PURUS-VI: APRIL/MAY: 2010 (Semester Pattern)
SUBJECT: PHARMACOGNOSY - III

Day: Tuesday
Date: 18-05-2010

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

N.B:

1) Question No. **1** and Q. No. **5** are compulsory.
2) Out of remaining solve **ANY TWO** questions from each section.
3) Figures to the **RIGHT** indicate **FULL** marks.
4) Answers to the two sections should be written in separate answer books.
5) Neat diagrams must be drawn wherever necessary.

SECTION I

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

a) Give the chemical tests for turmeric.
b) Enlist the chemical constituents of ginger
c) Give two examples of sesquiterpenes
d) Enlist typical characteristic features of umbelliferous fruits
e) Give the uses of streptokinase.
f) Give the biological sources, chemical constituents and uses of citronella.

Q.2 **a)** Define volatile oils. Give their chemistry, classification and extraction with suitable examples. **(08)**
b) Give the pharmacognostic details of dill and tolu balsam **(07)**

Q.3 **a)** Give the biological source, chemical constituents and uses of myrrh and benzoin. **(08)**
b) Explain the pharmacognosy of eucalyptus **(07)**

Q.4 Write short notes on **(ANY THREE):** **(15)**

a) Taxus
b) Neem
c) Pharmacognosy of Podophyllum
d) T. S. of cinnamon bark.

SECTION II

Q.5 Answer **ANY FIVE** of the following: **(10)**

a) Give the biological source, chemical constituents and uses of bhringraj
b) Give the chemical tests for alkaloids
c) Give the biological source, chemical constituents and uses of lahsun.
d) Give the examples purine alkaloid producing drugs.
e) Differentiate between fixed oils and volatile oils.
f) How natural camphor differs from synthetic camphor.

Q.6 **a)** Describe marine as a source of new drugs with suitable examples. **(08)**
b) Describe biological source, chemical constituents, biosynthesis and therapeutic uses of opium alkaloids. **(07)**

Q.7 Define immunomodulators, adaptogen and rasayanas. Describe *Tinospora cordifolia* as immunomodulator. **(15)**

Q.8 Write short notes on **(ANY THREE):** **(15)**

a) Brahmi
b) T. S. cinchona

PURUS – VII (SEMESTER PATTERN) : April - May - 2010
SUBJECT : BIOPHARMACEUTICS & PHARMACOKINETICS

Day : Thursday
Date : 13.05.2010

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) Write the equation for determining percentage drug ionized and the ratio R of drug concentration on either side of membrane for both weak acid and weak base.
b) Explain the principle in formulation of buffered aspirin tablet.
c) How does gastric emptying affect drug absorption?
d) Explain the protein related factors affecting protein binding?
e) What are the consequences of biotransformation?
f) Explain the approaches used to treat toxicity due to drug overdose.

Q.2 Explain the following factors affecting renal clearance of drugs **(15)**

a) Urine pH
b) Plasma concentration of the drug

Q.3 **a)** Give an account of simple cell membrane barrier and blood brain barrier. **(08)**
b) Explain the influence of partition coefficient on drug absorption. What are the limitations of pH partition hypothesis? **(07)**

Q.4 Write short notes on any **TWO:** **(15)**

a) Theories of drug dissolution.
b) Influence of drug interactions on protein drug binding.
c) Induction and inhibition of drug metabolizing enzyme.

SECTION – II

Q.5 Answer the following any **FIVE:** **(10)**

a) Give examples of zero order, first order and mixed order process.
b) Highlight some uses of pharmacokinetic models.
c) What are the criteria recommended by USFDA on priority basis for a drug to be considered for bioavailability /bioequivalence testing?
d) Explain different pharmacokinetic parameters obtained from a typical plasma concentration time profile.
e) Define absolute and relative bioavailability.
f) What is trapezoidal rule?

