

PURUS – VI (SEMESTER PATTERN): APRIL/MAY - 2012
SUBJECT : PHARMACOGNOSY-III

Day: Monday
Date: 14-05-2012

Time: 10:00AM TO 1:00 P.M
Max. Marks: 80

N.B.

- 1) **Q. No.1 and 5 are COMPULSORY.** Out of the remaining attempt any **TWO** question from **Section – I** and any two question from **Section – II.**
- 2) Answer to the two 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 enflurage? Give its application.
 - b) Give biological sources and uses of Shatavari.
 - c) Give source and uses of Musk.
 - d) T.S. of Caraway
 - e) Give identification tests for Natural camphor and synthetic camphor.
 - f) What is Urokinase.
- Q.2** a) Define volatile oils. Give different methods of volatile extraction with suitable examples. (08)
- b) Describe the Pharmacognosy of clove. Give its adulterants and how they are detected. (07)
- Q.3** a) Define resins. Give its classification. Describe the Pharmacognosy of Podophyllum. (08)
- b) What are enzymes? Give their application with suitable examples. Explain Serratio peptidase. (07)
- Q.4** Write short note on **ANY THREE** of the following (15)
- a) Artemisia
 - b) Lahsun
 - c) T.S. of Coriander
 - d) Trypsin

SECTION – II

- Q.5** Give scientific reasons for **ANY FIVE** of the following (10)
- a) Write a note on chemical constituents of Coca.
 - b) T.S. of Vasaka.
 - c) Define Adaptogen and Rasayana.
 - d) Give biological sources and uses of Jatamansi.
 - e) Write chemical constituents and uses of Colchicum.
 - f) Give identification tests for indole alkaloids.
 - g) Give murexide test.

Q.6 a) Write a note on drugs from marine sources. Highlight some anti-cancer drugs from marine drugs. (08)

b) Write a detailed note on Neem. (07)

Q.7 a) Define immunomodulators. Discuss withania as immunomodulator drug. (08)

b) Write note on indole alkaloids with suitable examples. (07)

Q.8 Write short note on **ANY THREE** of the following (15)

- a)** Safed musli.
- b)** Kantkari
- c)** T.S. of Cinchona
- d)** Opium.

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PURUS – VII (SEMESTER PATTERN) : April/May-2012
SUBJECT : BIOPHARMACEUTICS & PHARMACOKINETICS

Day : Monday
Date : 07-05-2012

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**. Attempt any **TWO** of the remaining from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to the both sections should be written in **SEPARATE** answer book.

SECTION – I

- Q.1** Answer any **FIVE** of the following: (10)
- a) Compare between drug absorption via sublingual route and buccal route.
 - b) Explain the influences of surfactants on drug absorption.
 - c) Give a labelled illustration of plasma concentration time profile of a drug following oral administration.
 - d) What are different blood components involved in drug binding?
 - e) What is pharmacogenetics and chronopharmacology?
 - f) Explain clearance and renal clearance ratio.
- Q.2** Explain the influence of following factors on drug absorption: (15)
- a) Salt form of drug
 - b) Nature and type of dosage form
- Q.3** a) Explain influence of urine pH and drug pKa on the renal excretion of drugs. (08)
- b) What is volume of distribution? Highlight its significance. (07)
- Q.4** Write short notes on any **TWO**: (15)
- a) Biological factors affecting biotransformation.
 - b) Biliary excretion of drugs.
 - c) Physiological barriers to drug distribution.

SECTION – II

- Q.5** Answer the following any **FIVE**: (10)
- a) Define and explain extraction ratio.
 - b) What are the objectives of bioavailability studies?
 - c) Define pharmaceutical equivalents and therapeutic equivalents.
 - d) What are the advantages and disadvantages of compartmental modelling?
 - e) Compare single dose and multiple dose studies.
 - f) Explain non-compartment analysis.
- Q.6** Give a detailed account of the objectives, uses and different types of pharmacokinetic models. (15)
- Q.7** Derive the equations for pharmacokinetic parameters after extravascular administration of a drug. Assume that it follows first order kinetics and body behaves as one compartment. (15)
- Q.8** Write short notes on any **TWO**: (15)
- a) Methods to enhance bioavailability.
 - b) Sigma minus method.
 - c) Latin square and cross over design.

