

PURUS-VII : WINTER - 2014
SUBJECT : PHARMACOLOGY-IV

(Old Course)

Day : Wednesday
Date : 19-11-2014

Time : 2-00 P.M. To 5-00 P.M.,
Max. Marks : 80.

N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from Section-I and any **TWO** questions from Section-II.
- 2) Answers to the two sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

SECTION-I

- Q.1** Attempt any **FIVE** questions: (10)
- a) Why tetracyclines are contraindicated during pregnancy?
 - b) What is superinfection?
 - c) How will you prolong the action of Penicillin G?
 - d) Name antiamoebic drugs.
 - e) Why sulphonamides are not effective in presence of pus?
 - f) Why Griseofulvin is not useful topically for superficial fungal infections?
- Q.2** a) Discuss with examples mechanism of action of different categories of anticancer drugs. (08)
b) Discuss the reasons for failure of chemotherapy. (07)
- Q.3** a) Give an account of semisynthetic penicillins. (08)
b) Discuss about first line antitubercular drugs. (07)
- Q.4** Write short notes on any **THREE** of the following; (15)
- a) Co-trimoxazole
 - b) Dapsone
 - c) Cephalosporins
 - d) Clinical uses and adverse effects of chloramphenicol.

SECTION-II

- Q.5** Attempt any **FIVE** questions: (10)
- a) Enlist various hormones of adrenal gland.
 - b) Name different causative organisms for tuberculosis.
 - c) Name the hormones of anterior pituitary.
 - d) Give examples of immunostimulants.
 - e) Classify oral hypoglycemics.
 - f) Enumerate drugs acting on uterus.
- Q.6** a) Discuss the pharmacological actions and adverse effects of Insulin. (08)
b) Discuss the synthesis, actions and uses of thyroid hormones. (07)
- Q.7** a) Describe the adverse effects of anticancer drugs. (08)
b) Explain the mechanism of action and adverse effects of oral contraceptives. (07)
- Q.8** Write short notes on any **THREE** of the following; (15)
- a) Use of drugs in pediatric patients.
 - b) Immunosuppressants.
 - c) Anti-thyroid drugs.
 - d) Use of drugs in pregnancy.

PURUS - VII : WINTER - 2014 (old course)
SUBJECT : BIOPHARMACEUTICS & PHARMACOKINETICS

Day : Monday
Date : 17-11-2014

Time : 2:00 P.M. To 5:00 P.M.
Max. Marks : 80

N.B.:

- 1) Q.No.1 and Q. No.5 are **COMPULSORY**. Out of remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in the **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1** Attempt **ANY FIVE** of the following: [10]
- a) What is 'dosing regimen'?
 - b) Define the terms 'bioavailability' and 'bioequivalence'.
 - c) Enlist factors affecting gastric emptying.
 - d) What are phase I and phase II biotransformations?
 - e) Write Noyes Whitney equation and give its significance.
 - f) Enlist non renal routes of excretion.
- Q.2** a) Explain how manufacturing variables affect absorption of a drug from its dosage forms. [08]
b) Describe factors affecting protein binding of a drug. [07]
- Q.3** a) Describe drug displacement interactions in detail. [08]
b) Explain bioactivation. What is its biopharmaceutical significance? [07]
- Q.4** Write short notes on **ANY TWO** of the following: [15]
- a) Apparent volume of distribution and its significance
 - b) pH partition hypothesis
 - c) Factors affecting renal clearance

SECTION - II

- Q.5** Attempt **ANY FIVE** of the following: [10]
- a) Explain the terms 'Central Compartment' and 'Peripheral Compartment'.
 - b) What are the assumptions of compartment modeling?
 - c) Give the inclusion criteria for human volunteers for bioavailability studies.
 - d) What are causes of nonlinearity?
 - e) What are physiological models?
 - f) Explain the terms K_m and V_{max} .
- Q.6** a) Explain Wagner - Nelson method for determination of K_a . [08]
b) Explain the statistical study designs in bioequivalence testing. [07]
- Q.7** a) Assess various pharmacokinetic parameters when the drug given as i.v. bolus dose follows one compartment model. [08]
b) What is area under the curve (AUC)? Explain the methods to determine 'AUC'. [07]
- Q.8** Write short notes on **ANY TWO** of the following: [15]
- a) IVIVC
 - b) Methods to improve bioavailability
 - c) Non compartment modeling

PURUS – VII (2011 COURSE) : WINTER – 2014
SUBJECT : PHARMACEUTICAL ANALYSIS – V

Day : Wednesday
Date : 12-11-2014

Time : 2.00 P.M. To 5.00 P.M.
Max. Marks : 80

N.B.

- 1) Q.1 and Q.5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from Section – I and any **TWO** questions from Section – II.
- 2) Answers to the two sections should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.

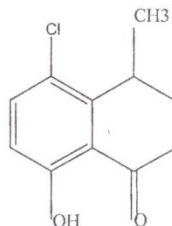
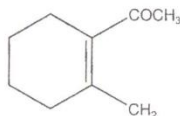
SECTION – I

Q.1 Answer any **FIVE** of the following (10)

- a) Define Isobestic point.
- b) Explain the term Auxochrome.
- c) Explain constructive and destructive interferences
- d) Explain in general working of analytical instruments as communication device.
- e) Write the advantages and disadvantages of instrumental methods
- f) Define spectroscopy

Q.2 a) Write detailed note on electronic transition involved in UV spectroscopy. (09)

b) Calculate λ max for the following two structures (06)



Q.3 a) Explain instrumentation of UV double beam spectrophotometer in detail (08)

b) Explain effect of solvents on λ max. (07)

Q.4 Write short notes on any **THREE** of the following: (15)

- a) EMR
- b) Beer's Lambert's law
- c) Woodward Fieser's rule for Dienes
- d) Spectrophotometric titrations

P.T.O.

SECTION - II

- Q.5** Answer any **FIVE** of the following **(10)**
- a) List out sources of radiation in IR spectrometry
 - b) What do you mean by IR active and IR inactive compounds
 - c) What do you mean by Fluorescence quenching? Explain
 - d) Effect of concentrations on fluorescence measurement
 - e) Write the principle of Raman spectroscopy
 - f) Write the characteristic IR stretching frequencies of Carbonly (C=O) group in different categories of compounds
- Q.6** a) Write the important IR absorption frequencies for Acetone and Benzoic acid **(05)**
- b) An IR spectrum of an unknown compound having formula C_6H_5ClO shows IR peaks at 3506 (strong), 3072 (Sharp) 743, 1190, 1338, 1472, 1578 and 1120 cm^{-1} , predict the structure **(07)**
- Q.7** Explain theory, instrumentation, application and advantages of nephelometry. **(15)**
- Q.8** Write short notes on any **THREE** of the following: **(15)**
- a) Application of Raman spectroscopy
 - b) Detectors used in IR spectroscopy
 - c) Principles of Flourimetry
 - d) Instrumentation of Phosphorimetry

* * *

