

PURUS – V (2011 COURSE): WINTER – 2014
SUBJECT: COSMETICOLOGY
(For the Student of 2012- 13 Batch and Onwards)

Day: Monday
Date: 17/11/14

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

N.B.:

- 1) Q. No. 1 and 5 are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Solve any **TWO** questions from each section.
- 4) Answers to both the section should be written in **SEPARATE** answer books.

SECTION-I

- Q.1** Solve any **FIVE** of the following: **(10)**
- a) Define cosmetics.
 - b) What are viscosity modifiers? Give two examples.
 - c) Define emollients.
 - d) Enlist factors to be considered for design of successful cosmetic formula.
 - e) Name agents banned for use in cosmetics applications.
 - f) Give a example of regulatory agency of cosmetics.
 - g) What are normal functions of skin?
- Q.2** a) Classify oral hygiene products. Give formulation information for these. **(10)**
b) Discuss about skin cleansing creams with examples. **(05)**
- Q.3** a) Explain importance of physiological considerations in cosmetic product development. **(08)**
b) Describe vanishing cream and its modifications to get other cosmetics products. **(07)**
- Q.4** Write short notes on any **THREE** of the following: **(15)**
- a) Vehicles in cosmetics
 - b) Permanent hair dyes
 - c) Viscosity modifiers in skin care products
 - d) Humectants

SECTION-II

- Q.5** Solve any **FIVE** of the following: **(10)**
- a) What are different herbal materials used in cosmetics?
 - b) What is the principle of nail lacquer?
 - c) Why stearic acid based creams require addition of humectants?
 - d) What are the differences between lip gloss and lip slave?
 - e) Classify and define lipstick products.
 - f) What are ideal requirements of manicure products?
 - g) How lotions are different from creams.
- Q.6** a) Discuss in detail psychometric evaluation of any cosmetics product. **(10)**
b) Describe different baby products along with examples. **(05)**
- Q.7** a) What are different mechanisms of herbal ingredients in cosmetics? **(08)**
b) Discuss about lipcare product along with examples. **(07)**
- Q.8** Write short notes on any **THREE** of the following: **(15)**
- a) Lip Balm
 - b) Nail paints
 - c) Polymers in cosmetics

PURUS - V (2011 COURSE):
SUBJECT : PHARMACOGNOSY - I

WINTER - 2014

Day : Friday
Date : 21-11-2014

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 questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in the **SEPARATE** answer books.
- 3) Draw neat and labeled diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1 Attempt **ANY FIVE** of the following: [10]
- a) Name any two drugs obtained from mineral origin.
 - b) Draw structure of 2, 4D.
 - c) What is role of ethylene in plant growth?
 - d) Write mechanism of action of auxins.
 - e) Write different methods of drying of crude drugs.
 - f) What is chemotaxonomic classification?
- Q.2 a) What is significance of evaluation of crude drugs? Explain chemical evaluation in detail. [08]
- b) Give chemical and pharmacological classification of crude drug with suitable example. [07]
- Q.3 a) What is physical evaluation of crude drug? Give examples. [08]
- b) Explain in detail collection and processing of crude drug. [07]
- Q.4 Write short notes on **ANY THREE** of the following: [15]
- a) History and scope of pharmacognosy
 - b) Biological evaluation of crude drug
 - c) Natural sources of crude drugs
 - d) Gibberrellins

SECTION - II

- Q.5 Attempt **ANY FIVE** of the following: [10]
- a) Write biological source of Sunflower oil.
 - b) Write biological source of Isapgol.
 - c) Write different methods for detection of tracer compound in plant system.
 - d) Write biological source of Shark liver oil.
 - e) Write chemical test for Acacia.
 - f) Write criteria for selection of tracer compound.
- Q.6 a) Write in detail pharmacognostic account of Agar. [08]
- b) What are carbohydrates? Give biosynthesis, classification chemistry, and chemical tests for carbohydrates. [07]
- Q.7 a) What are lipids? Give classification, occurrence, property and chemistry of lipids with suitable example. [08]
- b) Write in detail pharmacognostic account of Pectin and Cod liver oil. [07]
- Q.8 Write short notes on **ANY THREE** of the following: [15]
- a) Chinese system of medicine
 - b) Mevalonic acid pathway

PURUS-V (2011 COURSE): WINTER - 2014
SUBJECT: PHARMACOLOGY-II

Day : Wednesday
Date : 19-11-2014

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 **SECTION-I** and **Any TWO** questions from **SECTION-II**.
- 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** Answer **Any FIVE** of the following : (10)
- a) Classify hematinics with suitable examples.
 - b) Describe the biosynthesis of nitric oxide.
 - c) Classify blood coagulants.
 - d) Explain the mechanism of heparin.
 - e) Define thrombolytics and give suitable examples.
 - f) Enlist the contraindications for heparin therapy.
- Q.2** a) Classify antiarrhythmics. Explain in detail the pharmacology of calcium channel blockers. (08)
- b) Classify antihyperlipidemic drugs. Explain in detail the pharmacology of statins. (07)
- Q.3** a) Classify antianginal drugs with suitable examples. Explain in detail pharmacology of nitrates. (08)
- b) Explain drug therapy of hypertension. (07)
- Q.4** Write short notes on **Any THREE** of the following : (15)
- a) Anticoagulants
 - b) Potassium channel openers
 - c) Fibrinolytics
 - d) Nitric oxide

