

PURUS - V (2011 COURSE): SUMMER - 2017
SUBJECT : MEDICINAL CHEMISTRY - I

Day : Friday
Date : 21/04/2017

Time : 10.00 AM TO 01.00 PM
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) Figures to the right indicate **FULL** marks.

SECTION - I

- Q.1** Attempt **ANY FIVE** of the following: [10]
- a) Give any four important uses of cardiac glycosides.
 - b) Outline synthesis of furosemide.
 - c) Explain mode of action of nitroglycerine.
 - d) Draw structure of captopril and give any two uses.
 - e) List out four important differences between cardenolides and bufadienolides.
 - f) What are the most prominent side effects of mercurials?
 - g) Mention the categories of trimethaphan, nicotine, benazepril and losartan sodium.
- Q.2** a) Classify sulfonamide diuretics giving examples and discuss mode of action of carbonic anhydrase inhibitors. [08]
b) Write a short note on Xanthine alkaloids and related heterocyclic diuretics. [07]
- Q.3** a) Classify antihypertensives with example. [05]
b) Discuss in details chemistry and mode of action of ACE inhibitors and calcium channel blockers. [10]
- Q.4** Write short notes on **ANY THREE** of the following: [15]
- a) Ganglionic Blockers
 - b) Antiarrhythmics
 - c) Cardiac glycosides
 - d) Loop diuretics

SECTION - II

- Q.5** Attempt **ANY FIVE** of the following: [10]
- a) Enlist various Neurotransmitters.
 - b) Write structural features of cholinesterase enzyme.
 - c) Write down various pharmacological activities shown by catecholamine.
 - d) Comment on distribution of different types of adrenoreceptors.
 - e) Write down structure of any four Beta blocking agents.
 - f) Write about ferguson principle.
 - g) Enlist various adrenergic antagonist agents with their structures.
- Q.6** a) Discuss the effect of **ANY TWO** of the following parameters on drug action: [10]
i) Isomerism ii) Protein binding iii) Complexation.
b) Outline synthesis of following: [05]
i) Propranolol ii) Salbutamol.
- Q.7** a) Discuss SAR, mode of action of β -blockers agents with suitable examples. [10]
b) Write an account of Ganglionic blocking agents. [05]
- Q.8** Write short notes on **ANY THREE** of the following: [15]
- a) Bioisosterism
 - b) Biosynthesis of Acetylcholine
 - c) Anticholinesterase agents
 - d) Partition coefficient
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PURUS – V (2011 COURSE): SUMMER - 2017
SUBJECT : DOSAGE FORM DESIGN – II

Day : Friday
Date : 28/04/2017

Time : 10.00 AM TO 01.00 PM
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 **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Attempt **ANY FIVE** of the following: [10]
- a) Why gelatin is major component of capsule?
 - b) Write difference between ointment and creams.
 - c) Draw the sequence of two-piece hard gelatin capsule shell manufacture.
 - d) Mention the ideal drug properties for transdermal drug delivery.
 - e) Mention the formulation factor affecting drug availability from capsule.
 - f) Write advantages and disadvantages of transdermal drug delivery systems.
- Q.2** a) Discuss in detail percutaneous absorption. [08]
b) Discuss industrial filling of hard gelatin capsule. [07]
- Q.3** a) Discuss the methods used for preparation of semisolids. [08]
b) Discuss manufacturing process and equipment used for soft gelatin capsule. [07]
- Q.4** Write short notes on **ANY THREE** of the following: [15]
- a) Ointment bases
 - b) Packaging and labeling of semisolid
 - c) IPQC for capsules
 - d) Defects in capsule

SECTION – II

- Q.5** Attempt **ANY FIVE** of the following: [10]
- a) Mention the different types of tablets.
 - b) What you mean by chipping and mottling?
 - c) What is need for directly compressible excipients?
 - d) Mention the reason for producing free-flowing pharmaceutical powders.
 - e) Give the examples of propellants used in aerosols.
 - f) Why diluents are used in manufacturing of tablets? Give examples for commonly used tablet diluents.
- Q.6** a) Discuss methods for granulation. [08]
b) Discuss film coating of tablets. [07]
- Q.7** a) Discuss in detail mechanism of granule formation. [08]
b) Discuss fundamentals and principle of aerosol design. [07]
- Q.8** Write short notes on **ANY THREE** of the following: [15]
- a) Chewable tablet
 - b) Problems and remedies for tableting
 - c) Application and testing of metered dose inhaler
 - d) Effervescent tablet

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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) Differentiate between Drugs and Cosmetics.
 - b) Write applications of cold cream.
 - c) What do you mean by breaking of emulsions?
 - d) What are the solvents used in mouthwashes?
 - e) What are epilatories?
 - f) What are requirements of baby cosmetics?
- Q.2** a) Give detailed formulation and composition of oral care products. (10)
 b) Explain formulation and manufacturing of shampoos. (05)
- Q.3** a) Explain role of each ingredient in vanishing cream in detail. (08)
 b) Explain structure and functions of skin with a diagram. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Baby powder
 - b) Borax Bees wax system
 - c) Hair types
 - d) Hair removal methods

