

FACULTY OF PHARMACY

B. Pharmacy III/IV II – Semester (Non-CBCS) (Backlog) Examination,
November 2018

Subject : Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

1. a) Discuss chemistry of maltose. 6
 b) Describe extraction procedures for lipids. Write a note on any two chemical constant in analysis of lipids. 8
 OR
 c) Write about (i) Starch (ii) Compound lipids (iii) Osazone formation 6+4+4
2. a) Write about (i) Structure of proteins (ii) Anti-thyroid drugs 2x7=14
 OR
 b) Write in detail the characteristics of Proteins. Add a note on their physiological and pharmaceutical importance. 8
 c) Write structure and significance of (i) tryptophan (ii) Thyroxine (iii) Cysteine. 6
3. a) Write about isoprene rule and special isoprene rule. Write structure and source of arbutin and camphor. 8
 b) Discuss chemistry of quercetin. 6
 OR
 c) Define and classify flavanoids. Write their Pharmacological and therapeutic significance. 8
 d) Write structure, source and uses of (i) quercetin (ii) menthol (iii) citral 6
4. a) Define and classify alkaloids. Discuss chemistry of Tropane. 8
 b) Write structure, identification test and uses of (i)quinine (ii) Atropine (iii) ephedrine 6
 OR
 c) Write about the properties and procedure for extraction of alkaloids 8
 d) Discuss chemistry of any one alkaloid 6
5. a) Write structure, color test and uses of (i) cholesterol (ii) Diosgenin (iii) Digoxin 6
 b) Write a note on corticosteroids. 8
 OR
 c) Write about (i) Androgens (ii) Cardia Glycosides (iii) Bile acids 4+5+5

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year II-Semester (Non-CBCS) (Backlog) Examination,
November 2018

Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

- 1 a) Define Narcotic drugs as per the Narcotic and psychotropic substances act 1985. Write about the official procedures for cultivation and production of opium and sale and distribution of opium products. (14)

OR

- b) Write the constitution and functions of Pharmacy Council of India. (9)
 c) Explain the different ethics for Indian Pharmacists according to PCI and write about role of Pharmacist in relation to his job. (9)
- 2 a) Write about the qualification and duties of Government Analyst. (7)
 b) What are the conditions required for the manufacture of schedule C and C₁ drugs? (7)

OR

- c) What are different administrative bodies under Drugs and cosmetics act 1940 and explain about the constitution and functions of DTAB. (2+6)
 d) Define cosmetic and explain the prohibition of cosmetics for import, manufacture and sale according to D&C 1940. (2+4)
- 3 a) Explain the labeling and packing requirements for drugs according to drugs and cosmetics Act 1940 along with the specimen labels of Schedule H and Schedule X drugs. (7+4+3)

OR

- b) Describe the procedures for manufacture of alcohol containing products in bonded laboratories. (8)
 c) What for the following schedules under Drugs and Cosmetic Act stand for : (6)
- 1 Schedule M
 - 2 Schedule F
 - 3 Schedule C
 - 4 Schedule X
 - 5 Schedule D
 - 6 Schedule U
- 4 a) Describe the objectives of factories act 1948 and discuss various provisions to be provided for the Welfare of workers in a factory according to Factories Act. (2+12)

OR

- b) What are the qualifications, duties and functions of food inspector? (7)
 c) Explain the class of advertisements prohibited according to Drugs and Magic Remedies Act 1954. (7)
- 5 a) What is a Patent? What are inventions according to Patent Act? Write in brief the procedure of obtaining patent. (2+2+6)
 b) Explain briefly objectives of Pharmaceutical Policy 2002. (4)

OR

- c) What are the objectives of DPCO 2013? And explain the formula used for the calculation of ceiling price and retail price of a formulation as per Drug Price Control 2013. (2+6)
 d) Define IPR and write about various types of Intellectual Property Rights? (6)

FACULTY OF PHARMACY

B. Pharmacy 3/4-Year II-Semester (Non-CBCS) (Backlog) Examination,
November 2018

Subject : Physical Pharmacy - II

Time : 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

- 1 (a) Define saturated solution? Describe with examples polar, nonpolar and semipolar solvents? 7
 (b) Define distribution coefficient? Describe the effect of ionic dissociation and molecular association on partition coefficient? 7
OR
 (c) Define complete or partial miscibility? Describe various factors controlling the solubility of weak electrolytes? 7
 (d) Describe the influence of solvents and surfactants on solubility? 7
- 2 (a) Describe the factors influencing solid state chemical kinetics? Describe methods to stabilize pharmaceutical agents? 14
OR
 (b) Discuss the Accelerated stability testing in detail with various types of graphs. 14
- 3 (a) Describe surface free energy and surface tension? 7
 (b) Classify surface active agents and explain their importance in pharmacy? 7
OR
 (c) Explain spreading coefficient and HLB value? 7
 (d) Differentiate between various types of monolayers and explain its methods of characterization? 7
- 4 (a) Describe various methods to determine the particle size? Discuss the role and importance of particle shape? 14
OR
 (b) What are association colloids? Mention the mechanism of formation of micelles with examples. 7
 (c) Explain the concept of DLVO theory with energy curves. 7
- 5 (a) Define Newtonian, non-newtonian systems? 4
 (b) Explain non Newtonian system in detail? 10
OR
 (c) Classify polymers and its properties with examples? Explain in detail pharmaceutical applications of polymers? 14

