

THIRD YEAR PHARM. D : SUMMER - 2018
SUBJECT : MEDICINAL CHEMISTRY

Day : **Tuesday**
Date : **17/04/2018**

S-2018-4036

Time : **10.00 AM to 01.00 PM**
Max. Marks : 70

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the 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** A) Answer **ANY FOUR** of the following: **[08]**
- i) Write structures of fluconazole and tolnaftate.
 - ii) Write the applications of QSAR in drug discovery.
 - iii) Classify Anti-AIDS agents.
 - iv) Write structure of mebendazole and trimethoprim.
 - v) Classify Antifungal agents.
- B) Write SAR of Sulphones. **[03]**
- Q.2** a) Explain 4-amino quinolines as antimalarial agents. **[07]**
- b) Write SAR of tetracyclines. **[05]**
- Q.3** Classify sulphonamides. Write detail note on systemic sulphonamides. **[12]**
- Q.4** Write the synthesis of **ANY THREE** of the following: **[12]**
- a) Metronidazole
 - b) Chloroquine
 - c) Isoniazid
 - d) Propranolol

SECTION – II

- Q.5** A) Answer **ANY FOUR** of the following: **[08]**
- i) Draw structures of any two alkylating agents.
 - ii) Draw structures of any two thiazide diuretics.
 - iii) MOA of metformin.
 - iv) Draw structures of any two iodine containing diagnostic agents.
 - v) Draw structures of any two anticoagulants.
- B) Classify antineoplastic agents with examples. **[03]**
- Q.6** a) Write a detail note on anti-hypertensive agents. **[07]**
- b) Describe anti-hyperlipidemic agents. **[05]**
- Q.7** Classify with examples and write a detail note on hypoglycemic agents. **[12]**
- Q.8** Write a note on **ANY THREE** of the following: **[12]**
- a) Sex hormones
 - b) Antianginal and vasodilators
 - c) Diagnostic agents
 - d) Antiarrhythmic agents

THIRD YEAR PHARM. D : SUMMER - 2018
SUBJECT: PHARMACEUTICAL ANALYSIS

Day: Monday
Date: 09/04/2018

Time: **10.00 AM to 01.00 PM**
Max. Marks: 70

S-2018-4033

N.B.:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the 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 books.

SECTION-I

- Q.1** A) Attempt any **FOUR** of the following: **(08)**
- i) Write about visualization techniques used in chromatography.
 - ii) Define Residual current Diffusion current Migration and Faradic current.
 - iii) Explain HETP and column Resolution.
 - iv) Define equivalent and Molar conductance.
 - v) Enlist drugs assayed potentiometrically.
- B) Write about gels used in exclusion chromatography. **(03)**
- Q.2** Write about instrumentation of HPLC with an exhaustive note on pumps and radiation sources used. **(12)**
- Q.3** a) Write applications of GC. **(07)**
b) Enlist types of detectors used in GC. Describe Thermal conductivity detector. **(05)**
- Q.4** Write notes on any **THREE** of the following: **(12)**
- a) ISO elements
 - b) Rotating platinum electrode
 - c) Frontal and Elution analysis
 - d) Applications of paper chromatography

SECTION-II

- Q.5** A) Attempt any **FOUR** of the following: **(08)**
- i) Define Chromophore, Auxochrome.
 - ii) State Bragg's law.
 - iii) Write about Fermi Resonance.
 - iv) Write rules of fragmentation in Mass spectroscopy.
 - v) State factors affecting Vibrational frequency
- B) Write applications of Polarimeter. **(03)**
- Q.6** State and derive Beer Lambert's Law. Explain instrumentation of UV spectrophotometer with exhaustive note on detectors used in UV. **(12)**
- Q.7** a) Write theory principle involved in Flame photometry. Explain instrumentation of flame photometer. **(07)**
b) Write about ESR spectrophotometer. **(05)**
- Q.8** Write notes on any **THREE** of the following: **(12)**
- a) Compare DSC and DTA
 - b) Applications of Mass spectroscopy
 - c) Instrumentation of Fluorimeter
 - d) ICP and DCP

THIRD YEAR PHARM. D : SUMMER - 2018
SUBJECT: PHARMACEUTICAL FORMULATIONS

Day: **Thursday**
Date: **19/04/2018**

S-2018-4037

Time: **10.00 AM to 01.00 PM**
Max. Marks: 70

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 books.
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SECTION-I

