

PURUS -IV (Sem Pattern) APRIL/MAY 2010
SUBJECT: PHARMACOGNOSY-I

DAY: Wednesday
DATE: 19-05-2010

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. Out of remaining questions attempt ANY TWO questions from each section.
- 2) Answers to both the sections should be written in the SEPARATE answer book.
- 3) Figures to the right indicate FULL marks.

SECTION - I

- Q.1 Answer ANY FIVE questions of the following : 15
- a) What is mutation? Give significance.
 - b) Give different definitions of Pharmacognosy.
 - c) Explain Kompo system of medicine.
 - d) Write different sources of crude drug.
 - e) How to detect adulteration of crude drugs?
 - f) Define vein islet number and vein termination number.
- Q.2 a) Which are different factors affecting cultivation? 07
b) Write a note on microscopic drug evaluation. 08
- Q.3 a) Write scope of pharmacognosy in detail 07
b) Merits and demerits of sexual and asexual methods of propagation. 08
- Q.4 Write a short note on :(any three) 15
- a) Importance of Chemotaxonomic classification.
 - b) Role of Gibberellin as plant growth regulator
 - c) Role of secondary metabolites in plants.
 - d) Homoeopathy

SECTION- II

- Q.5 Answer ANY FIVE questions of the following : 15
- a) Write a note on asexual method of propagation.
 - b) Enlist different plant growth regulators.
 - c) Explain stomatal index and stomatal number.
 - d) What is adulteration? Give significance of adulteration.
 - e) What is hybridization? Give its applications.
 - f) Explain morphological classification.
- Q.6 a) Write principles of traditional Chinese system of medicine. 07
b) What is role of tracer techniques in elucidation of biosynthetic pathway? 08
- Q.7 a) Write different types of adulteration. 07
b) Write a note on shikimic acid pathway with suitable example. 08
- Q.8 Write a short note on :(any three) 15
- a) Ayurveda, the Indian System of Medicine
 - b) History of pharmacognosy
 - c) Mutation and its type.
 - d) Different types of pest and pest control.

PURUS -V: APRIL/MAY 2010 (SEMESTER PATTERN)
SUBJECT: MEDICINAL CHEMISTRY-I

Day: *Monday*
Date: *03-05-2010*

Time: *10:00 A.M. To 1:00 P.M.*
Max. Marks: 80

N.B:

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

SECTION-I

- Q.1** Explain mode of action giving structures of **ANY FIVE** of the following: **(10)**
- i) Procainamide
 - ii) Amiodarone
 - iii) Nifedipine
 - iv) Salbutamol
 - v) Amrinone
 - vi) Enalapril
 - vii) Ephedrin
- Q.2** a) Discuss the modification on β - phenyl ethylamine nucleus to develop direct sympathomimetics. **(07)**
- b) Classify α - adrenergic antagonists. Outline synthesis of propranolol and isoproterenol. **(08)**
- Q.3** a) Differentiate between carrier- linked and bioprecursor prodrugs. Outline ideal properties of a prodrug and drawbacks of prodrug concept in details. **(08)**
- b) Discuss pharmacokinetic applications of prodrugs. **(07)**
- Q.4** Write short notes on **ANY THREE:** **(15)**
- i) Cardenolides
 - ii) Nitrovasodialators
 - iii) Mode of action of antiarrhythmics
 - iv) Indirect acting sympathomimetics
 - v) ACE inhibitors

P.T.O.

SECTION-II

- Q.5** Answer **ANY FIVE** questions: (10)
- a) Define isosters giving any 2 examples.
 - b) Sketch synthesis route for bethenichol.
 - c) Give structure of any two neuromuscular blockers.
 - d) Write four important uses of antimuscarinics.
 - e) Give any 2 examples of structurally specific and structurally nonspecific drugs.
 - f) Write an equation which expresses dissociation constant of weak electrolytes and explain its application.
 - g) Explain mode of action of reversible anticholinestrases.
- Q.6** "The acetylcholine molecule offers three areas for the molecular modifications". (15)
Define these areas and show how structural changes affect the activity spectrum in each of these areas.
- Q.7**
- a) Give classification, MOA and uses of ganglionic blocking agents. (08)
 - b) Explain the model of nicotinic receptor. (04)
 - c) Write down synthesis for dantrolone sodium. (03)
- Q.8** Write short notes on (**ANY THREE**): (15)
- i) Importance of partition coefficient in drug design.
 - ii) Biosynthesis and metabolism of acetylcholine.
 - iii) Irreversible anticholinestrases.
 - iv) SAR of antimuscarinics.
 - v) Neuromuscular blockers.

