PURUS- VII :(2011 (COURSE): SUMMER- 2016
SUBJECT: MEDICINAL CHEMISTRY-III

Day: Friday
Date: 22-04-2016

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 Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

Q.1 Attempt any **FIVE** from the following: **(10)**

a) Give any two examples of drugs used as antiinfective agent along with structures.
b) Sketch out line synthesis of Dapsone.
c) Give any two examples of alkaloids used for the treatment of malaria.
d) Give examples of any two heterocyclic drugs used for the treatment of amebiasis along with their structure.
e) Give any two examples of animetabolites used in the treatment of cancer.
f) Sketch out the synthesis of Ethambutol.

Q.2 What are antineoplastic agents? Give their classification. Give a detail account of natural products as anticancer agents. Sketch out the synthesis of mechlorethamine and chlorambucil. **(15)**

Q.3 What are antimalarial agents? Give chemical classification. Explain in detail SAR of cinchona alkaloids. Give synthesis of chloroquin. **(15)**

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

a) Anti tubercular agents.
b) Tripanosomiasis.
c) Anthelmintics.
d) Halogen and halophors as antiseptics

SECTION-II

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

a) Give two examples of orally acting penicillin's along with their structures.
b) Give two examples of drugs belonging to tetracycline class of antibiotics.
c) Give example and structure of sulfonamide used for treatment of eye infection.
d) What are macrolide antibiotics? Give examples.
e) Define emetics and give their examples.
f) Sketch out the synthesis of sulfamerazine.

Q.6 Give various ways of classifying antibiotics. Give chemistry, SAR and MOA of amino glycoside antibiotics. **(15)**

Q.7 Give chemical classification of sulfonamides with examples. Give their chemistry , SAR,uses and side effects of sulfonamides **(15)**

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

a) Stability of penicillin's.
b) Polyene class of antibiotics.

PURUS – VII (2011 COURSE): SUMMER – 2016
SUBJECT : PHARMACEUTICAL ANALYSIS – V

Day : Thursday
Date : 28-04-2016

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 question attempt **ANY TWO** questions from each section.
2) Answers to 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) Define the term 'Auxochrome'.
b) Write the Beer's Lambert's Law.
c) Define the terms 'wave length' and 'frequency'.
d) What do you mean by Red shift and Blue shift?
e) Explain 'Monochromators'.
f) Write the advantages of instrumental analytical methods.

Q.2 a) Discuss the general instrumentation of optical spectroscopy. **[08]**
b) Write a note on EMR and its various regions. **[07]**

Q.3 a) Explain the electronic transition involved in UV spectroscopy. **[08]**
b) Explain Woodward Fieser's rule for dienes with suitable examples. **[07]**

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

a) Interaction of EMR with matter
b) Double beam spectrophotometer
c) Quantitative analysis in UV spectroscopy
d) PMT

SECTION - II

Q.5 Attempt **ANY FIVE** of the following: **[10]**

a) Write the advantages and disadvantages of fluorimetry.
b) Differentiate between Fluorescence and Phosphorescence.
c) Differentiate between Nephelometry and Turbidimetry.
d) Write about IR fingerprint and group frequency regions.
e) Write the basic requirement for a molecule to be IR active.
f) Write Hook's Law

Q.6 a) Discuss the instrumentation and working of Nephelometry **[08]**
b) Discuss the instrumentation and working of fluorimetry. **[07]**

Q.7 a) Explain the sampling techniques in IR spectrometry. **[08]**
b) Discuss the detectors used in IR spectrometry. **[07]**

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

a) Molecular vibrational modes
b) Raman spectroscopy
c) Steps involved in IR interpretation
d) Application of Nephelo turbidimetry

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PURUS- VII (2011 COURSE): SUMMER – 2016
SUBJECT: BIOPHARMACEUTICS & PHARMACOKINETICS

Day: Tuesday
Date: 03-05-2016

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 attempt any **TWO** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

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

a) Explain the active of transport mechanism for drug absorption.

b) Define clearance and give its equation.

c) What is bioactivation?

d) Explain the influence of vehicle in formulation of liquid orals.

e) Give significance of protein binding with respect to therapy and diagnosis.

f) Explain interfacial barrier theory for drug dissolution.

Q.2 **a)** Explain in detail different physiological barriers to the drug distribution. **(08)**

b) Discuss influence of drug pKa and pH of GIT on drug absorption from GI. **(07)**

Q.3 **a)** Give a detailed account of factors affecting renal clearance. **(08)**

b) Explain the concept and clinical significance of tissue binding of drugs. **(07)**

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

a) Manufacturing variables affecting drug absorption

b) Kinetics of protein drug binding

c) Passive diffusion mechanism for drug absorption

P. T. O.

SECTION-II

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

a) Explain the terms: Central compartment and peripheral compartment.

b) What is zero order process? Give examples.

c) Explain in short C_{max} and t_{max} .

d) What are causes of non- linear kinetics?

e) What are the advantages of urinary data over plasma data?

f) Define absolute and relative bioavailability.

Q.6 a) Derive the pharmacokinetic parameters following drug administered as IV bolus assuming one compartment open model. **(08)**

b) Discuss Wagnor-Nelson method to obtain absorption rate constant Ka. **(07)**

Q.7 a) Discuss methods for estimation of bioequivalence parameters. **(08)**

b) Give an account of physiological modelling. **(07)**

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

a) In vitro-in vivo correlation

b) Methods for enhancement of bioavailability

c) Sigma minus method

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