SECTION-II

- Q.5** Answer **Any FIVE** of the following : (10)
- a) What are diuretics? Give 2 examples of loop diuretics.
 - b) Classify antidiuretics.
 - c) Define anti-tussives. Give examples.
 - d) Enlist the uses of potassium sparing diuretics.
 - e) Enlist the drugs used for GERD.
 - f) Give the WHO recommended ORS formula.
- Q.6** a) Classify diuretics. Explain the pharmacology, uses and adverse effects of high ceiling diuretics. (08)
- b) Classify anti-asthmatic drugs. Explain the significance of oral corticosteroids in treatment of asthma. (07)
- Q.7** a) Classify anti-ulcer drugs. Explain in detail the pharmacology of proton pump inhibitors. (08)
- b) Classify anti-emetics. Explain in detail the role of 5-HT antagonists as anti-emetics. (07)
- Q.8** Write short notes on **Any THREE** of the following : (15)

PURUS-V (2011 COURSE): WINTER - 2014
SUBJECT: PHARMACOLOGY-II

Day : Wednesday
Date : 19-11-2014

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 **SECTION-I** and **Any TWO** questions from **SECTION-II**.
- 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 Answer **Any FIVE** of the following : (10)
- a) Classify hematinics with suitable examples.
 - b) Describe the biosynthesis of nitric oxide.
 - c) Classify blood coagulants.
 - d) Explain the mechanism of heparin.
 - e) Define thrombolytics and give suitable examples.
 - f) Enlist the contraindications for heparin therapy.
- Q.2 a) Classify antiarrhythmics. Explain in detail the pharmacology of calcium channel blockers. (08)
- b) Classify antihyperlipidemic drugs. Explain in detail the pharmacology of statins. (07)
- Q.3 a) Classify antianginal drugs with suitable examples. Explain in detail pharmacology of nitrates. (08)
- b) Explain drug therapy of hypertension. (07)
- Q.4 Write short notes on **Any THREE** of the following : (15)
- a) Anticoagulants
 - b) Potassium channel openers
 - c) Fibrinolytics
 - d) Nitric oxide

SECTION-II

- Q.5 Answer **Any FIVE** of the following : (10)
- a) What are diuretics? Give 2 examples of loop diuretics.
 - b) Classify antidiuretics.
 - c) Define anti-tussives. Give examples.
 - d) Enlist the uses of potassium sparing diuretics.
 - e) Enlist the drugs used for GERD.
 - f) Give the WHO recommended ORS formula.
- Q.6 a) Classify diuretics. Explain the pharmacology, uses and adverse effects of high ceiling diuretics. (08)
- b) Classify anti-asthmatic drugs. Explain the significance of oral corticosteroids in treatment of asthma. (07)
- Q.7 a) Classify anti-ulcer drugs. Explain in detail the pharmacology of proton pump inhibitors. (08)
- b) Classify anti-emetics. Explain in detail the role of 5-HT antagonists as anti-emetics. (07)
- Q.8 Write short notes on **Any THREE** of the following : (15)

PURUS -V WINTER - 2014 (old course)

SUBJECT: MEDICINAL CHEMISTRY -I

Day: Monday
Date: 10-11-2014

Time: 10:00 A.M. to 1:00 P.M.
Max marks: 80

N.B:

- 1) Question No. 1 & 5 are **COMPULSORY**. Out of remaining solve any **TWO** from section I & any **TWO** from section -II.
- 2) Figures to the right indicate **FULL** marks.

SECTION-I

- Q.1** Write structures of any **FIVE** of following, mentioning their chemical class & category. (10)
- a) Captopril
 - b) Isoproterenol
 - c) Dibenzamine
 - d) Propranolol
 - e) Atenolol
 - f) Guanabenz
 - g) Verapamil
- Q.2**
- a) Write in details about cardiac glycosides. (05)
 - b) Classify antianginals giving one structure for each class. (05)
 - c) Discuss mode of action of calcium channel blockers & organic nitrates. (05)
- Q.3**
- a) Classify prodrugs on the basis of their carriers giving one structure for each class. (05)
 - b) Discuss pharmacokinetic applications of prodrugs. (05)
 - c) Write in details about brain targeting by prodrugs. (05)
- Q.4** Write short notes on any **THREE** (15)
- a) Biosynthesis & metabolism of noradrenaline
 - b) SAR of direct sympathomimetics
 - c) Indirect acting sympathomimetics
 - d) Synthesis of guanethidine and terbutaline
 - e) α - antagonists