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PURUS -V (SEMESTER PATTERN): APRIL / MAY 2010
SUBJECT: PHARMACOLOGY – II

Day : *Wednesday*
Date : *12-05-2010*

Time: *10:00 A.M. To 1:00 P.M.*
Max. Marks: 80.

N.B.:

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

SECTION - I

- Q.1** Answer **ANY FIVE** of the following: [10]
- a) Classify calcium channel blockers.
 - b) Name β adrenergic blockers useful in asthmatic patients.
 - c) Classify bronchodilators.
 - d) Mention two drugs known to prolong QT interval.
 - e) Name potassium channel opening antihypertensive.
 - f) Name antihypertensive to be avoided during pregnancy.
 - g) What are the reasons of failure of oral iron preparation?
- Q.2** a) Describe the drug therapy of myocardial ischemia. [08]
b) Compare and contrast heparin with warfarin. [07]
- Q.3** a) Classify antiasthmatics. Describe the actions, uses and adverse effects of sympathomimetics. [08]
b) Explain metabolic functions, deficiency and uses of Vitamin B₁₂. [07]
- Q.4** Write short notes on **ANY THREE** of the following: [15]
- a) Use of statins
 - b) Use of nitrates in cyanide poisoning
 - c) Losartan
 - d) Digitalis toxicity

SECTION - II

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) Mention potassium sparing diuretic.
 - b) Give examples of irritant purgatives.
 - c) Enumerate two antiemetics.
 - d) Classify antitussives.
 - e) Name antibiotics used as antidiarrheal drugs.
 - f) Give examples of mast cell stabilizers.
 - g) Enumerate bulk forming purgatives.
- Q.6** a) Classify drugs used for peptic ulcer. Describe the mechanism of action, uses and adverse effects of omeprazole. [08]
b) Describe the treatment of diarrhea with rehydration therapy. [07]
- Q.7** a) Describe the complications and uses of high ceiling and thiazide diuretics. [08]
b) Describe the treatment of constipation. Comment on the abuse of purgatives. [07]
- Q.8** Write short notes on **ANY THREE** of the following: [15]
- a) Antidiuretics
 - b) Emetics

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

Day : **Saturday**
Date : **08-05-2010**

Time: **10:00 AM TO 1:00 PM.**
Max. Marks: 80.

N.B.:

- 1) **Q.1 and Q.5 are COMPULSORY.** Out of remaining questions solve ANY **TWO** questions from each section.
- 2) Answers to both the sections should be written in the **SEPARATE** answer book.
- 3) Figures to the right indicate full marks.

SECTION-I

Q.1 Answer **ANY FIVE** of the following: **[10]**

- a) Enlist desired character of hair colorants.
- b) What is seborrhea?
- c) Explain the role of turmeric in facial creams.
- d) Explain the role of film formers in nail polish.
- e) What are depilatory; mention the desired requirements of depilatory?
- f) Explain the role of fluoride in tooth paste.
- g) What is dandruff, mention the causes of dandruff?

Q.2 a) Discuss in detail formulation of shampoos. **[10]**
b) What are different approaches to mask objectionable body odours? **[05]**

Q.3 a) Discuss the formulation for lather shaving creams along with different types of product. **[08]**
b) Comment on semi permanent colouring of hair. **[07]**

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

- a) Baby powder
- b) Eye mascara
- c) Liquid Lipstick
- d) Tooth powder

SECTION-II

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

- a) Mention the functional requirements of body cosmetics.
- b) Give reasons for tooth decay.
- c) Define the term MED and MPE.
- d) What is self preservations of cosmetics?
- e) What is the purpose of leave-on hair care product?
- f) Explain why hair may accumulate static electricity and flies away.
- g) What are different reasons to colouring the hair?

