

**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**  
**SUBJECT : COSMETICOLOGY**

Day : **Wednesday**  
Date : **02/05/2018**

**S-2018-3967**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80

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**N. B. :**

- 1) Q.1 and Q.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 book.
  - 3) Figures to the right indicate **FULL** marks.
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**SECTION – I**

- Q.1** Attempt any **FIVE** of the following: (10)
- a) Mention the ideal properties for cleansing cream.
  - b) Define cosmetics.
  - c) Enlist the characteristics for anti-dandruff shampoos.
  - d) Give the ideal characteristics for hair colourants.
  - e) Explain depilatories based on thioglycollates.
  - f) What is role of pilomotor agents in shaving properties?
- Q.2** a) Explain formulation and manufacturing of lather shaving cream. (08)  
b) Explain in detail permanent hair colorants. (07)
- Q.3** a) Discuss in detail surfactants used in shampoos. (08)  
b) Difference between cosmetics and drug formulations. (07)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Cold cream
  - b) Depilatories
  - c) Aerosol shaving lathers
  - d) Tooth paste

**SECTION – II**

- Q.5** Attempt any **FIVE** of the following: (10)
- a) What are functional requirements for baby cosmetic products?
  - b) Mention different types of waxes used in lipstick.
  - c) Enlist various plasticizers used for nail lacquers.
  - d) What are cake eyeliners?
  - e) Mention role of henna and soap nut in herbal cosmetics.
  - f) What are safety aspects of nail cosmetics?
- Q.6** a) Discuss performance and psychometric evaluation. (08)  
b) Discuss in detail about hair waving of cosmetics. (07)
- Q.7** a) Discuss in detail herbal cosmetics. (08)  
b) Discuss formulation of lipsticks. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Liposomes
  - b) Baby powder
  - c) Eye brow pencil
  - d) Liquid lipsticks

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SUBJECT: DOSAGE FORM DESIGN – II

Day : **Saturday**  
Date : **28/04/2018**

**S-2018-3965**

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 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** A) Answer **ANY FIVE** of the following: [10]  
i) Define and classify dermatological formulations.  
ii) Why gelatin is a major component of capsule shell manufacturing?  
iii) Enlist various pathways of skin penetration of drugs.  
iv) What are advantages and disadvantages of soft gelatin capsules?  
v) What is the role of buffers in semisolid dosage forms?  
vi) Enumerate various physiochemical properties of drugs that govern skin permeation.
- Q.2** a) Discuss the dermatological factors affecting selection of bases. [08]  
b) Discuss manufacturing process for preparation of hard gelatin capsule shell. [07]
- Q.3** a) Write down the different mechanisms of gel formation. [08]  
b) Discuss various capsule filling methods. [07]
- Q.4** Write short notes on **ANY THREE** of the following: [15]  
a) Evaluation of hard gelatin capsule  
b) Penetration enhancers  
c) Defects in capsule  
d) Evaluation of semisolids

**SECTION – II**

- Q.5** A) Answer **ANY FIVE** of the following: [10]  
i) Mention the advantages and disadvantages of aerosols.  
ii) What are the objectives of granulation?  
iii) What is sub-coating? Why it is carried out?  
iv) Enlist factors influencing pulmonary deposition of drugs.  
v) What are diluents? Give the ideal properties of a tablet diluents.  
vi) Why methacrylic acid co-polymers are used for enteric coating?
- Q.6** a) Discuss in detail dry powder inhalers. [08]  
b) Discuss film coating of tablets. [07]
- Q.7** a) Discuss in details IPQC tests for tablets. [08]  
b) Discuss problems in tablet coating and the remedies thereof. [07]
- Q.8** Write short notes on **ANY THREE** of the following: [15]  
a) Mouth dissolving tablets  
b) Quality control tests for aerosols  
c) Evaluation of coated tablets  
d) Powders

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**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**

**SUBJECT : MEDICINAL CHEMISTRY – I**

Day : **Saturday**  
Date : **21/04/2018**

**S-2018-3963**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80

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**N. B. :**

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

- Q.1** Solve **Any FIVE** of the following : **(10)**
- a) Define agonist and antagonist
  - b) Draw the structure of first neurotransmitter.
  - c) Write scheme of synthesis of carbachol or buthenechol.
  - d) Write about the effect of partition coefficient on drug action.
  - e) Enlist important uses of neuromuscular blockers.
  - f) List out drawbacks of Ach as a therapeutic agent.
  - g) Explain importance of conformational isomerism in drug action.
- Q.2** a) Classify ganglionic agents with a note on neuromuscular nerve transmission. **(10)**  
Discuss uses of antimuscarinics with its mode of action.
- b) Discuss SAR of Cholinergic agents. **(05)**
- Q.3** a) What are the various physicochemical parameters that must be considered while designing of medicinal agents? Elaborate on the stereochemical aspects in detail. **(10)**
- b) Discuss biosynthesis, storage, metabolism of Ach. **(05)**
- Q.4** Write short notes on **Any THREE** of the following : **(15)**
- a) Stereochemistry and biological action
  - b) Classification of antimuscarinics with structure
  - c) Irreversible anticholinesterases
  - d) Outline synthesis of Gallamine and Mecamylamine
  - e) Papaverine alkaloids and their synthetic analogue

**P.T.O.**

**SECTION - II**

- Q.5** Outline synthesis of **Any FIVE** drugs of the following : (10)
- a) Guanethedine sulphate
  - b) Salbutamol
  - c) Prazocin
  - d) Acetazolamide
  - e) Terbutaline
  - f) Methyldopa
  - g) Isoproterenol
- Q.6** a) Classify diuretics with examples and explain mode of action of carbonic anhydrase inhibitors. (10)
- b) Discuss Chemistry of cardiac glycosides. (05)
- Q.7** a) Classify cardiotonics with examples and explain in detail about chemistry of cardenolides with mode of action of cardiotonics. (10)
- b) Outline biosynthesis of nor-adrenaline through chemical reactions. (05)
- Q.8** Write short notes on **Any THREE** of the following : (15)
- a) Purines and related heterocyclics
  - b) Mercurial diuretics
  - c) Direct sympathomimetics
  - d) Antianginals
  - e) Combination antihypertensive therapy