SECTION- II

- Q.5** Attempt any **FIVE** questions: (10)
- a) Draw structures of carbachol & bethanechol
 - b) Outline the synthesis of dantrolene sodium
 - c) Write on importance of stereo-chemical purity of drugs.
 - d) Give an account of ganglionic stimulants.
 - e) State Ferguson principle.
 - f) Write about muscarinic receptors.
 - g) Outline the synthesis of gallamine.
- Q.6**
- a) Describe in details chemistry, pharmacological actions, SAR and metabolism of acetyl choline & its analogs. (10)
 - b) Give the classification of neuro-muscular blocking agents on the basis of MOA. (05)
- Q.7**
- a) Enlist various physico- chemical parameters affecting drug action. Comment on role of solubility & partition coefficient in drug's action. (08)
 - b) Write about SAR of Anti-muscarinics. (07)
- Q.8** Write short notes on :(Any **THREE**) (15)
- a) Dissociation constant & biological action

PURUS - V (2011 COURSE): WINTER - 2014
SUBJECT: PHARMACEUTICAL ANALYSIS - III

Day: Wednesday
Date: 12-11-2014

Time: 10:00 A.M. TO 1:00 P.M.
Max. Marks: 40

N.B.:

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

SECTION - I

- Q.1** Answer **ANY FIVE** of the following: (10)
- a) Explain in short 'Retention Time'.
 - b) Define 'Column Resolution'.
 - c) Explain the term 'Eddy Diffusion'.
 - d) What is the difference between concentration sensitive and mass sensitive detector?
 - e) What properties should a stationary phase for gas chromatographic column possess?
 - f) Explain briefly 'Number of Plates'.
- Q.2** a) Enlist all the detectors used in G.C. Explain in detail any two. (08)
b) Draw a diagram showing parts of G.C. Give applications of the same. (07)
- Q.3** Explain in detail the theory behind band broadening. How can it be reduced to improve column efficiency? (15)
- Q.4** Write short notes on **ANY THREE** of the following: (15)
- a) GC - MS
 - b) Open tubular columns
 - c) Selectivity factor
 - d) Classification of chromatographic methods

SECTION - II

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) Write factors affecting retention factor, R_f.
 - b) "Ion exchange materials are classified in terms of acidic or basic strength of functional groups attached to the polymer matrix". Why?
 - c) Types of solvents used in paper chromatography.
 - d) Discuss ion exchange capacity.
 - e) Write procedure for separation of Amino Acid by paper chromatography.
 - f) Applications of Immunoelectrophoresis.
- Q.6** a) Give the principle involved in electrophoresis and a note on different modes of electrophoretic techniques. (07)
b) Write applications of electrophoresis add a detail note on different modes of electrophoretic techniques. (08)
- Q.7** a) Write classification of Paper chromatography? Explain different modes of Paper Chromatography. (07)
b) Explain Choice of filter papers in paper chromatography. (08)
- Q.8** Write short note on **ANY THREE** of the following. (15)
- a) Partition Paper Chromatography
 - b) Applications of Ion Exchange Chromatography

PURUS - V (2011 COURSE): WINTER - 2014
SUBJECT: DOSAGE FROM DESIGN - II

Day: Friday
Date: 14-11-2014

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 attempt any **TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the section should be written in **SEPARATE** answer book.
- 4) Draw neat diagrams **WHEREVER** necessary.

SECTION-I

- Q.1** Answer any **FIVE** of the following: (10)
- a) What are the formulation factors affecting drug availability from capsules?
 - b) Write various sizes and volumes (cm^3) filled in capsules.
 - c) Mention the advantages of transdermal drug delivery systems.
 - d) Define gels. Explain types of gels.
 - e) Give the flow chart sequence of two piece hard gelatin capsule shell manufacturing.
 - f) Write advantages and disadvantages for soft gelatin capsules.
 - g) Mention IPQC checks during gelatin shells manufacturing
- Q.2** a) Discuss in detail Evaluation of Hard gelatin capsules. (10)
b) Discuss the formulation of soft gelatin capsules. (05)
- Q.3** a) Classify the defects of capsule, explain the defects in detail. (08)
b) Discuss the concept of topical and transdermal formulations. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Percutaneous absorption
 - b) Machines/ Equipments for manufacturing of semisolids
 - c) Industrial filling of hard gelatin capsule
 - d) Manufacturing process for gelatin

SECTION-II

- Q.5** Answer any **FIVE** of the following: (10)
- a) Mention the disadvantages of powders as a dosage form.
 - b) What is rationale for tablet coatings?
 - c) What are causes and remedies of orange peel effects?
 - d) Mention the factors affecting the choice of inhaler device.
 - e) What is sealing? Why is it applied?
 - f) What are propellants? Give two examples of it.
 - g) Why HPMC is most widely used cellulosic polymer in Immediate release coating.
- Q.6** a) Discuss the formulation and filling of aerosols. (10)
b) Explain different methods of granulations. (05)
- Q.7** a) Discuss the formulation of chewable tablet. (08)
b) Discuss in detail Sugar coating of tablet. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Super Disintegrants
 - b) Dispersible tablet
 - c) Dry powder Inhalation