Q.6 a) Discuss formulation and evaluation of toothpaste. **[10]**
b) Comment on factors affecting the preservations of cosmetics. **[05]**

Q.7 a) Discuss in detail performance and psychometric evaluation of cosmetics. **[08]**
b) Explain difference between cosmetics and drug formulations. **[07]**

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

- a) Sunscreen preparations
- b) Applications of multiple and micro emulsions in cosmetics

PURUS-VI APRIL/MAY: 2010 (SEMESTER PATTERN)
SUBJECT: PHARMACEUTICAL ANALYSIS- III

Day: *Thursday*
Date: *06-05-2010*

Time: *10:00AM TO 1:00PM.*
Max. Marks: 80

N.B:

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

SECTION- I

- Q.1 Explain the terms in brief (ANY FIVE) (10)
- a) Van Demeter equation.
 - b) Visualization in TLC
 - c) Frontal Analysis
 - d) Internal standard method
 - e) Plate theory
 - f) Effective distribution coefficient.
 - g) Band broadening
- Q.2 Draw a schematic diagram of HPTLC instrumentation and explain the steps involved in HPTLC. (15)
- Q.3 Write a detailed account on Applications of TLC. (15)
- Q.4 Write short notes (ANY THREE): (15)
- a) Coating Materials in TLC
 - b) Preparation of TLC plates
 - c) Quantitative analysis by chromatography
 - d) Sources of Band broadening
 - e) Superiority of TLC over other chromatographic Technique

SECTION-II

- Q.5 Explain the terms in brief (ANY FIVE): (10)
- a) R_m value
 - b) Gradient elution
 - c) Temperature programming in GC
 - d) Endcapping of columns
 - e) Specific retention volume
 - f) polarity index
 - g) Cation exchange resin
- Q.6 Draw a neat labeled diagram of GC system and discuss the components (15)
- Q.7 Give an exhaustive account of instrumentation in HPLC (15)
- Q.8 Write short notes (ANY THREE): (15)
- a) Development techniques in paper chromatography
 - b) Applications of HPLC
 - c) Gel chromatography
 - d) Analysis of spices
 - e) Analysis of Dairy products

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PURUS-VII (SEMESTER PATTERN): April-May-2010
SUBJECT: DOSAGE FORM DESIGN-II

Day : Tuesday
Date : 11.05.2010

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

N.B.:

- 1) O.NO.1 and Q.NO.5 are COMPULSORY. Out of the remaining questions attempt ANY TWO 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 Solve ANY FIVE of the following: [10]
- a) Give the composition of hard and soft gelatin capsules.
 - b) Enumerate various problems in capsule making.
 - c) What are effervescent tablets?
 - d) Enumerate various techniques of granulations.
 - e) What polymers are used in micro encapsulation?
 - f) Differentiate between spray drying and spray congealing.
 - g) What is bloom strength of gelatin?
- Q.2 a) Discuss the various techniques used in micro encapsulations. [08]
b) Comment on sugar coating of tablets. [07]
- Q.3 a) Explain the process of manufacturing of tablets using rotary tablet compression machine. [08]
b) Discuss various quality control tests of plain tablets. [07]
- Q.4 Write short notes on ANY THREE of the following: [15]
- a) Packaging of electrolytes
 - b) Film coating of tablets
 - c) In process quality control of capsules
 - d) Chewable tablets
 - e) Coating materials in micro encapsulation

SECTION-II

- Q.5 Solve ANY FIVE of the following: [10]
- a) Enumerate various routes of parenteral administration.
 - b) How pyrogens are removed from sterile preparations?
 - c) What is clean in place and steam in place system?
 - d) Draw a neat layout for the manufacture of SVP.
 - e) What is concurrent validation?
 - f) Draw a neat diagram of single screw extruder.
 - g) Give the composition of contact lens solution.
- Q.6 a) Discuss the formulative principles of small volume parenterals. [08]
b) Explain the formulation of suspensions and dry forms in SVP. [07]
- Q.7 a) Discuss the various carbohydrate and protein formulations in LVP. [08]
b) Write in detail the formulation of ophthalmic preparation. [07]
- Q.8 Write short notes on ANY THREE of the following: [15]
- a) HVAC system