

PURUS - V (2011 COURSE) : SUMMER - 2016
SUBJECT : MEDICINAL CHEMISTRY - I

Day : Friday
Date : 22-04-2016

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

N. B. :

- 1) Q.No.1 and Q. No. 5 are **COMPULSORY**. Out of remaining, solve 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 sections should be written in **SEPARATE** answer book.

SECTION - I

- Q.1** Answer **Any FIVE** of the following : (10)
- a) Outline synthesis of salbutamol and mention its category.
 - b) Draw structures of any two nasal decongestants.
 - c) Draw scheme to explain biosynthesis of noradrenaline.
 - d) Explain mode of action of cardiotonics.
 - e) Give synthesis and uses of acetazolamide.
 - f) Draw structures of spironolactone and its active metabolite.
 - g) Explain the terms high and low ceiling diuretics.
- Q.2**
- a) Classify adrenergic agonists with examples and elaborate upon indirect acting sympathomimetics. (05)
 - b) Outline scheme to explain metabolism of noradrenaline. (05)
 - c) Outline scheme of synthesis for (05)
 - i) Isoproterenol
 - ii) Propranolol
- Q.3**
- a) Write in details about mercurials. (05)
 - b) Classify sulfonamides and discuss in details SAR of thiazides. (05)
 - c) Elaborate upon potassium sparing diuretics. (05)
- Q.4** Write short notes on **Any THREE** of the following : (15)
- a) Cardiac glycosides
 - b) Calcium channel blockers
 - c) ACE inhibitors
 - d) Antiarrhythmics
 - e) Combination antihypertensive therapy.

P.T.O.

SECTION - II

- Q.5** Answer **Any FIVE** of the following : **(10)**
- a) List out drawbacks of Ach as a therapeutic agent.
 - b) Classify ganglionic blockers with examples.
 - c) Outline scheme to explain metabolism of acetylcholine.
 - d) Explain the term bioisosterism with 2 examples.
 - e) Elaborate the effect of partition coefficient on drug action.
 - f) Write down the structures of any 02 neurotransmitters.
 - g) Enlist the therapeutic uses of antimuscarinics.
- Q.6** a) Explain Ferguson's principle and differentiate between structurally specific and non-specific drugs. **(07)**
- b) Discuss effect of solubility and dissociation constant on action of a drug. **(08)**
- Q.7** a) Classify antimuscarinic agents giving one structure from each class. **(05)**
- b) Discuss SAR of cholinergic agonists. **(05)**
- c) Discuss development of antimuscarinics from atropine. **(05)**
- Q.8** Write short notes on **Any THREE** of the following : **(15)**
- a) Synthesis of Dicyclomine hydrochloride and Carbachol.
 - b) Give synthesis of Methyldopa and Guanethidine
 - c) Irreversible anticholinestrases.
 - d) Stereochemical aspects of drug action.
 - e) Neuromuscular blockers

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PURUS – V (2011 COURSE): SUMMER 2016
SUBJECT: DOSAGE FORM DESIGN - II

Day: Saturday
Date: 30-04-2016

Time: 10:00AM TO 1:00PM
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) Figures to the **RIGHT** indicate full marks.
- 3) Answers to both the section should be written in **SEPARATE** answer books.
- 4) Draw neat diagrams **WHEREVER** necessary.

SECTION - I

- Q.1 Answer any **FIVE** of the following (10)
- a) Mention the advantages of transdermal drug delivery system.
 - b) Define gels. Explain types of gels.
 - c) Write advantages and disadvantages of soft gelatin capsules.
 - d) Mention the factors affecting drug absorption from topical formulation
 - e) What are advantages of gelatin?
 - f) What is type A and type B gelatin
 - g) Give the flow chart sequence of two piece hard gelatin capsule shell manufacturing.
- Q.2 a) Discuss in detail evaluation of hard gelatin capsules. (10)
b) Discuss ointment bases. (05)
- Q.3 a) Discuss in detail manufacturing of gelatin (08)
b) Classify the defects of capsule, explain the defects in detail. (07)
- Q.4 Write short notes on any **THREE** of the following (15)
- a) IPQC tests for capsule
 - b) Percutaneous absorption
 - c) Manufacturing of cream
 - d) Equipments for manufacturing of semisolids

SECTION - II

- Q.5 Answer any **FIVE** of the following (10)
- a) What is dry granulation method? Mention its advantages and limitations.
 - b) What is meant by porosity of granules?
 - c) Mention advantages and disadvantages of direct compression method.
 - d) What are rationale for tablet coatings?
 - e) Mention mechanism involved in formation of granules.
 - f) What is capping and mottling?
 - g) What are propellants? Give examples
- Q.6 a) Discuss in detail sugar coating of tablets. (10)
b) Discuss different types of containers used for aerosol package (05)
- Q.7 a) Discuss evaluation of tablets? (08)
b) Discuss equipment used in tablet coating (07)
- Q.8 Write short notes on any **THREE** of the following (15)
- a) Effervescent tablets
 - b) Dry powder Inhalation
 - c) Wet granulation
 - d) Methods for preparation of sublingual tablets.

PURUS-V (2011 COURSE) : SUMMER 2016
SUBJECT : PHARMACOGNOSY-I

Day : Saturday
Date : 02-05-2016

Time : 10:00AM TO 1:00PM
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) Section-I and Section-II should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw neat labeled diagrams **WHEREVER** necessary.