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T.Y. B.Pharm. Sem-V (C.B.C.S) 2015 Course: SUMMER-2018

SUBJECT : MEDICINAL CHEMISTRY-I

Day : Saturday  
Date : 21-04-2018

Time : 10:00AM TO 1:00PM.  
Max. Marks : 60

S-2018-3927

N. B. :

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining 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) Enlist various neurotransmitters with their structures.
  - b) Write IUPAC names, structures and category of i) Physostigmine ii) Ticrynafen.
  - c) Why acetylcholine is poor therapeutic agent.
  - d) Write about structure specific drugs.
  - e) Outline synthesis of for Bethenechol **OR** Hydrochlorthiazide
  - f) Write significance of solubility which affect biological action.
- Q.2** a) Discuss SAR of Cholinergic agents. (07)  
b) Write an exhaustive note on potassium sparing diuretics. (03)
- Q.3** a) Classify diuretics based on its chemistry. Explain chemistry of sulfonamides. (07)  
b) Explain reversible anticholine-esterases agents. (03)
- Q.4** Write short notes on **ANY TWO** of the following (10)
- a) Mercurials chemistry
  - b) Outline synthetic schemes of Dicylcomine and Furosemide.
  - c) Chemistry of phenoxy acetic acid derivatives.

SECTION II

- Q.5** Attempt **ANY FIVE** of the following (10)
- a) Mention important uses of cardiac glycosides.
  - b) Write IUPAC names, structures and category of i) Lobeline ii) Verapamil
  - c) Write about solanaceous alkaloids.
  - d) Outline synthesis for Mecamylamine **OR** Propranolol
  - e) Write about chemistry of adrenergic neurotransmitters.
  - f) Classify neuromuscular blocker on the basis of mechanism of action.
- Q.6** a) Classify adrenergic agonist. Discuss SAR of direct sympathomimetics. (07)  
b) Outline scheme to explain biosynthesis of nor adrenaline. (03)
- Q.7** a) Discuss in detail chemistry and mechanism of action of ACE inhibitors and calcium channel blockers. (07)  
b) Write classification of antihypertensive with examples. (03)
- Q.8** Write short notes on **ANY TWO** of the following (10)
- a) Anti-arrythmics
  - b) Cardiotonics.
  - c) Outline synthetic schemes of Chlorzoxazone and Salbutamol.

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**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**

**SUBJECT: PHARMACEUTICAL ANALYSIS - III**

Day: **Tuesday**  
Date: **24/04/2018**

**S-2018-3964**

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 questions 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 book.

**SECTION-I**

- Q.1** Answer any **FIVE** of the following: (10)
- a) Enlist variables that lead to band broadening.
  - b) Explain briefly column resolution and retention time.
  - c) Enlist characteristics of an ideal Gas chromatographic detector.
  - d) Discuss in brief Rota meter.
  - e) Explain the term 'HETP'.
  - f) Give the relation between Rf and Rx values.
- Q.2** a) Enlist all the detectors used in GC. Explain in detail any two. (08)  
b) Explain in detail Plate Theory and Rate Theory. (07)
- Q.3** a) Write a detail columns used in GC. (07)  
b) Discuss the various elution techniques used in chromatography. Add a note on applications of GC. (05)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Classification of chromatographic methods
  - b) Temperature programming in GC
  - c) Types of carrier gas in GC
  - d) Advantages of GC

**SECTION-II**

- Q.5** Solve any **FIVE** of the following: (10)
- a) What are the various techniques used for detecting colourless spots in paper chromatography.
  - b) Give types of solvents used in paper chromatography.
  - c) What are the advantages offered by paper chromatography?
  - d) Importance of Rf value in chromatography.
  - e) Give preparation of gels in gel permeation chromatography.
  - f) Give physical properties of Ion exchange resins.
- Q.6** a) Explain different development modes in Paper chromatography. (08)  
b) Describe principle of separation in Ion exchange chromatography. Explain with suitable example. (07)
- Q.7** a) Explain the mechanism of Gel permeation chromatography. Add a note on applications of Gel Permeation chromatography. (08)  
b) What are the various types of separation by electrophoresis? Explain any one. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Sketch of schematic of capillary electrophoresis system and label major components
  - b) Advantages of Gel chromatography
  - c) Pharmaceutical Applications of Ion- Exchange chromatography
  - d) Explain the principle of separation by Paper chromatography

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**T.Y.B.PHARM. SEMESTER-V (CBCS - 2015 COURSE) :  
SUMMER - 2018**

**SUBJECT : PHARMACEUTICAL ANALYSIS-III**

Day : **Tuesday**  
Date : **24/04/2018**

**S-2018-3928**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : **60.**

**N. B. :**

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

**SECTION-I**

- Q. 1** Attempt any **FIVE** of the following **(10)**
- a) Define the terms Chromatography and Partition coefficient.
  - b) Explain the relation between Theoretical plates (N) and HETP (H).
  - c) Give the principle of Column chromatography.
  - d) How will you separate mixture of Amino acid by Paper chromatography.
  - e) Give advantages and disadvantages of Paper chromatography.
  - f) Channeled or loosely packed columns provide poor or insufficient separation, Why?
- Q. 2** a) Describe the Rate theory of chromatography in detail. **(07)**
- b) Give advantages and disadvantages of Column chromatography. **(03)**
- Q. 3** a) Discuss in detail packing techniques in Column chromatography. **(07)**
- b) Give the various stationary phases used in Paper chromatography. **(03)**
- Q. 4** Write short notes on any **TWO** of the following **(10)**
- a) Column characteristics
  - b) Applications of Paper chromatography
  - c) Classification of chromatography