Q.6 Explain in detail the kinetics of plasma protein binding along with mathematical treatment in its analysis. **(15)**

Q.7 Explain estimation of K_a by method of residuals and Wagner Nelson method. **(15)**

Q.8 Write short notes on any **TWO:** **(15)**

a) Non compartmental modelling

PURUS- VII :(SEMESTER PATTERN) April- May- 2010
SUBJECT: MEDICINAL CHEMISTRY-III

Day: Wednesday
Date: 05-05-2010

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

N.B.:

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

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SECTION-I

Q.1 Solve Any **FIVE** of the following: **(10)**

a) Write down synthesis chlorabucil
b) Draw structure of Griseofulvin
c) Write down synthesis of Trimethoprim
d) Enlist various Alkylating agents along with at least one structure.
e) Write down synthesis of INH.
f) Enlist various Quinolones along with at least one structure.
g) Write down structure of any two cinchona alkaloids

Q.2 Give life cycle of malarial parasite. Explain in brief chemistry SAR, MOA, of 4 Aminoquinolines along with synthesis of chloroquine. **(15)**

Q.3 **a)** What are antineoplstics agents? Give their classification explain in short anticancer antibiotics. **(10)**

b) Explain various primary drugs used for treatment of T. B. **(05)**

Q.4 Write short notes on: **(15)**
i)Polyene antifungal antibiotics ii) Emetics and Antiemetics
iii) Anthelminetic agents

SECTION-II

Q.5 Answer any **FIVE** of the following: **(10)**

a) Write down structure of succinylsulfathiozole.
b) What are aminoglycoside antibiotics. Give their examples.
c) Give examples of sulfonamides used for Eye infection.
d) What are polypeptide Antibiotics. Give their examples.
e) Explain MOA of sulfonamides.
f) Enlist various cephalosporins along with at least one structure.
g) Write down synthesis of Dapsone.

P. T. O.

Q.6 Give various ways of classification of Antibiotics. Explain in brief chemistry SAR and uses of Tetracylines. **(15)**

Q.7 **a)** What are sulfonamides? Give their chemical classification along with examples and structures. **(09)**

b) Write down synthesis of any **TWO** **(06)**
i) Chloramphenicol ii) Sulfacetamide iii) Sulfaguinidine

Q.8 Write short notes on: **(15)**

a) Interferons

b) Macorlide Antibiotics

c) Antileprotic agents

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PURUS – VIII: APRIL / MAY 2010 (Semester Pattern)
SUBJECT: PHARMACEUTICAL ANALYSIS - V

Day : Saturday
Date : 08-05-2010

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

N.B.:

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

SECTION – I

Q.1 Answer **ANY FIVE** in short: **[10]**

a) Law governing diffraction of x-rays.
b) Detector in X ray diffraction
c) Base peak in mass spectrometry.
d) Double focusing mass spectrometer.
e) Radio immuno assays are more sensitive.
f) Define antigen and antibody.
g) Crystal behaves like a grating in x-ray methods.

Q.2 a) Write principle, instrumentation and applications of mass spectrometry. **[10]**
b) Write about GC-MS. **[05]**

Q.3 a) Write principle and applications of radio immuno assays **[08]**
b) Explain single and double focusing mass spectrometry **[07]**

Q.4 Write short notes on **ANY THREE** of the following: **[15]**

a) Different ions formed in fragmentation
b) ELISA
c) X ray tube

SECTION – II

Q.5 Answer **ANY FIVE** in short: **[10]**

a) What is sputtering?
b) What is Doppler broadening?
c) What is the role of ionization suppressor in flame emission spectroscopy?
d) Justify effect of electronegative substituent on chemical shift of a proton.
e) Explain the term precessional frequency.
f) What is flipping in NMR?
g) What are different types of magnets used in NMR spectrometer?

Q.6 a) Explain why flame emission techniques is used for the determination of alkali and alkaline earth metals only. **[05]**
b) Discuss various techniques of atomization. **[10]**

Q.7 a) Explain the techniques used to remove interference of flame light in Atomic Absorption Spectroscopy. **[05]**
b) Discuss phenomenon of spin-spin coupling. **[10]**

Q.8 Write short notes on **ANY TWO** of the following: **[15]**

a) Hollow cathode lamp
b) Laminar flow burner
c) Techniques to simplify NMR spectra