SECTION-I

- Q.1** Attempt any **FIVE** of the following: (10)
- a) Write any four drugs obtained from animal source.
 - b) What is chemotaxonomic classification?
 - c) Which are different synthetic auxins?
 - d) Which are different methods of collection of bark?
 - e) Which is best time for collection of leaves and roots?
 - f) What is substitution? Give example.
 - g) What is leaf constant?
- Q.2** a) Explain in detail plant growth retardants. (08)
b) Write different steps involved in collection of crude drug. (07)
- Q.3** a) Write different steps involved in processing of crude drug. (08)
b) What is chemical classification? Explain in detail. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Cytokinin
 - b) Therapeutic classification
 - c) Physical evaluation of crude drug
 - d) History of Pharmacognosy

SECTION-II

- Q.5** Attempt any **FIVE** of the following: (10)
- a) What are primary metabolites? Give four examples.
 - b) What is homoeopathic drug potentization?
 - c) Write chemical test for castor oil.
 - d) Write biological source of Agar.
 - e) Write different criteria for selection of tracer compound.
 - f) Which are different compounds/ isotopes used in tracer study?
 - g) What is effect of aromatherapy on body?
- Q.6** a) What are tracer techniques? Explain role of tracer techniques. (08)
b) Write in detail TCM. (07)
- Q.7** a) What are carbohydrates? Give biosynthesis, chemistry, classification, and chemical tests. (08)
b) Write in detail Shikimic acid pathway in plant biosynthesis. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Ispagol
 - b) Pectin
 - c) Honey
 - d) Shark liver oil.

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PURUS -V (2011 COURSE): SUMMER 2016
SUBJECT: PHARMACOLOGY-II

Day: Thursday
Date: 05-05-2016

Time: 10:00AM 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) Answer to the 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) What is erythropoietin? Enlist its uses.
 - b) Classify haematinics with suitable examples.
 - c) Enlist oral anticoagulants.
 - d) Enlist therapeutic uses of nitric oxide.
 - e) What is mechanism of action of cardiac glycosides.
 - f) Classify antiarrhythmic drugs.
- Q.2** a) Classify antihypertensive drugs. Describe in detail pharmacology and adverse effects of ACE inhibitors. (08)
- b) Classify antianginal drugs with suitable examples. Describe mechanism of action and pharmacology of nitrates. (07)
- Q.3** a) Classify hypolipoproteinemic drugs with suitable examples. Describe mechanism of action, pharmacology and therapeutic uses of statins. (08)
- b) Describe in detail pharmacology, adverse effects and contraindications of calcium channel blockers (07)
- Q.4** Write short notes on **ANY THREE** of the following: (15)
- a) Fibrinolytics
 - b) Antiplatelet drugs
 - c) Beta blockers
 - d) Heparin

SECTION-II

- Q.5** Answer **ANY FIVE** of the following: (10)
- a) Classify expectorants with suitable examples.
 - b) What is the mechanism of action of spironolactone?
 - c) Enlist four non-systemic antacids
 - d) Enlist emetic drugs. Give their uses.
 - e) Give the composition and uses of ORS.
 - f) What is the role of probiotics in treatment of diarrhoea?
- Q.6** a) Classify diuretics with suitable examples. Explain in detail mechanism of action of loop diuretics. (08)
- b) Classify antiulcer drugs with suitable examples. Discuss pharmacology and therapeutic uses of proton pump inhibitors. (07)
- Q.7** a) Classify drugs used for treatment of constipation. Explain the mechanism of action of different categories of purgatives with examples. (08)
- b) Explain the principles of management of chronic asthma. Discuss the role of corticosteroids in management of chronic asthma. (07)
- Q.8** Write short notes on **ANY THREE** of the following: (15)
- a) Bronchodilators

PURUS – V (2011 COURSE): WINTER - 2015
SUBJECT: COSMETICOLOGY
(For the Student of 2012- 13 Batch and Onwards)

Day: Wednesday
Date: 28-10-2015

Time: 10:00AM-TO1:00P.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) What are ceramides and their role?
 - b) Define humectants and give two examples.
 - c) Whether addition of preservative is compulsory in all cosmetics products.
 - d) What are hair brilliantines?
 - e) Enlist antimicrobials used in mouthwash.
 - f) Give three examples of emollients.
 - g) What are the functions of different parts of skin?
- Q.2** a) Give a classification of skin cosmetics in detail based on route, type of formulation, oil content, and applications along with suitable examples. (10)
b) Classify hair colorants and describe one type in detail. (05)
- Q.3** a) Classify shaving preparations and discuss about lather shaving creams. (08)
b) Explain in detail toothpaste formulation and preparation. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Cosmetics Vs Drugs
 - b) Humectants Vs Emollients
 - c) Perfumes in cosmetics
 - d) Emulsifiers used in cosmetics

SECTION-II

- Q.5** Solve any **FIVE** of the following: (10)
- a) What are parameters for selection of materials in baby cosmetics?
 - b) Give compositions of herbal hair products.
 - c) Give two examples of depilatory products.
 - d) What is the viscosity range of lotions?
 - e) Why creams are preferred over lotions in cosmetics?
 - f) What are temporary hair colorants?
 - g) What is the composition of Nail lacquer remover?
- Q.6** a) Classify herbal cosmetics and write in detail examples of skin, hair applications. (10)
b) Discuss manufacturing of eye shadow. (05)
- Q.7** a) Explain different formulations for lip care products. (08)
b) Explain regulatory requirements in cosmetics manufacturing. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)