**SECTION-II**

- Q. 5** Attempt any **FIVE** of the following **(10)**
- a) Define the terms Retention time and Retention volume.
  - b) Give the assay procedure for Hyoscine hydrobromide injection.
  - c) Give the ideal properties of carrier gas used in Gas chromatography.
  - d) Write note on separation of cations by Ion exchange chromatography.
  - e) Give advantages of Gel permeation chromatography.
  - f) Write note on sample injection system in Gas chromatography.
- Q.6** a) Discuss the principle of Gas chromatography. Add a note on columns used in Gas chromatography. **(07)**
- b) Discuss the applications of Gas chromatography. **(03)**
- Q.7** a) What do you mean by Ion exchange chromatography. Explain in detail types of Ion exchange resins. **(07)**
- b) Explain in brief Ion exchange capacity. **(03)**
- Q. 8** Write short notes on any **TWO** of the following **(10)**
- a) Temperature programming system in Gas chromatography
  - b) Applications of Ion exchange chromatography
  - c) Adsorbents used in Gel permeation chromatography

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**T.Y.B.PHARM. SEMESTER-V (CBCS - 2015 COURSE) :**

**SUMMER - 2018**

**SUBJECT: PHARMACEUTICAL JURISPRUDENCE**

Day: **Monday**  
Date: **07/05/2018**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: 60

**S-2018-3932**

**N.B:**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt **ANY TWO** questions from Section-I and Section –II.
- 2) Answers to both the Sections should be written in **SEPARATE** answer sheets.
- 3) Figures to the right indicate **FULL** marks.
- 4) Draw a neat and labeled diagram **WHEREVER** necessary.

**SECTION - I**

- Q.1** Answer **ANY FIVE** of the following: (10)
- a) What is “First register” & “Subsequent Register” under Pharmacy Act 1948?
  - b) Define Schedules FF, X, S and M-I.
  - c) What are the functions of Drugs Technical Advisory Board?
  - d) Define Drug and New Drug as per Drugs and Cosmetics Act 1940.
  - e) Describe in brief provisions pertaining to import of drugs for personal use.
  - f) Define Coca derivative and Opium derivative.
- Q.2**
- a) Describe general conditions for grant or renewal of license to manufacture of drugs other than those specified in Schedule C, C1 and X. (07)
  - b) Define Medicinal Preparations and Toilet Preparations and add a note on objectives of Medicinal and Toilet Preparations Act 1955. (03)
- Q.3**
- a) Write brief account on Government Analyst. (07)
  - b) Discuss in detail the objectives and salient features of Drugs and Magic Remedies Act 1976. (03)
- Q.4** Write a short note on **ANY TWO** of the following: (10)
- a) State and Joint State Pharmacy Council
  - b) Poisons Act 1919
  - c) Provisions for classes of Prohibited Advertisement and Exempted Advertisement

**SECTION - II**

- Q.5** Answer **ANY FIVE** of the following: (10)
- a) What types of leaves are entitled for the employee under Shops and Establishments Act?
  - b) Discuss Offences and Penalties under Prevention of Cruelty to Animals Act.
  - c) Define Copyrights and Geographical Indications.
  - d) Define Insecticide and Misbranded Insecticide.
  - e) Enlist different Consumer Dispute Redressal Agencies.
  - f) Explain criteria for obtaining a Patent.
- Q.6**
- a) Describe the professional ethics in pharmacy practice framed by Pharmacy Council of India. (07)
  - b) Describe the constitution and functions of Animal Welfare Board of India. (03)
- Q.7**
- a) Describe in detail different mechanisms for protection of Intellectual Property Rights. (07)
  - b) Write procedure for analysis of Food Adulteration as per Act 1954. (03)
- Q.8** Write a short note on **ANY TWO** of the following: (10)
- a) Constitution and Functions of Central Insecticides Board
  - b) Food Inspector
  - c) USFDA and MHLW

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**T.Y.B.PHARM. SEMESTER-V (CBCS - 2015 COURSE) :**  
**SUMMER - 2018**

**SUBJECT: PHARMACEUTICAL TECHNOLOGY-I**

Day : **Saturday**  
Date : **28/04/2018**

**S-2018-3929**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 60

**N. B.:**

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

**SECTION-I**

- Q.1** Answer the following (**ANY FIVE**) **(10)**
- a) Give the requirements of building and water supply according to GMP.
  - b) Give flow chart for liquid manufacturing process.
  - c) Define Intrinsic solubility.
  - d) Write importance of GMP in pharmacy.
  - e) What are different characteristics of well formulated suspension?
  - f) Enlist the preformulation tests to be conducted on new drug substance.
- Q.2** a) Discuss in detail formulation of emulsion. **(07)**  
b) Explain in brief the effect of temperature on stability of drug. **(03)**
- Q.3** a) What is zeta potential? How zeta potential affect on flocculation of dispersed particles of suspension? **(07)**  
b) Explain polymorphism and crystal properties. **(03)**
- Q.4** Write short note on any **TWO** of the following: **(10)**
- a) Evaluation of monophasic liquids
  - b) Theories of emulsification
  - c) Good practices in quality control

**SECTION-II**

- Q.5** Answer the following (**ANY FIVE**) **(10)**
- a) Write down the names of gelling agents and mention the type of gels.
  - b) Mention the ideal properties of sunscreen agent.
  - c) What are the ideal characteristics of penetration enhancer?
  - d) What is epilation and depilation?
  - e) Mention the various plasticizers used for nail lacquers.
  - f) What are the liquid mascaras?
- Q.6** a) Discuss the formulation and manufacturing of Lipsticks. **(07)**  
b) Why rheological property of semisolid product is important? **(03)**
- Q.7** a) Discuss the formulation of shampoos. **(07)**  
b) Explain the semi-permanent hair dyes. **(03)**
- Q.8** Write short note on any **TWO** of the following: **(10)**
- a) Nail paint removers
  - b) Moisturizing lotions
  - c) Evaluation of semisolids.