- Q.1 A)** Answer any **FOUR** of the following: **(08)**
- i) Explain importance of pKa of drug as pre-formulation criteria.
 - ii) Write rational to formulate sublingual tablets and related patient instruction.
 - iii) Write ideal requirements for capsule shell material and suggest two types of such material.
 - iv) Differentiate between dissolution and disintegration of tablets.
 - v) Write importance of particle size and shape of drug in tablet formulation.
- B)** Discuss friability test. **(03)**
- Q.2** Discuss in detail formulation to be filled in hard gelatin capsules. **(12)**
- Q.3 a)** Explain working of tablet compression machine. **(07)**
- b)** Discuss drug content, drug uniformity and weight variation tests for tablets and capsules. **(05)**
- Q.4** Write short notes on any **THREE** of the following: **(12)**
- a) Biopharmaceutical aspect of formulation design
 - b) Properties of ideal granules
 - c) Soft gelatin capsules
 - d) Effervescent tablets

P. T. O.

SECTION-II

- Q.5** A) Answer any **FOUR** of the following: (08)
- i) Write reasons to formulate elixirs and its limitations as dosage form.
 - ii) Write nature of drug that may not need suspending aspect to formulate its suspension.
 - iii) Write approach to select preservative in emulsions.
 - iv) What is importance of buffers in pharmaceutical formulations?
 - v) Suggest a base for eye ointment.
- B) Discuss stabilization of deflocculated suspension. (03)
- Q.6** Discuss requirements of sterile formulations and selection of additives for injectables. (12)
- Q.7** a) Classify various semisolid bases. Suggest a typical base required to formulate transdermal gel. (07)
- b) Write rationale to formulate suppositories. (05)
- Q.8** Write short notes on any **THREE** of the following: (12)
- a) Colouring agents in liquid orals
 - b) Pyrogen testing
 - c) Aseptic area
 - d) Selection of antioxidants for emulsions

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THIRD YEAR PHARM. D : SUMMER - 2018
SUBJECT: PHARMACEUTICAL JURISPRUDENCE

Day: **Friday**
Date: **13/04/2018**

S-2018-4035

Time: **10.00 AM to 01.00 PM**
Max. Marks: 70

N.B:

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

SECTION - I

- Q.1** a) Answer **ANY FOUR** of the following: (08)
- i) What is Meant by Misbranded Drug As per D and C Act 1940?
 - ii) Define 'Toilet Preparation'.
 - iii) What is meant by Registered Medical Practitioner?
 - iv) What are the Recommendations of Drug Enquiry Committee?
 - v) What is meant by Restricted preparation, under Medicinal and Toilet Preparation Act 1955.
- b) Describe offences and penalties in Pharmacy Act 1948. (03)
- Q.2** Discuss general requirement of labelling and packing of drugs others than Homoeopathic medicines. (12)
- Q.3** a) Explain pharmacist in relation to his job in Pharmaceutical Ethics. (07)
- b) Explain Education Regulation in Pharmacy Act 1948. (05)
- Q.4** Write short notes on **ANY THREE** of the following: (12)
- a) Central Drug Laboratory (CDL).
 - b) State Pharmacy Council.
 - c) Requirements of Bounded Laboratory.
 - d) Drug Inspectors.

SECTION - II

- Q.5** a) Answer **ANY FOUR** of the following: (08)
- i) What is meant by ceiling price?
 - ii) Define patent and give types of patents.
 - iii) Define 'Coca-Derivatives'.
 - iv) Define Advertisement.
 - v) What is meant by Scheduled Formulations?
- b) Write offences and penalties mentioned in Prevention of Cruelty to Animal Act 1960. (03)
- Q.6** Write objectives and explain salient features of New drug policy 1994. (12)
- Q.7** a) Explain power of state Government to permit, control and regulate as per Narcotic Drugs and Psychotropic substances Act 1985. (07)
- b) Explain the procedure for calculation of retail price of formulations. (05)
- Q.8** Write short notes on **ANY THREE** of the following: (12)
- a) Prohibited Advertisements.
 - b) Offences and penalties in The Narcotic Drugs and Psychotropic substances Act 1985.
 - c) Criteria for Non- patentable invention.
 - d) Members and Functions and Animal Welfare Board of India.

