Cycle (PLC)?

4D. Discuss various levels of pharmaceutical distribution channels. Add a note on push and pull strategy.

(4 marks × 4 = 16 marks)

5. **Short Answer Questions:**

5A. Enlist functions of management. Define any one.

5B. Define Decision Making and enlist Decision Making Models.

5C. What is ISO? What are various ISO standards?

5D. Importance of understanding of economics

5E. What are the factors influencing consumer behaviour?

(2 marks × 5 = 10 marks)