SLR-H – 1

Seat No.	

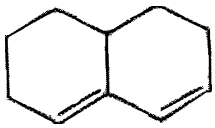
M.Pharmacy (Semester – I) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS
Advanced Pharmaceutical Analysis

Day and Date : Tuesday, 29-11-2016 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(3×10=30)**

1) Name different immunochemical techniques. Explain one technique and give its applications.

2) Give Woodward-Fieser Rules for calculating the λ_{max} of conjugated carbonyl compounds and calculate the λ_{max} of



3) Write note on validation and reference standard.

4) Why should the proton nuclei in different compound behave differently in the NMR experiment ?

B. Answer **all** : **(2×20=40)**

5) What is HPLC ? Name the different parts of HPLC instrument. Discuss detectors used in HPLC.

6) What is thermal analysis ? Explain the theory involved in different types of thermal analytical techniques. Give the applications of differential thermal analysis.

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SLR-H – 2

Seat No.	

M.Pharmacy (Semester – I) Examination, 2016
(CGPA/CBCS)
PHARMACEUTICS
Advanced Pharmaceutics – I

Day and Date : Thursday, 1-12-2016 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(10×3=30)**

1) Explain the characterization of particles by size and shape. Add a note on handling of solids.

2) Discuss the factors affecting dissolution rate. How do you perform the dissolution testing of enteric coated tablets ?

3) Discuss the polymer properties that influence the design of dosage form.

4) Enumerate the reasons for preparing solid dispersion. Explain the factors influencing selection of carriers for solid dispersion. How are the solid dispersions evaluated ?

B. Answer the following : **(20×2=40)**

1) How are cyclodextrin complexes prepared ? Enlist the advantages, disadvantages and applications of cyclodextrin complexes. Add a note on the characterization of cyclodextrin complexes.

2) Justify the need for performing accelerated stability studies. How is it performed for uncoated tablets ?

Add a note on shelf-life calculations.

SLR-H – 3

Seat No.	

M.Pharmacy (Semester – I) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS (Biopharmaceutics and Pharmacokinetics) (Elective)

Day and Date : Saturday, 3-12-2016
Time : 10.30 a.m. to 1.30 p.m. Max. Marks : 70

A. Answer **any three** : **(10×3=30)**

1) Explain in detail dialysis used in renal failure. How the dose adjustment in renal failure ?

2) How would you estimate elimination rate constant, zero-order absorption model and first-order absorption model of drug considering One-Compartment Open model for an Extravascular administration.

3) Give the method for enhancement of bioavailability through enhancement of drug solubility.

4) What is non-linear pharmacokinetics ? Describe various causes of non-linearity in pharmacokinetics. Explain the Michaelis Menten equation.

B. Answer the following : **(20×2=40)**

5) Describe the mechanism of drug absorption. Write in detail on carrier-mediated transport.

6) Explain in detail physicochemical properties of drug influencing drug absorption in body. Write in detail about physiological barriers to distribution of drug.

SLR-H – 4

Seat No.	

M.Pharmacy (Semester – I) (CGPA/CBCS) Examination, 2016
ADVANCES IN DRUG DELIVERY (Elective)
Pharmaceutics

Day and Date : Saturday, 3-12-2016 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(10×3=30)**

1) Discuss the various methods for enhancement of dissolution characteristics and evaluation thereof.
2) Explain the technologies used to design buccal tablet and give its advantages.
3) Write note on Prodrugs.
4) Classify the polymers. Discuss the various uses of polymers in controlled Drug Delivery System.

B. Answer the following : **(20×2=40)**

5) Discuss technologies for developing injectable controlled release formulation.
6) Describe in details regulatory considerations in controlled drug release formulation according to WHO and Indian condition.

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SLR-H – 5

Seat No.	

M.Pharm. (Semester – I) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS
Product Development (Elective)

Day and Date : Saturday, 3-12-2016 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(10×3=30)**

1) Write a note on various statistical methods of analysis used in pharmaceutical research. Add a note on ANOVA.
2) Define :
   a) Experiment
   b) Variable
   c) Dependent variable
   d) Independent variable
   e) Hypothesis.
3) Describe various methods of particle characterization.
4) Write a note on evaluation of like glass, plastic and rubber as primary packaging material.

B. Answer the following questions : **(20×2=40)**

5) Describe official and unofficial quality control parameters and acceptance criteria for tablets and hard gelatin capsule.
6) Describe the concept of validation and add a note on process and equipment validation.

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SLR-H – 6

Seat No.	

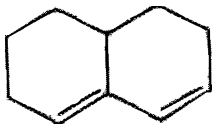
M.Pharmacy (Semester – I) (CGPA/CBCS) Examination, 2016
QUALITY ASSURANCE
Advanced Pharmaceutical Analysis

Day and Date : Tuesday, 29-11-2016 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(3×10=30)**

1) Name different immunochemical techniques. Explain one technique and give its applications.

2) Give Woodward-Fieser Rules for calculating the λ_{max} of conjugated carbonyl compounds and calculate the λ_{max} of



3) Write note on validation and reference standard.