**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**  
**SUBJECT : PHARMACOGNOSY-I**

Day : **Monday**  
Date : **07/05/2018**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80.

**S-2018-3969**

**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 mineral source.
  - b) What is stomatal index?
  - c) What is organoleptic drug evaluation?
  - d) Which is best time for collection of bark?
  - e) What is taxonomic classification?
  - f) Which are different naturally occurring auxins?
  - g) What is adulteration?
- Q.2** a) What is therapeutic classification of crude drug? Explain in detail. **(08)**  
b) Write in detail storage of crude drug. **(07)**
- Q.3** a) Write different steps involved in collection of crude drug. **(08)**  
b) What are plant growth stimulants? Explain. **(07)**
- Q.4** Write short notes on any **THREE** of the following: **(15)**
- a) Ethylene oxide
  - b) Scope of pharmacognosy
  - c) Abscisic acid
  - d) History of pharmacognosy

**SECTION-II**

- Q.5** Attempt any **FIVE** of the following: **(10)**
- a) What is effect of aromatherapy on body?
  - b) Which are different compounds/ isotopes used in tracer study?
  - c) Write any four drugs used in TCM.
  - d) Write difference between Shark liver oil and Cod liver oil.
  - e) What is principle of Homoeopathy?
  - f) What is 'tridosh' theory?
  - g) Which are different secondary metabolites? Give four examples.
- Q.6** a) What are lipids? Give biosynthesis, chemistry, classification, of chemical tests. **(08)**  
b) Write in detail Shikimic acid pathway in plant biosynthesis. **(07)**
- Q.7** a) What are tracer techniques? Explain role of tracer techniques in elucidation of biosynthetic pathway. **(08)**  
b) Write in detail Mevalonic acid pathway. **(07)**
- Q.8** Write short notes on any **THREE** of the following: **(15)**
- a) Sun flower oil
  - b) Arachis oil
  - c) Acacia
  - d) Agar

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**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**

**SUBJECT: PHARMACOLOGY-II**

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

**S-2018-3968**

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 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) Enlist adverse effect of iron preparations
  - b) Enlist therapeutic uses of anticoagulants
  - c) Classify hypolipoproteinemic drugs.
  - d) Enlist the types and therapeutic uses of vasodilators
  - e) What is the mechanism of action of cardiac glycosides
  - f) Enlist the membrane stabilizing agents with suitable examples.
- Q.2** a) Describe synthesis, pharmacology, therapeutic uses and adverse effects of nitric oxide. **(08)**  
b) Classify antiarrhythmic drugs with suitable examples. Explain mechanism of action and pharmacology of class II antiarrhythmic drugs. **(07)**
- Q.3** a) Explain pharmacology, adverse drug reactions and contraindications of calcium channel blockers. **(08)**  
b) Explain pharmacology and therapeutic uses of aldosterone antagonists. **(07)**
- Q.4** Write short notes on **ANY THREE** of the following: **(15)**
- a) Angiotensin antagonists
  - b) Erythropoietin
  - c) Potassium channel openers
  - d) HMG-CoA reductase inhibitors.

**SECTION-II**

- Q.5** Answer **ANY FIVE** of the following: **(10)**
- a) Enlist therapeutic uses of diuretics
  - b) Classify antidiarrhoeal drugs with suitable examples
  - c) Explain mechanism of action of ulcer protective agents
  - d) What are antacids? Classify with suitable examples
  - e) Describe the composition and rationale of ORS
  - f) Classify antitussive drugs with suitable examples
- Q.6** a) Classify antiasthmatic agents. Explain the mechanism of action, pharmacology, adverse drug reactions of Beta 2 sympathomimetics **(08)**  
b) Discuss the mechanism of action, pharmacology and therapeutic uses of thiazide diuretics. **(07)**
- Q.7** a) What are antiemetics? Classify antiemetics with suitable examples. Discuss the pharmacology of 5-HT<sub>3</sub> antagonists. **(08)**  
b) Explain the principles of management of pharmacotherapy of diarrhoea. **(07)**
- Q.8** Write short notes on **ANY THREE** of the following: **(15)**
- a) Leukotriene antagonists
  - b) H<sub>2</sub> antagonists
  - c) Antidiuretic hormone
  - d) Mucolytics

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**T.Y.B.PHARM. SEMESTER-VI (2011 COURSE) : SUMMER -  
2018**

**SUBJECT : DOSAGE FORM DESIGN-III**

Day : **Friday**  
Date : **27/04/2018**

**S-2018-3972**

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

**SECTION – I**

- Q.1** Solve **ANY FIVE** of the following **(10)**
- a) Enlist various parenteral routes of administration.
  - b) What is nitrogen storage system in industry?
  - c) What is thermal death time?
  - d) Comment on sodium equivalency test.
  - e) How clarity test of injectibles is performed?
  - f) Show schematically environmental zones in a parenteral section.
  - g) State merits of Plackett- Burman factorial design.
- Q.2** a) Give a detailed account of HVAC system in a parenteral section. **(08)**  
b) Discuss formulation of sterile solutions for injectibles. **(07)**
- Q.3** a) Discuss sterile suspensions and dry powders for suspensions. **(08)**  
b) Discuss sterility testing of parenterals. **(07)**
- Q.4** Write notes on (**ANY THREE**) **(15)**
- a) Pyrogen elimination and testing.
  - b) Batch Vs continuous operation.
  - c) Dynamic storage of sterile water for Injection.
  - d) Physicochemical properties in design of SVP's.
  - e) Additives in Injectibles.

