

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Suppl.) Examination, November 2016

Subject: Physical Pharmacy – II

Time: 3 Hours

Max.Marks: 70

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

- 1 a) Define the use of phase rule with examples. 7
 b) Write a note on solubility of solids in liquids with suitable examples. 7
OR
 c) Explain the use of distribution ratio in extraction. 5
 d) Derive an equation to illustrate the influence of pH on the solubility of weak electrolytes. 9
- 2 a) How can you determine the order of a chemical reaction? 5
 b) Explain various complex reactions with suitable examples. 9
OR
 c) Explain various theories on the influence of temperature on reaction rate. 7
 d) Explain first order reaction rate. 7
- 3 a) Write a note on hydrophile-Lipophile balance classification. 5
 b) Explain various types of adsorption isotherms with neat sketches. 9
OR
 c) Explain the concept of electric double layer. 7
 d) Explain any one method of determining surface tension. 7
- 4 a) Write the pharmaceutical applications of colloids. 7
 b) Discuss various derived properties of powders and their applications. 7
OR
 c) Explain kinetic properties of colloids. 7
 d) Explain the methods for determining particle size. 7
- 5 a) Discuss about thixotropy and its application in formations. 14
OR
 b) Describe flow properties of non-newtonian systems. 10
 c) Classify polymers. 4

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Suppl.) Examination, November 2016

Subject: Pharmacology – II

Time: 3 Hours

Max.Marks: 70

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

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| 1 | a) Write a note on: | | |
| | i) Anti-malarial drugs | | 10 |
| | ii) Protease inhibitors | | 4 |
| | | OR | |
| | b) Write the mechanism, adverse effects and therapeutic uses of following drugs. | | |
| | i) INH | | 6 |
| | ii) Dapsone | | 4 |
| | iii) Paclitaxol | | 4 |
| 2 | a) Write a note on: | | |
| | i) Antihistamines | | 10 |
| | ii) Warfarin sodium | | 4 |
| | | OR | |
| | b) i) NO donors and inhibitors | | 7 |
| | ii) Pharmacology of eicosanoids | | 7 |
| 3 | a) Write a note on tocolytics | | 7 |
| | b) Write a note on insulin. | | 7 |
| | | OR | |
| | c) Write a note on pharmacology of thyroid drugs. | | 7 |
| | d) Write in brief about sex hormones. | | 7 |
| 4 | a) Describe in detail bioethics and bioassay. | | 10 |
| | b) Write the bioassay of antirabies vaccine. | | 4 |
| | | OR | |
| | c) Write a note on heparin. | | 4 |
| | d) Write the bioassay of ADH and epinephrine. | | 10 |
| 5 | a) Describe in detail about phase-II and III clinical trails. | | 7 |
| | b) Write a note on arsenic and lead poison. | | 7 |
| | | OR | |
| | c) Write the symptoms and treatment for methyl alcohol and digitalis poison. | | 9 |
| | d) Write a note on cholinesterase reactivators. | | 5 |

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Suppl.) Examination, October 2016

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours

Max.Marks: 70

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

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|-----------|---|-------|
| 1 | a) Write the color reactions of carbohydrates and add a note on mutarotation. | 7 |
| | b) Discuss the structure of glucose. | 7 |
| OR | | |
| | c) Define lipids and explain determination of Ester value and Iodine value. | 7 |
| | d) Write a note on Isolation of Oils and Fats. | 7 |
| 2 | a) Define and classify proteins. Write the color reactions of proteins. | 7 |
| | b) Discuss the therapeutic significance and structure of oxytocin. | 7 |
| OR | | |
| | c) Write a note on: | |
| | i) Secondary and tertiary structure of proteins. | 6 |
| | ii) Structure and therapeutic significance of insulin. | 8 |
| 3 | a) Explain the constitution of citral. | 8 |
| | b) What are terpenoids and classify? Write a note on isolation of volatile oils. | 6 |
| OR | | |
| | c) Write about isoprene and special isoprene rules. | |
| | d) Write the sources and structural features of Quercetin and Menthol. | 4+5+5 |
| 4 | a) Elucidate the structure of Caffeine. | 8 |
| | b) Write the specific color reactions of quinine, atropine and caffeine. | 6 |
| OR | | |
| | c) Define and classify the alkaloids. Explain the general methods of extraction of alkaloids. | 14 |
| 5 | a) Give the sources, structure and therapeutic significance of Digoxin, Cortisone, Diosgenin and Scillarin A. | 6 |
| | b) Write a note on steroidal contraceptives. | 8 |
| OR | | |
| | c) What are cardio tonics, classify and discuss the chemistry of cardiac glycosides. | 8 |
| | d) Write a note on corticoids. | 6 |

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Suppl.) Examination, November 2016

Subject: Bio-Statistics (Pharmaco-Statistics)

Time: 3 Hours

Max.Marks: 70

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

- 1 a) Explain about: 14
 i) Mean ii) Median iii) Standard Deviation iv) Correlation
 v) Regression

OR

- b) Explain about 14
 i) Histogram ii) Mode
 iii) Calculate the coefficient of correlation between X & Y to the following:

X	1	3	4	5	7
Y	2	6	8	10	14

- 2 a) Explain about 14
 i) Poisson Distribution ii) Normal Distribution iii) Bar Diagrams