4) Why should the proton nuclei in different compound behave differently in the NMR experiment ?

B. Answer **all** : **(2×20=40)**

5) What is HPLC ? Name the different parts of HPLC instrument. Discuss detectors used in HPLC.

6) What is thermal analysis ? Explain the theory involved in different types of thermal analytical techniques. Give the applications of differential thermal analysis.

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SLR-H – 7

Seat No.	

M.Pharm. (Semester – I) (CGPA/CBCS) Examination, 2016
QUALITY ASSURANCE
Quality Assurance Techniques – I

Day and Date : Thursday, 1-12-2016 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Solve **any three**. **(3×10=30)**

1) Discuss the applications of WHO in pharmaceutical industry.

2) How the pharmaceutical industry will manage the store department ?

3) Define GLP and give an account on microbial limit test.

4) What are the essential documents in manufacturing department of pharmaceutical industry ? Explain Master Formula Record.

B. Solve **both**. **(2×20=40)**

5) What is stock reconciliation record ? What is its importance ? Give the blank format for stock reconciliation record for raw material.

6) Write a detailed account on preparation of document for submitting a new drug application to FDA.

SLR-H – 8

Seat No.	

M. Pharm. (Quality Assurance) (Semester – I) Examination, 2016
(CBCS/CGPA)
QUALITY ASSURANCE (Elective)

Day and Date : Saturday, 3-12-2016 Total Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

Instruction *: Figures to the* ***right*** *indicate* ***full*** *marks.*

A. Answer **any three** : **(10×3=30)**

1) Explain the quality control tests to evaluate sustained release formulations.

2) Explain the concept of quality assurance, quality control and total quality management.

3) Explain the procedure to implement CAPA system in Pharma industry.

4) Classify and describe the phases of development of process validation.

B. Answer the following : **(20×2=40)**

5) What is the scope of Quality Audit ? Explain in detail the important types and methods of quality audits.

6) Discuss the control procedure for Standard Operating Procedures. Give the method of numbering SOPs and coding of packaging materials.

SLR-H – 12

Seat No.	

M.Pharmacy (Semester – II) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS
Advanced Pharmaceutics – II

Day and Date : Wednesday, 30-11-2016 Max. Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

I. Answer **any three** : **(10×3=30)**

1) Explain in detail fundamental concepts of controlled release dosage forms.

2) Explain biocompatibility and performance evaluation of implants.

3) Write an account on :
   A) Coating with pH dependent polymers in colonic drug delivery.
   B) Regulatory perspectives of proteins and peptides.

4) Explain briefly chronobiology, chronotherapeutics and chronopharmacology.

II. Answer the following : **(20×2=40)**

1) Explain pulmonary and vaginal drug delivery system.

2) Describe in detail gel diffusion controlled and hydrodynamically balanced systems.

SLR-H – 13

Seat No.	

M.Pharmacy (Semester – II) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS
Advanced Pharmaceutics – III

Day and Date : Friday, 2-12-2016 Total Marks : 70
Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(3×10=30)**

1) Write in detail about the biological and pharmaceutical factors affecting drug absorption.
2) Write the kinetics of multiple dosing and add a note on chronopharmacokinetics.
3) Explain phase I reactions of biotransformation with examples.
4) Discuss the regulatory requirements of bioavailability and bio-equivalence studies for drug products.

B. Answer **all** : **(2×20=40)**

5) Discuss in detail the non-linear kinetics.
6) What is distribution ? Explain factors affecting drug distribution and explain the significance of protein binding.

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SLR-H – 14

Seat No.	

M.Pharmacy (Semester – II) (CGPA/CBCS) Examination, 2016
PHARMACEUTICS
Sterile Product Formulation and Technology (Elective)

Day and Date : Monday, 5-12-2016 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

A. Answer **any three** : **(3×10=30)**

1. What is significance of sterilization in parenterals ? Explain specifications and process of in large scale sterilization.
2. What is importance of preformulation in drug delivery system ? Describe in detail preformulation aspects in developing parenteral products.
3. Explain in detail about selection of packaging components in parenterals.
4. Explain physicochemical properties of materials used in formulation of liposomes and niosomes.

B. Answer the following : **(2×20=40)**

5. Explain in detail preparation of various reconstituted parenteral powders.
6. Explain GMP guidelines for aseptic processing of parenteral formulations.

SLR-H – 15

Seat No.	

M. Pharmacy (Semester – II) Examination, 2016
PHARMACEUTICS
Cosmeticology
(CGPA/CBCS Pattern) (Elective)

Day and Date : Monday, 5-12-2016 Max. Marks : 70

Time : 10.30 a.m. to 1.30 p.m.

I. Answer **any three** : **(10×3=30)**

1) Explain permanent hair coloration and contact lenses.

2) Describe manufacturing of sticks and liquid cosmetics.

3) What is clinical safety of cosmetics ? Explain brief about photoirritation and sensitization.

4) Write an account on preservatives used in cosmetics.

II. Answer following : **(20×2=40)**

1) Explain physiological considerations for skin and hair for cosmetics application.

2) Describe in detail evaluation of any four cosmetic products.