FACULTY OF PHARMACY

**B. Pharmacy III/IV II – Semester (Non-CBCS) (Backlog) Examination,
November 2018**

Subject: Pharmacology - II

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

1. a) Classify anti-fungal agents. Explain the pharmacology of any one agent. 7
b) Classify anti-bacterial agents. Write the pharmacology of azithromycin. 7
OR
c) Classify anti-cancer agents. Write a note on Cyclophosphamide and Cisplatin. 14
2. a) Describe the pharmacology of histamine and serotonin. 14
OR
b) Classify anti-caagulants. Write the pharmacology of heparin and warfarin. 14
3. a) Classify anti-thyroid drugs. Write the pharmacology of any one drug. 7
b) Classify oral hypoglycemic agent. Write the pharmacology of metformin. 7
OR
c) Describe the pharmacology of insulin and thyroxine. 14
4. a) Explain the bio-assay of insulin and oxytocin. 14
OR
b) Write the bioassay of diphtheria anti-toxin and Vasopressin. 14
5. a) Describe the general principles of treatment of poison. 7
b) Write the symptoms and treatment for barbiturate poisoning. 7
OR
c) Describe the phases of clinical trials. 14

FACULTY OF PHARMACY

B. Pharmacy III/IV II – Semester (Non-CBCS) (Backlog) Examination,
November 2018

Subject: Bio – Statistics (Pharmacostatics)

Time: 3 Hours

Max. Marks: 70

Note: Answer all questions. All questions carry equal marks.

1. a) (i) Explain about correlation and Regression. 7
(ii) Explain about Histogram and OGIVE curve. 7

OR

- b) Find Mean and Standard deviation to the following data. 14

Class interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	8	10	11	16	20	25	15	10	9	6

2. a) Explain about
(i) Normal distribution and its properties 8
(ii) Bar diagrams 6

OR

- b) (i) Define Binomial distribution and give two examples. 7
(ii) In a family of three children, find the probability of having at least two females. 7

3. a) Explain about
(i) Simple Random sampling (ii) Stratified Random Sampling and (iii) Systematic Sampling. 7

OR

- b) (i) 2-D diagrams (ii) 3-D diagrams (iii) cluster sampling 14

4. a) Define
(i) Null hypothesis (ii) Alternative hypothesis (iii) Type I and Type II Errors. 14
(iv) Level of significance.

OR

- b) (i) t-test for difference of Means. 7
(ii) parametric and non-Parametric tests. 7

5. a) (i) Explain about Analysis of variance one way classification. 7
(ii) Explain basic principles of Design of experiments. 7

OR

- b) Explain about Randomized Block Design with ANOVA table. 14

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2018****Subject : Pharmaceutical Chemistry (Chemistry of Natural Products)****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

1 (a) Classify carbohydrates with examples. Write structure, properties and reactions of fructose. (8)

(b) What are 'Compound lipids'. Define each class with examples. Write physiological importance of oils and fats. (6)

OR

(c) Write a note on Isomerism in carbohydrates. Write the chemistry and applications of starch. (8)

(d) Define and write the significance of acid value, saponification value and iodine value. (6)

2 (a) Write about (i) Isoelectric point (2)

(ii) Ninhydrin reaction (2)

(iii) Method for isolation of amino acids (4)

(b) Discuss chemistry and uses of Oxytocin. (6)

OR

(c) Write about : (i) Sanger's method (2)

(ii) Secondary structure of proteins (4)

(d) Discuss chemistry and therapeutic significance of thyroxine. (8)

3 (a) Classify terpenoids with examples. Explain reactions used for determining the nature of oxygen atom. (8)

(b) Discuss Chemistry of citral. (6)

OR

(c) Write a note on methods for extraction of essential oils. Write structure and uses of menthol and amygdalin. (8)

(d) Discuss chemistry of quercetin. (6)

4 (a) Describe the general procedure for extraction of alkaloids. Write a note on the color tests for identification of alkaloids. (8)

(b) Write structure and identification Test for (i) Ephedrine (ii) Quinine (iii) Caffeine (6)

OR

(c) Classify alkaloids. Write their physiological and pharmaceutical importance. (6)

(d) Discuss chemistry of papaverine. (8)

5 (a) Write a detail note on : (i) Cardiac glycosides (ii) Steroidal Saponins 7x2

OR

(b) Write about: (i) Bile acids (ii) Contraceptives

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Main) Examination, April 2018

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 3 Hours

Max.Marks: 70

Note: Answer all questions. All questions carry equal marks.

1 a) Write a descriptive note on the background and history leading to the evolution of various Pharmacy Acts in India.

OR

b) Discuss the constitution and functions of Pharmacy Council of India.

2 a) Discuss the organization and functions of central and state level Drug Control Authorities.

OR

b) Discuss the procedure and conditions for obtaining the licence for manufacture of schedule X drugs.