**SECTION –II**

- Q.5** Answer **ANY FIVE** of the following: **(10)**
- a) Concentrated RBCs.
  - b) Formulation of contact lens solution.
  - c) Siliconization of glass containers.
  - d) Coring of rubber closures.
  - e) Use of acid citrate dextrose in blood collection units.
  - f) What are sleeve stoppers?
  - g) Explain optical property of glass containers.
- Q.6** a) Give a detailed account of types of glass. **(08)**  
b) Discuss composition of rubber closures. Discuss galvanization process. **(07)**
- Q.7** a) Discuss formulation of multiple electrolytes LVP. **(08)**  
b) Discuss GMP in a parenteral section. **(07)**
- Q.8** Write notes on (**ANY THREE**) **(15)**
- a) Plasma fractions.
  - b) FFS technology.
  - c) Evaluation of HEPA filters.
  - d) Cost effectiveness of LVP.
  - e) Mechanical properties of plastic containers.

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**T.Y.B.PHARM. SEMESTER-VI (2011 COURSE) : SUMMER -  
2018**

**SUBJECT : MEDICINAL CHEMISTRY – II**

Day : **Friday**  
Date : **20/04/2018**

**S-2018-3970**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : **80**

**N.B.**

- 1) **Q.1** and **Q.5** are **COMPULSORY**. Out of the remaining, attempt any **TWO** questions from Section – I and any **TWO** questions from Section – II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw diagrams, structures and give reactions wherever necessary.

**SECTION – I**

- Q.1** Attempt any **FIVE** questions of the following: (10)
- a) Outline synthesis of Phenobarbital sodium.
  - b) Draw structures of any two short acting barbiturates.
  - c) Explain mode of action of benzodiazepines.
  - d) Explain the terms Grand mal and Petit mal epilepsy.
  - e) List of characteristic features of Phase – II metabolic reactions.
  - f) Give any four major uses of Sedatives-Hypnotics.
  - g) Draw structures of any two halogen containing hydrocarbons from general anesthetic category.
- Q.2** What is the goal of metabolism? Explain two main types of metabolic reactions. (05)  
Describe oxidation pathways for Carbon-Heteroatom systems giving with examples. (10)
- Q.3** a) Classify Sedatives and Hypnotics giving one representative structure for each class. (05)  
b) Discuss SAR of barbiturates. (05)  
c) Add a note on nonbarbiturates. (05)
- Q.4** Write short notes on any **THREE**: (15)
- a) Theories of general anesthesia
  - b) Classification and chemistry of anticonvulsants
  - c) Acetylation and Methylation
  - d) Factors affecting metabolism
  - e) Hallucinogens

**SECTION – II**

- Q.5** Attempt any **FIVE** questions of the following: (10)
- a) Give the structures of 2 natural compounds from which local anesthetics were designed.
  - b) Write synthesis of Lignocaine.
  - c) Draw any two structures of benzodiazepine class of anxiolytics.
  - d) Explain what do you mean by EPS?
  - e) Draw any two structures of Tricyclic antidepressants.
  - f) Draw the structures of products of partial hydrolysis of cocaine.
  - g) Outline the synthesis of Benzocaine.
- Q.6** a) Classify psychotherapeutic drugs with example. Give mode of action and SAR phenothiazines. (10)  
b) Describe in short local anaesthetic agents from ester category. (05)
- Q.7** a) Classify prodrugs with examples explaining each term. (08)  
b) Explain pharmacokinetic applications of prodrugs. (07)
- Q.8** Write short notes on any **THREE**: (15)
- a) Tricyclic antidepressants
  - b) Anxiolytics
  - c) Mode of action of local anesthetics
  - d) Outline synthesis of Imipramine and Diazepam
  - e) Outline synthesis of Chlorpromazine and Haloperidol

T.Y.B.PHARM. SEMESTER-VI (CBCS - 2015 COURSE) :

SUMMER - 2018

SUBJECT: MEDICINAL CHEMISTRY-II

Day: Friday  
Date: 20/04/2018

S-2018-3933

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 60

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 both sections should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.

SECTION -I

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) Mention similarities & difference between barbitures & benzodiazepines.
  - b) Write therapeutic applications of non barbiturates.
  - c) Write physiology of sleep.
  - d) Outline scheme of synthesis of Methohexital Sodium.
  - e) Draw Structure mention category of Amobarbital & Propofol
  - f) Draw Structure mention category IUPAC of Triazolam & Oxazepam.
- Q.2** a) Discuss SAR of Sedatives & Hypnotics with Classification. (07)  
b) Define metabolism. Write a note on Phase II metabolic pathways with examples. (03)
- Q.3** a) Write types of epilepsies with note on chemistry of oxazolidinediones & hydantoins. (07)  
b) State ideal properties of general anesthetics with its MOA. (03)
- Q.4** Write short notes on **ANY TWO** of the following: (10)
- a) Antiparkinson's agents.
  - b) Factors affecting metabolism.
  - c) Outline scheme of synthesis of Thiamylal sodium & Ketamine Hydrochloride.

SECTION -II

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) Draw Structure mention category of Desipramine & Clozapine.
  - b) State uses of diphenylbutyl piperidines.
  - c) Write biogenic theory of depression.
  - d) Draw Structure mention category IUPAC of Dibucaine & Chlorpromazine.
  - e) Outline scheme of synthesis of lignocaine.
  - f) Comment on anxiolytics.
- Q.6** a) What are local anesthetics? Give chemical classification with example. Explain SAR with examples. (07)  
b) Discuss about non barbiturates. (03)
- Q.7** a) Classify antipsychotics. Write classification & SAR with examples. (07)  
b) Write a note on COMT inhibitors. (03)
- Q.8** Write short notes on **ANY TWO** of the following: (10)
- a) MAO inhibitors Chemistry & SAR.
  - b) Classification of prodrugs.
  - c) Outline scheme of synthesis Meprobamate & Doxepin.