PURUS-VII : APRIL/MAY-2012 (Sem. Pattern)
SUBJECT : MEDICINAL CHEMISTRY-III

Day : Monday
Date : 23-04-2012

Time : 2:00 PM TO 5:00 PM.
Max. Marks : 80.

N.B.:

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining solve any **TWO** questions from each section.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

SECTION-I

- Q.1** Attempt any **FIVE** of the following: (10)
- a) Write down synthesis of Dapsone.
 - b) What are polypeptide antibiotics? Give their examples?
 - c) Write down synthesis of any one B-Lactam antibiotic.
 - d) What are digestants? Give their examples?
 - e) Give example and structure of sulfonamide used for treatment of Eye Infection.
 - f) Enlist various quinolones antibacterial agents.
- Q.2** Explain in brief chemistry synthesis SAR, MOA, Biological activity, uses and side effects of chloramphenicol. (15)
- Q.3** a) Give chemistry of sulfonamides. (08)
b) Explain – Synthetic Antifungal Agents. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Polyene antibiotics
 - b) Purgatives
 - c) Stability of penicillins
 - d) Antiviral agents.

SECTION-II

- Q.5** Attempt any **FIVE** of the following: (10)
- a) Write down synthesis of pamaquin.
 - b) Draw structure of different isomers of chloramphenicol.
 - c) Write down synthesis of pyrazinamide.
 - d) Give examples of anticancer agents belonging to class Nitrogen Mustard.
 - e) Give examples of antifolate as antimalarials along with structure.
 - f) Give examples of water soluble derivatives of dapsone.
- Q.6** Why treatment of mycobacterial infections difficult? Give classification of mycobacterial infections. Explain in brief INH, Ethambutol and streptomycin as Anti-TB agents. (15)
- Q.7** a) Explain chemistry of cinchona Alkaloids. (08)
b) Give a detail account of natural products as Anticancer agents. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Anti-fungal agents
 - b) Antiamoebic drugs
 - c) Phenol and their derivatives as antiseptics
 - d) Anthelmintics.

PURUS-VIII APRIL /MAY - 2012 (Sem. Pattern)
SUBJECT: PHARMACEUTICAL ANALYSIS-V

Day: Tuesday
Date: 24-04-2012

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

N.B.

- 1) **Q.1 and Q. No. 5** are **COMPULSORY**. Out of the remaining questions attempt any **TWO** questions from Section-I and any **TWO** questions from Section-II.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Answer to each section should be written in **SEPARATE** Answer books.
- 4) Draw labeled diagrams wherever necessary.

SECTION-I

- Q.1** Write in brief (**ANY FIVE**) (10)
- a) Factors affecting Flame intensity
 - b) Errors in flame photometry
 - c) Radioisotopes as source of X-Rays
 - d) Sensitivity of flamephotometry for common cations
 - e) Principle of Radio-immuno assay
 - f) Structure of Flame
- Q.2** a) Write the different X-Ray sources (06)
b) Explain X-Ray diffraction and its applications (09)
- Q.3** a) Explain principle, instrumentation and applications of ELISA (10)
b) Write a note on Radio-immuno assays (05)
- Q.4** Write notes on (**ANY THREE**) (15)
- a) Applications of Flame photometry
 - b) X-Ray Fluorescence and its applications
 - c) Errors in Flame photometry
 - d) Bragg's Law

SECTION-II

- Q.5** Answer in short (**ANY FIVE**) (10)
- a) Explain why TMS is suitable internal standard in Proton NMR.
 - b) Why molecular ion peak is not necessarily a base peak?
 - c) What is dimagnetic anisotropy?
 - d) Why are isotope peaks present in the mass spectrum of a compound?
 - e) What are interferences encountered in AAS?
 - f) Name different ionization sources used in mass spectrometry.
 - g) Explain the term 'Chemical Shift' in NMR.
- Q.6** a) Compare Total consumption and Premix burner. (06)
b) Explain the phenomenon of Spin-spin coupling in NMR. (09)
- Q.7** a) Discuss various non-flame atomization sources. (08)
b) Differentiate between soft and hard ionization sources for Mass Spectrometry. (07)
- Q.8** Write short note on (**ANY THREE**) (15)
- a) Hollow Cathode Lamp
 - b) McLafferty rearrangement
 - c) Use of Shift Reagents in NMR
 - d) Mass Analyzers

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