THIRD YEAR PHARM. D : SUMMER - 2018
SUBJECT : PHARMACOLOGY – II

Day : **Thursday**
Date : **05/04/2018**

Time : **10.00 AM to 01.00 PM**
Max. Marks : 70

S-2018-4032

N.B.:

- 1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the 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** a) Answer **ANY FOUR** of the following: [08]
- i) Enlist the clinical uses of anticoagulants.
 - ii) Mention the dietary sources and recommended daily allowance of iron.
 - iii) Enlist the potassium sparing diuretics.
 - iv) Explain the first line of drugs for treatment of tuberculosis.
 - v) Define acute toxicity tests.
- b) Explain the V2 receptor based action of vasopression. [03]
- Q.2** Classify diuretics. Explain in detail the mechanism of action, pharmacology and drug interactions of high ceiling diuretics. Add a special note on adverse effects of high ceiling diuretics. [12]
- Q.3** a) Discuss the chemotherapy of leprosy. [07]
b) Explain chronic toxicity studies. [05]
- Q.4** Write short notes on **ANY THREE** of the following: [12]
- a) Vitamin B12
 - b) Co-trimoxazole
 - c) Methotrexate
 - d) Mechanism based classification of anti-cancer drugs

SECTION – II

- Q.5** a) Answer **ANY FOUR** of the following: [08]
- i) Draw and describe structure of tRNA.
 - ii) What are exons and introns?
 - iii) What is a bacterial artificial chromosome?
 - iv) Define Reverse transcription.
 - v) What is polyribosome?
- b) Give structure of histone protein and formation of nucleosome. [03]
- Q.6** Describe DNA replication. [12]
- Q.7** Describe following types of DNA mutations: [12]
- a) Frame-shift mutation
 - b) Insertion / deletion mutation
 - c) Point mutation
- Q.8** Write short notes on **ANY THREE** of the following: [12]
- a) SNPs
 - b) Transcription initiation complex
 - c) Fertility factor in bacteria
 - d) Transformation in bacteria

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THIRD YEAR PHARM. D : SUMMER - 2018

SUBJECT : PHARMACOTHERAPEUTICS - II

Day : **Wednesday** Time : **10.00 AM to 01.00 PM**
Date : **11/04/2018** **S-2018-4034** Max. Marks : 70

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 the **SEPARATE** answer books.
 - 4) Draw neat and labeled diagram **WHEREVER** necessary.
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SECTION - I

- Q. 1 A)** Answer **ANY FOUR** of the following: **(08)**
- i) What is Pyelonephritis?
 - ii) Enumerate the indications required for antibiotic therapy.
 - iii) What is infectious endocarditis?
 - iv) Define Eczema.
 - v) Give the choice of antibiotics for nosocomial sepsis.
 - vi) Enumerate the complications of Pulmonary tuberculosis
- B)** Differentiate acute and chronic otitis media. **(03)**
- Q. 2** Discuss etiology, malarial cycle and management of malaria. **(12)**
- Q. 3 a)** Discuss management of pulmonary tuberculosis. **(07)**
- b)** Discuss management of complicated UTI. **(05)**
- Q. 4** Write short notes on **ANY THREE** of the following: **(12)**
- a) Scabies
 - b) Management of sinusitis
 - c) Antibiotics for surgical prophylaxis
 - d) Travelers Diarrhoea

P. T. O.

SECTION - II

- Q. 5 A)** Answer **ANY FOUR** of the following: **(08)**
- i) Discuss clinical presentation of Rheumatoid arthritis.
 - ii) Clinical presentation of acute renal failure.
 - iii) Clinical presentation of acute myeloid leukemia.
 - iv) Discuss mechanism of action of nitrogen mustard.
 - v) Enlist the symptoms of Spondylitis.
 - vi) Enlist drugs used to manage chemotherapy induced nausea and emesis.
- B)** Differentiate rheumatoid and osteoarthritis clinically. **(03)**
- Q. 6** Discuss in detail pathophysiology and pharmacotherapy of chronic renal failure. **(12)**
- Q. 7 a)** Classify anticancer drugs with suitable examples and discuss basic principles of cancer therapy. **(07)**
- b)** Discuss in detail clinical presentation and management of systemic lupus erythematosus. **(05)**
- Q. 8** Write short notes on **ANY THREE** of the following: **(12)**
- a) Drug induced kidney disease
 - b) Management of Gout
 - c) General approach to treatment of osteoarthritis
 - d) Alkylating agents

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