**T.Y.B.PHARM. SEMESTER-VI (2011 COURSE) : SUMMER -  
2018**

**SUBJECT : PHARMACEUTICAL ANALYSIS - IV**

Day : **Monday**                      **S-2018-3971**                      Time : **10.00 AM TO 01.00 PM**  
Date : **23/04/2018**                      Max. Marks : **80**

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**N. B. :**

- 1) **Q.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 **SEPARATE** answer books.
  - 3) Figures to the right indicate **FULL** marks.
- 

**SECTION - I**

- Q.1** Solve **Any FIVE** of the following : **(10)**
- a) Why TLC is superior to paper and column chromatography?
  - b) What are the different methods used in column packing in HPLC technique.
  - c) How adsorbent and solvents are selected in TLC.
  - d) Compare between HPLC and HPTLC.
  - e) What are the advantages and disadvantages of HPLC?
  - f) Give the basic requirements for TLC.
- Q.2** a) Discuss in detail various applications of TLC. **(07)**
- b) Describe the properties and working of UV and refractive index detectors in HPLC. **(08)**
- Q.3** a) Give the various factors affecting separation in HPLC. **(07)**
- b) Compare between adsorption TLC and partition TLC. **(08)**
- Q.4** Write short notes on **Any THREE** of the following : **(15)**
- a) Reciprocating pump in HPLC
  - b) Visualizing agents used in TLC
  - c) Guard column in HPLC
  - d) Compare between normal phase and reverse phase chromatography

**P.T.O.**

**SECTION – II**

- Q.5** Solve **Any FIVE** of the following : **(10)**
- a) Enlist the supercritical fluids. Give their properties.
  - b) Define the terms  $R_f$  value and  $R_x$  value.
  - c) Give the adulterants found in turmeric powder.
  - d) How instrumentation for SFC does differ form Gas chromatography.
  - e) Give the advantages of HPTLC technique.
  - f) Give the role of food inspector in food analysis.
- Q.6** a) Discuss in detail the applications of HPTLC. **(07)**
- b) Explain in detail the principle and instrumentation of SFC. **(08)**
- Q.7** a) Write in detail the advantages and limitations of supercritical fluid chromatography. **(07)**
- b) Discuss in detail the development techniques of HPTLC in detail. **(08)**
- Q.8** Write short notes on **Any THREE** of the following : **(15)**
- a) Selection of adsorbent and solvent in HPTLC
  - b) Determination of adulterants in milk and milk products
  - c) Compare between band and spot applications of sample
  - d) Responsibilities and duties of food safety officer.

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**T.Y.B.PHARM. SEMESTER-VI (CBCS - 2015 COURSE) :**  
**SUMMER - 2018**

**SUBJECT: PHARMACEUTICAL ANALYSIS-IV**

Day: **Monday**  
Date: **23/04/2018**

**S-2018-3934**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: **60**

**N.B:**

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

**SECTION-I**

- Q.1** Attempt **ANY FIVE** of the following: **(10)**
- a) How is the R<sub>f</sub> value for a spot on a TLC Plate calculated? What can the R<sub>f</sub> value be used for?
  - b) What is HPTLC?
  - c) What could happen if you spot too much of compound on the TLC plate?
  - d) Give the chemical tests for checking adulterants in Tea Powder.
  - e) Give the advantages of band applications of sample over spot applications.
  - f) What would happen if your solvent level is above the level of the initial spots?
- Q.2** a) Discuss the various applications of TLC. **(07)**  
b) Give the advantages and disadvantages of TLC. **(03)**
- Q.3** a) Explain in detail development techniques in TLC. **(07)**  
b) Give the chemical tests for checking adulterants in spices. **(03)**
- Q.4** Write short notes on **ANY TWO** of the following: **(10)**
- a) Role and responsibilities of Food Inspector
  - b) Advantages and disadvantages of HPTLC
  - c) Adsorbents used in TLC

**SECTION-II**

- Q.5** Attempt **ANY FIVE** of the following: **(10)**
- a) Explain the term Critical point in SFC.
  - b) Define the term Selectivity factor and Retention time.
  - c) Why Reverse Phase HPLC is used more than Normal phase HPLC?
  - d) What do you understand by a bulk property and solute property detector?
  - e) Give the properties of Carbon dioxide as a supercritical fluid.
  - f) Give the difference between Isocratic and Gradient elution techniques.
- Q.6** a) Discuss in detail pumps used in HPLC. **(07)**  
b) Explain in brief about sample injector system in HPLC. **(03)**
- Q.7** a) Discuss the instrumentation of SFC. **(07)**  
b) Give in brief the principle involved in SFC. **(03)**
- Q.8** Write short notes on **ANY TWO** of the following: **(10)**
- a) Columns used in HPLC
  - b) Applications of SFC
  - c) UV- Visible Detector and RI Detector in HPLC

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Day : **Thursday**  
Date : **03/05/2018**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 80.

**S-2018-3974**

**N.B.:**

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from Section-I and any **TWO** questions from Section-II.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.
- 4) Draw neat and labeled diagrams **WHEREVER** necessary.

