Reg. No.										

MANIPAL UNIVERSITY

M. PHARM. PART–I DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: INDUSTRIAL PHARMACY (PCE 601)

(SPECIALIZATION: PHARMACEUTICS)

Saturday, May 26, 2012

Time: 10:00 – 13:00 Hrs. Max. Marks: 100

✍ **Answer all the questions.**

1A. Define TQM and explain its principles in Pharmaceutical Industry.

1B. Explain pilot plant scale up technique for capsule dosage form.

(10+10 = 20 marks)

2A. Explain the preformulation studies for liquid orals.

2B. Explain the types of raw materials used in chewable tablets and its formulation in detail.

(10+10 = 20 marks)

3A. Explain different methods of sales forecasting in Pharmaceutical Industry.

3B. Explain the causes and prevention of mechanical hazards in Pharmaceutical Industry.

(10+10 = 20 marks)

4A. Explain the process of assessment of Machine capacity in Pharmaceutical Industry.

4B. Define BOD and COD and explain the methods to decrease the same.

(10+10 = 20 marks)

5A. Explain the Lagrangian method of optimization.

5B. Explain the process validation for Tablets.

(10+10 = 20 marks)

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MANIPAL UNIVERSITY

M. PHARM. PART–I DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: BIOPHARMACEUTICS AND PHARMACOKINETICS (PCE 602)

(SPECIALIZATION: PHARMACEUTICS/ PHARM. QUALITY ASSURANCE)

Tuesday, May 29, 2012

Time: 10:00 – 13:00 Hrs. Max. Marks: 100

✍ **Answer ALL questions.**

1A. Discuss the physicochemical factors affecting drug absorption.

1B. Explain the concept of clearance. How is renal clearance used in dose adjustment?

(10+10 = 20 marks)

2A. Write the criteria for obtaining valid urinary excretion data and explain rate of excretion method to estimate elimination rate constant.

2B. Write the approaches to enhance the bioavailability of a drug. Give suitable examples.

(10+10 = 20 marks)

3A. Discuss phase II biotransformation reactions with suitable examples.

3B. Draw the plasma concentration-time profile of a drug exhibiting a two compartment model disposition and describe methods to estimate A, B, a, b, Vd Vt and V c.

(10+10 = 20 marks)

4A. Explain any one theory proposed for the dissolution process with a labeled diagram.

4B. Describe the role of physiologic barriers for distribution of drugs in the body.

4C. Describe any two pharmacokinetic parameters according to non compartment model.

(5+10+5 = 20 marks)

5A Explain the influence of drug protein binding in diseased state.

5B Describe the crossover design in bioequivalence studies.

5C Describe one method each for the determination of Km and Vm.

5D A 70 kg volunteer is given an i.v dose of an antibiotic and serum concentrations were determined at 2 and 5 hours after administration. The concentrations were 1.2 and 0.3 mg/ml, respectively. Calculate the biologic half life for this drug, assuming first order elimination kinetics.

(5+5+5+5 = 20 marks)

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MANIPAL UNIVERSITY

M. PHARM. PART–I DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: ADVANCES IN DRUG DELIVERY SYSTEMS (PCE 603)

(SPECIALIZATION: PHARMACEUTICS)

Thursday, May 31, 2012

Time: 10:00 – 13:00 Hrs. Max. Marks: 100

Answer ALL the questions.

1A. Briefly explain different physicochemical properties to be considered for the design of sustained release dosage forms.

1B. Write a short note on modulated activation drug delivery systems.

(10+10 = 20 marks)

2A. Explain in detail any TWO approaches for modulation of gastrointestinal transit time.

2B. Explain rectal drug delivery systems.

(10+10 = 20 marks)

3A. Mention different ocular controlled drug delivery systems and explain any TWO systems.

3B. Discuss the evaluation of transdermal drug delivery systems.

(10+10 = 20 marks)

4A. Explain ONE approach for the design and development of subdermal implants in detail.

4B. Discuss the evaluation of liposomal drug carrier systems.

(10+10 = 20 marks)

5A. Describe the different models used in the study of transdermal delivery of drugs.

5B. Mention the different methods of preparation of nanoparticles and explain any two methods in detail.

(10+10 = 20 marks)

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M. PHARM. PART–I DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: COSMETIC TECHNOLOGY (PCE 604)

(SPECIALIZATION: PHARMACEUTICS)

Saturday, June 02, 2012

Time: 10:00 – 13:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions**

1A. i) Explain any five preformulation studies required for the formulation of cosmetic products.

ii) Discuss any five factors affecting the efficacy of preservatives.

1B. Discuss the various moisturizing cosmeceuticals.

((5+5)+10 = 20 marks)

2A. Write short notes on shaving soaps.

2B. i) Classify surfactants used in cosmetics with suitable examples and their application.

ii) Explain cream bases used for cosmetic preparations.

(10+(6+4) = 20 marks)

3A. Explain international regulatory standards governing cosmetic products.

3B. What are suntan preparations? Give examples. List the ingredients along with their uses in the preparation of sunscreens.

(10+10 = 20 marks)

4A. Explain the formulation of toothpaste and tooth powder with suitable formulae.

4B. List the ingredients of nail polish and explain their role in the formulation of nail polish.

(10+10 = 20 marks)

5A. Explain the different types of packaging materials used for cosmetic products.

5B. Write a note on hair conditioners and hair colorants.

(10+10 = 20 marks)