3 a) Discuss about the procedure and data to be submitted to Central Drug Licensing authority for getting market approval for a new drug / imported drug.

OR

b) Discuss the procedure of import of drugs and conditions for obtaining various categories of import licences and exemptions from import licences.

4 a) What is a magic remedy? Why the advertisement of drugs and magic remedies are prohibited. What kind of advertisements are exempted from the provisions of the drugs and magic remedies (objectionable advertisements) Act 1984.

OR

b) Define "Factory" according to Factories Act. Discuss the salient features of the Factories Act with reference to the welfare measures to be taken for workers in a factory.

5 a) Discuss about various intellectual properties. Write in brief the procedure of obtaining a patent.

OR

b) What is NPPA and its functions? Discuss about the Drug Price Control Order and explain the formula for calculation of retail price of a scheduled formulation as per DPCO 1995 and fixation of ceiling price for scheduled formulation as per DPCO 2013.

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Main) Examination, April 2018

Subject: Physical Pharmacy – II

Time: 3 Hours

Max.Marks: 70

Note: Answer all questions. All questions carry equal marks.

- 1 a) i) Write various solubility expressions as per IP. 3
 ii) Explain solvent solute interaction with examples. 11
- OR**
- b) i) Define ideal and real solutions. 3
 ii) Explain solubility of solids in liquids. 11
- 2 a) i) Define the terms: Rate constants, Half life and shelf life. 4
 ii) Explain the principle and procedure involved in accelerated stability testing. 10
- OR**
- b) i) Define: Rates, order, and molecularity of reactions. 4
 ii) Discuss the influence of temperature and solvents on reaction velocity. 10
- 3 a) i) Give the classification of interfaces. 3
 ii) Explain the solid-gas interface and elaborate on adsorption isotherm. 11
- OR**
- b) i) Write the applications of surfactants. 4
 ii) Elaborate on electric properties of interfaces. 10
- 4 a) Explain porosity, various powder densities and their importance in formulation. 4
 b) Write about particle size, size distribution by sieve method. 10
- OR**
- c) Compare the properties of Lyophilic and Lyophobic solutions. 4
 d) Explain the kinetic and electric properties of colloids. 10
- 5 a) What is Rheology? Explain Newtonian and Non-Newtonian flow systems with the help of Rheograms. 7
 b) What is thixotropy? Explain with the help of Rheograms. Write the applications of thixotropy. 7
- OR**
- c) What are polymers? Write the applications of polymers as thickening agents. 7
 d) Describe the method of determining the viscosity with cup or cone viscometer. 8

FACULTY OF PHARMACY**B. Pharmacy 3/4 II – Semester (Main) Examination, April 2018****Subject: Pharmacology – II****Time: 3 Hours****Max.Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 a) Classify anti-viral agents. Explain the pharmacology of any one agent. 7
b) Describe the basic principles of chemotherapy. 7
- OR**
- c) Classify anti-cancer agents. Write a note on methotrexate and vincristine. 14
- 2 a) Write a note on prostaglandins and nitric oxide. 14
- OR**
- b) Write a note on haematinics and thrombolytic agents.
- 3 a) Describe in brief about sex hormones. 7
b) Classify oral hypoglycemic agent. Write a note on acarbose. 7
- OR**
- c) Write a note on oral contraceptives and oxytocin. 14
- 4 a) Explain the bio-assay of heparin and adrenaline. 14
- OR**
- b) Write the bioassay of tetanus anti-toxin and anti-rabies vaccine. 14
- 5 a) Describe the general principles of treatment of poison. 7
b) Write the symptoms and treatment for paracetamol poisoning. 7
- OR**
- c) Discuss the phases of clinical trials. 14

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2018****Subject : Bio-Statistics (Pharmaco statistics)****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Explain about:
- (i) Central tendency measures (7)
 - (ii) Measures of Dispersion (7)
- OR**
- (b) Explain about:
- (i) Graphical Representation (6)
 - (ii) Correlation and Regression (8)
- 2 (a) Explain about:
- (i) Binomial Distribution (7)
 - (ii) Poisson Distribution (7)
 - (ii) Addition theorem and multiplication theorems of probability (7)
- OR**
- (b) Explain about: (14)
- (i) Normal Distribution
 - (ii) Bar diagrams
 - (iii) Random sampling methods
- 3 (a) (i) Describe stratified Random sampling and cluster sampling methods. (14)
- (ii) Write about 2D and 3D diagrams and their advantages. (14)
- OR**
- (b) (i) Explain non-sampling and sampling errors. (7)
- (ii) Discuss non-Random sampling methods. (7)
- 4 (a) (i) Define Sampling Errors (14)
- (ii) Write about level of significance
- (iii) Write the applications of paired t-test with examples
- OR**
- (b) (i) Explain about point estimation and Interval estimation. (8)
- (ii) Advantages of nonparametric tests. (6)
- 5 (a) (i) Explain about chi-square test of goodness of Fit. (7)
- (ii) Describe analysis of variance Two-way classification. (7)
- OR**
- (b) (i) Explain basic principles of Design of experiments. (7)
- (ii) Explain about completely Randomised Design. (7)