**SECTION-I**

- Q.1** Answer any **FIVE** of the following: **(10)**
- a) What is a palindrome?
  - b) Define mutation in DNA.
  - c) Give life cycle of T4 phage.
  - d) Write the differences in prokaryote and eukaryote.
  - e) What are  $f^+$  and  $f^-$  bacteria?
  - f) Enlist five rDNA products.
  - g) What is reverse transcriptase?
- Q.2** Describe transduction and write a note on significance of DNA transfer. **(15)**
- Q.3** Discuss the role of biotechnology in pharmaceutical sciences. **(15)**
- Q.4** Write short notes on any **THREE** of the following: **(15)**
- a) Replication of lagging strand
  - b) EtBr
  - c) Watson and Crick's model of DNA
  - d) Thermal cycler
  - e) Southern blotting technique

**SECTION-II**

- Q.5** Answer any **FIVE** of the following: **(10)**
- a) What is strain improvement?
  - b) Give applications of enzyme in textile industry
  - c) What is fermentation media?
  - d) Draw a diagram of tubular flow reactor.
  - e) What is disulfide bond in protein?
  - f) Define enzyme.
  - g) What is a single cell protein?
- Q.6** What are objectives of protein engineering? **(15)**
- Q.7** What are bioreactors? Describe a fed-batch reactor. **(15)**
- Q.8** Write short notes on any **THREE** of the following: **(15)**
- a) Applications of amylase
  - b) Lyophilization
  - c) Site directed mutagenesis
  - d) Enzyme immobilization
  - e) Parameters affecting enzyme activity

**T.Y.B.PHARM. SEMESTER-VI (CBCS - 2015 COURSE) :**

**SUMMER - 2018**

**SUBJECT : PHARMACEUTICAL BIOTECHNOLOGY**

Day : **Thursday**  
Date : **03/05/2018**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 60

**S-2018-3937**

**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 book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION – I**

- Q.1** Answer **ANY FIVE** of the following: [10]
- a) Define transduction.
  - b) What are purins and pyrimidins?
  - c) Differentiate between coding and non-coding DNA.
  - d) What is action of a polymerase?
  - e) What is a promoter?
  - f) Draw a neat diagram of tRNA.
  - g) What is reverse transcriptase?
- Q.2** Write in detail about DNA replication. [10]
- Q.3** What is central dogma of molecular biology? Describe transcription and translation. [10]
- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) F+ plasmid and conjugation
  - b) Mutation in sickle cell
  - c) Applications of PCR

**SECTION – II**

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) What is shake flask culture?
  - b) Define strain improvement.
  - c) What is an inoculum?
  - d) Draw labeled diagram of immunoglobulin.
  - e) What is a single cell protein?
  - f) Enlist factors affecting enzyme activity.
  - g) Differentiate between fermentor and bioreactor.
- Q.6** Write an essay on innate immune system. [10]
- Q.7** a) What are monoclonal antibodies? How are they produced? [07]  
b) Applications of monoclonal antibodies. [03]
- Q.8** Write note on **ANY TWO** of the following: [10]
- a) Sandwich ELISA
  - b) Western blotting
  - c) Fluidized bed reactor

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Day: Friday  
Date: 27/04/2018

Time: 10.00 AM TO 01.00 PM  
Max. Marks: 60

S-2018-3935

**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 both sections should be written in **SEPARATE** answer book.
- 3) Figures to the right indicate **FULL** marks.

**SECTION -I**

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) Write productivity of tablet manufacturing per shift using 16 station rotary tablet machine
  - b) Give the classification of powders according to particle size analysis
  - c) Explain the significance of angle of repose and Carr's index test for granules
  - d) Mention the essential characteristics of good face powder
  - e) What are superdisintegrants? Give examples
  - f) Water sensitive, unpleasant taste drug is to be formulated for patient of 3years age, suggest suitable formulation.
- Q.2** a) Discuss the construction and working of high speed granulator. (07)  
b) Granules containing 10% moisture observes compression problems. Explain various related problems and remedies. (03)
- Q.3** a) Tablet containing 800 mg drug is to be compressed, comment on possible difficulties in compression, ejection, patient compliance and ways to overcome these problems. (07)  
b) Suggest face powder formulation to be used in humid and tropical weather conditions (03)
- Q.4** Write short note on **ANY TWO** of the following: (10)
- a) Oral antibiotic dry syrup
  - b) Tooth powder
  - c) Effervescent tablets

**SECTION -II**

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) Enlist problems encountered in tablet coating
  - b) Why gelatin is major component of capsule shell manufacturing?
  - c) What are the advantages and disadvantages of soft gelatin capsule?
  - d) What are the physiological considerations behind suppository formulation?
  - e) Explain disintegration test of tablets
  - f) Why do we measure the hardness of tablet?
- Q.6** a) What are suppositories? Explain the selection criteria for suppository base. (07)  
b) Write possible defects in hard gelatin capsules filled with hygroscopic drugs (03)
- Q.7** a) Discuss the different equipments used in tablet coating (07)  
b) Drug content test for 20 Paracetamol 500 mg/tablet is 455 mg. Does it passes the test? (03)
- Q.8** Write short note on **ANY TWO** of the following: (10)
- a) Film coating of tablet
  - b) Evaluation of hard gelatin capsule
  - c) Method of preparation of suppositories

**T.Y.B.PHARM. SEMESTER-VI (2011 COURSE) : SUMMER -  
2018**

**SUBJECT: PHARMACOGNOSY-II**

Day : **Saturday** S-2018-3975 Time : **10.00 AM TO 01.00 PM**  
Date : **05/05/2018** 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 main chemical constituents present in Onion and draw structure of the same.
  - b) Write biological source and health benefits of Arnica.
  - c) What are neutraceuticals? Give examples.
  - d) Write preparation of decoction.
  - e) Write principle of TLC.
  - f) Which are different advantages of HPTLC in Herbal drug analysis?
- Q.2** a) Which are different types of extracts? How will you standardize extracts? (08)  
b) Applications of column chromatography in herbal drug analysis. (07)
- Q.3** a) Write note on continuous hot extraction. (08)  
b) Explain Successive Solvent Extraction and supercritical fluid extraction. (07)
- Q.4** Write note on **ANY THREE** of the following (15)
- a) HPLC in herbal drug analysis
  - b) Cucumber
  - c) Health benefits of Fenugreek
  - d) Garlic
  - e) pH gradient technique for alkaloid extraction