SECTION-II

- Q.5** Answer any **FIVE** of the following: (10)
- a) Which polymers are used in nail paints preparation?
 - b) What is bleeding of lipstick?
 - c) How the base selection is done in lipsticks?
 - d) What is content of Henna? Give its role also.
 - e) Why hair waving is needed?
 - f) Give two examples of herbal hair products.
- Q.6** a) What are different methods for psychometric testing of cosmetics? (10)
 b) Discuss different herbal skin cosmetics. (05)
- Q.7** a) Give composition and evaluation of herbal shampoos. (08)
 b) Explain different parameters for cosmetics evaluation. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Advances in cosmetics
 - b) Microemulsions cosmetics
 - c) Nail paint removers
 - d) Eye cosmetics

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PURUS - V (2011 COURSE): SUMMER - 2017
SUBJECT: PHARMACOLOGY-II

Day: Thursday
Date: 04/05/2017

Time 10.00 AM TO 01.00 PM
Max. Marks: 80

N.B.;

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining solve Any **TWO** questions from each Section.
- 2) Answers 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) Classify anticoagulants. Give suitable examples.
 - b) What are fibrinolytics? Enlist the uses of fibrinolytics.
 - c) Classify hypolipoproteinemic drugs.
 - d) Describe biosynthesis of nitric oxide.
 - e) Enlist the types and therapeutic uses of vasodilators.
 - f) Enlist the types of diuretics and comment on their use in hypertension.
 - g) Describe role and mechanism of action of Vitamin K in blood coagulation.
- Q.2** a) Describe in detail mechanism of action, pharmacology, adverse drug reactions, therapeutic uses and contraindications of cardiac glycosides. (08)
- b) Classify antianginal drugs. Describe mechanism of action and pharmacology of nitrates. (07)
- Q.3** a) Classify antiarrhythmic drugs. Explain in detail mechanism of action, pharmacology, adverse drug reactions and contraindications of quinidine. (08)
- b) Classify antihypertensive drugs. Describe in detail pharmacology of calcium channel blockers. (07)
- Q.4** Write short note on **Any THREE** of the following: (15)
- a) ACE inhibitors
 - b) Hematinics
 - c) Role of nitric oxide in clinical conditions
 - d) Blood coagulants
 - e) Streptokinase

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SECTION-II

- Q.5** Answer **ANY FIVE** of the following: **(10)**
- a) Classify antiemetic drugs.
 - b) Explain the mechanism of action of potassium sparing diuretics.
 - c) Classify antitussive agents.
 - d) Define laxative and purgative.
 - e) What are emetics? Give suitable examples.
 - f) Give the composition and use of Oral Rehydration Solution.(ORS)
 - g) Define antacid. What is the mechanism of action nonsystemic antacids?
- Q.6** a) Classify antiasthmatic agnets. Explain the mechanism of action pharmacology and adverse drug reaction of bronchodilators. **(08)**
- b) Describe the pharmacology of prokinetic or 5-HT₃ antagonist type of antiemetics. **(07)**
- Q.7** a) Classify diuretics. Explain the mechanism of action, pharmacology and ADR of thiazide diuretics. **(08)**
- b) Classify antiulcer drugs. Explain pharmacology of proton pump inhibitors. **(07)**
- Q.8** Write short notes on **Any THREE** of the following : **(15)**
- a) Carbonic anhydrase inhibitors
 - b) Antidiuretics
 - c) Expectorants
 - d) Stimulant purgatives
 - e) Ulcer protective drugs.

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PURUS – V (2011 COURSE): SUMMER - 2017
SUBJECT: PHARMACOGNOSY-I

Day : Saturday
Date : 06/05/2017

Time : 10.00 AM TO 01.00 PM
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 **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.

SECTION – I

- Q.1** Attempt **ANY FIVE** of the following (10)
- a) Write two drugs obtained from mineral origin.
 - b) Write different methods of cultivation.
 - c) Explain mechanism of action Cytokinin.
 - d) Write names of any two natural auxins.
 - e) Which are different methods of collection of bark?
 - f) What is pharmacological classification? Give example.
- Q.2** a) Explain evaluation of crude drugs. Write in detail physical evaluation with suitable example (08)
- b) Give scheme for classification of crude drugs. Give examples. (07)
- Q.3** a) Explain harvesting and 'garbling' of crude drugs. (08)
- b) Write different methods of collection of crude drugs with examples. (07)
- Q.4** Write note on **ANY THREE** of the following (15)
- a) Chemical evaluation of crude drugs
 - b) Auxins
 - c) Gibberellins
 - d) Biological evaluation of crude drugs

SECTION – II

- Q.5** Attempt **ANY FIVE** of the following (10)
- a) Method of preparation of cod liver oil.
 - b) Write chemical test for identification of arachis oil.
 - c) Write biosynthesis of carbohydrates.
 - d) Differentiate between fat and waxes. Give examples.
 - e) Write biological source of starch.
 - f) Explain the tridosha theory.
- Q.6** a) Write in detail role of tracer techniques in elucidation of biosynthetic pathway. (08)
- b) Write role of secondary metabolites of plants. (07)
- Q.7** a) Explain mevalonic acid pathway with suitable example. (08)
- b) What are carbohydrates? Give occurrence, properties and classification with examples. (07)
- Q.8** Write note on **ANY THREE** of the following (15)
- a) Homoeopathy
 - b) Shark liver oil
 - c) Isapgol
 - d) Acacia

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