**SECTION – II**

- Q.5** Attempt **ANY FIVE** of the following (10)
- a) Explain principle of totipotency.
  - b) Give salient features of protoplast fusion.
  - c) What is callus?
  - d) Which are different quality control parameters for herbal shampoo?
  - e) Write composition of herbal skin moisturizer.
  - f) Explain history of tissue culture techniques.
- Q.6** a) Explain the significance of quality control of herbal cosmetics. Give quality control of any skin care product. (08)  
b) Write different strategies for enhancement of secondary metabolite production from plant cells. (07)
- Q.7** a) Explain WHO guidelines for standardization of herbal drugs. (08)  
b) Give applications of different hair care preparations with examples. (07)
- Q.8** Write note on **ANY THREE** of the following: (15)
- a) Composition of tissue culture media
  - b) Requirements for set up of tissue culture laboratory
  - c) Production of Hair care products
  - d) Role of growth hormones in PTC
  - e) Various hair dyes in herbal cosmetics
- \* \* \* \*

Day : Monday

Time: 10:00 AM TO 1:00 PM

Date : 30-04-2018

Max. Marks: 60

S-2018-3936

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) Give examples of auxins.
  - b) What is adulteration?
  - c) Define totipotency.
  - d) Give the parameters consider in microscopical evaluation of crude drugs.
  - e) What is Foaming Index?
  - f) Enlist various leaf constants.
- Q.2** Explain the application of plant tissue culture. Give various strategies used for the enhancement of phytopharmaceuticals from plant tissue culture. (10)
- Q.3** a) Describe physical and chemical methods of evaluation of crude drugs and give their advantages and limitations. (06)
- b) Give the salient features of WHO guidelines for the standardization of crude drugs. (04)
- Q.4** Attempt any **TWO** of the following: (10)
- a) Determination of Pesticides residue
  - b) Define and Differentiate between moisture content and loss on drying.
  - c) Morphological evaluation of crude drugs
  - d) Biological evaluation of crude drugs

**SECTION-II**

- Q.5** Answer any **FIVE** of the following: (10)
- a) What is Percolation?
  - b) Define and differentiate between natural fibers and synthetic fibers with examples.
  - c) Give biological source and chemical constituents of Ashoka.
  - d) Give biological source and chemical constituents of Bramhi.
  - e) Give biological source and chemical constituents of Ashwgandha.
  - f) What is successive extraction?
- Q.6** Write an exhaustive note on extraction. Explain the principle, application and advantages of ultra sound assisted extraction. (10)
- Q.7** a) Write exhaustive note on microwave assisted extraction. (06)
- b) Write the pharmacognostic details, toxicity and marketed formulations of Amla. (04)
- Q.8** Attempt any **TWO** of the following: (10)
- a) Give well labeled diagram of soxhlet apparatus
  - b) Calamine
  - c) Kaolin
  - d) Shatavari



**T.Y.B.PHARM. SEMESTER-VI (2011 COURSE) : SUMMER - 2018**

**SUBJECT: PHARMACOLOGY – III**

Day : **Monday**  
Date : **30/04/2018**

**S-2018-3973**

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 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** Answer **ANY FIVE** of the following: [10]
- a) Classify antianxiety drugs.
  - b) Define sedative and hypnotic with examples.
  - c) Explain the mechanism and clinical uses of amphetamine.
  - d) Enlist the stages of general anesthesia.
  - e) Differentiate grandmal and petitmal epilepsy.
  - f) Classify anti-Parkinsonian drugs.
  - g) What are Cognition enhancers?
- Q.2** a) Classify sedatives and hypnotics. Explain the mechanism of action, therapeutic actions, adverse effects and contraindications of barbiturates. [08]  
b) Classify anti-epileptic drugs. Explain the pharmacology of phenytoin. [07]
- Q.3** a) Classify general anesthetics. Explain the pharmacology of liquid anesthetics. [08]  
b) Classify antipsychotic drugs. Describe the pharmacology of phenothiazine. [07]
- Q.4** Write short notes on **ANY THREE** of the following: [15]
- a) Opioid analgesics
  - b) Antidote of Benzodiazepine poisoning
  - c) Preanesthetic medications
  - d) Lidocaine

**SECTION – II**

- Q.5** Answer **ANY FIVE** of the following: [10]
- a) What are Eicosanoids? Enlist their types.
  - b) Describe the synthesis of leukotrienes.
  - c) Define antipyretics. Give suitable examples.
  - d) Describe the mechanism of action and therapeutics uses of salicylates.
  - e) Classify the types of poisons.
  - f) Enlist the signs and symptoms of insecticide poisoning.
  - g) Enlist the adverse effects of NSAIDs.
- Q.6** a) Classify anti-inflammatory drugs. Discuss the pharmacology of paracetamol and ibuprofen. [08]  
b) Discuss the pharmacology of drugs used for the treatment of mercury poisoning. [07]
- Q.7** a) Enlist the drugs used for treatment of acute and chronic gout. Explain in detail pharmacology of colchicines and probenecid. [08]  
b) Describe the signs and symptoms and treatment of arsenic poisoning. [07]
- Q.8** Write short notes on **ANY THREE** of the following: [15]
- a) Disease modifying anti-rheumatic drugs (DMARDs)
  - b) Uric acid synthesis inhibitors
  - c) Selective COX – 2 inhibitors
  - d) Lead poisoning