OR

- b) Explain about 6
 i) Binomial Distribution 6
 ii) Ten Coins are tossed simultaneously. Find the probability of getting atleast 8 heads. 8

- 3 a) Explain about 14
 i) Bar Diagrams ii) 2-D diagrams iii) 3-D Diagrams iv) Random Sampling

OR

- b) Explain about 14
 i) Sampling and non-sampling errors ii) Pie charts

- 4 a) Define 14
 i) Sampling errors (Type I and Type II) ii) Level of Significance
 iii) Explain procedure of testing of hypothesis

OR

- b) Explain about
 i) Point estimation ii) Interval estimation iii) Parametric and non-parametric tests

- 5 a) Describe ANOVA one way classification and two way classification. 14

OR

- b) i) Explain Basic Principles of Design of Experiments. 14
 ii) Explain about completely randomized design.

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Suppl.) Examination, November 2016

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time: 3 Hours

Max.Marks: 70

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

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|---|---|----|
| 1 | a) Explain the importance of Consumer Protection Act 1986. | 4 |
| | b) Write the constitution and functions of Pharmacy Council of India. | 10 |
| | OR | |
| | c) What is the legal procedure for cultivation, production, manufacture and sale of opium? | 7 |
| | d) Give a brief account of educational regulations as per the Pharmacy Act 1948. | 7 |
| 2 | a) Explain the organizational structure and functions of State and Central Drug Control Authorities. | 9 |
| | b) Write the products for which the Licence for manufacture is issued by Central Licensing Authority exclusively. | 5 |
| | OR | |
| | c) Write a note on Sale and Distribution of schedule C and X drugs. | 7 |
| | d) Write about the qualification and duties of a government analyst. | 7 |
| 3 | a) Explain about the manufacture of medicinal and toilet preparation containing alcohol in a bonded laboratory and non-bonded laboratory. | 10 |
| | b) What for the following schedules under Drugs and Cosmetic Act stand for | |
| | i) Schedule X | |
| | ii) Schedule U | |
| | iii) Schedule Y | |
| | iv) Schedule H | 4 |
| | OR | |
| | c) Write about schedule M of drugs and Cosmetic Act. | 14 |
| 4 | a) Discuss the salient features of Drugs and Magic remedies (objectionable) advertisement Act. | 14 |
| | OR | |
| | b) Discuss about the provisions to be provided towards the Welfare of workers in a factory according to Factories Act. | 14 |
| 5 | a) What is a Patent? What are various Intellectual Property Rights? | 7 |
| | b) Write in brief how to obtain a Patent. | 7 |
| | OR | |
| | c) Explain the salient features of Pharmaceutical Policy – 2002. | 8 |
| | d) Give the formula for calculation of retail price of a formulation as per Drug Price Control 1995 and Drug Price Control Order 2013. | 6 |

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2016****Subject : Pharmaceutical Chemistry (Chemistry of Natural Products)****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Explain the constitution of Fructose. (7)
(b) Define, classify and write a note on Pharmaceutical importance of Carbohydrates. (7)
OR
(c) Define and classify the lipids. Explain the IP analytical methods of oils. (8)
(d) Write the structure and nomenclature of constituents of any two oils. (6)
- 2 (a) Define and classify the amino acids. Write three methods of amino acid synthesis. (7)
(b) Discuss about Protein synthesis. (7)
OR
(c) Discuss the constitution of Oxytocin. (9)
(d) Write the color reaction of protein and amino acids. (5)
- 3 (a) Define and classify the Flavonoids and their biological importance. (6)
(b) Discuss chemistry of citral, menthol and camphor. (8)
OR
(c) Write the sources, therapeutic significance and structural features of
(i) Amygdalin (ii) Quercetin (7+7)
- 4 (a) Define and classify the alkaloids. (7)
(b) Elucidate the structure of Ephedrine. (7)
OR
(c) Explain the Hoffmann's exhaustive methylation method. (6)
(d) Discuss the sources and chemistry of Quinine. (8)
- 5 (a) Define steroids. Classify and give the color reactions of steroids. (8)
(b) Explain the position of angular methyl groups in Cholesterol. (6)
OR
(c) Write about : (7+7)
(i) Cardiac glycoside (ii) Oral contraceptives

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2016****Subject : Bio-Statistics (Pharmaco-Statistics)****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Explain the following: (14)
- (i) Histogram (ii) Ogive curve
(iii) Correlation Coefficient (iv) Regression

OR

- (b) Calculate mean and standard deviation of the following distribution: (14)

Class Interval	20-25	25-30	30-35	35-40	40-45	45-50
Frequency	170	110	80	45	40	35

- 2 (a) Explain the following: (3x3)
- (i) Theory of Probability (ii) Stem & Leaf Plots (iii) Binomial Distribution
(iv) If two dice are thrown, find the Probability of the sum is 10 or 11 (5)

OR

- (b) (i) Explain about Addition theorem of Probability and Multiplication theorem of Probability. (7)
(ii) Explain Normal Distribution. (7)

- 3 (a) Discuss the following: (14)
- (i) Simple Random Sampling
(ii) Stratified Random Sampling
(iii) Cluster Sampling

OR

- (b) Explain: (14)
- (i) Sampling and Non-Sampling Errors
(ii) Bar diagrams

- 4 (a) Explain about: (14)
- (i) Point Estimation
(ii) Interval Estimation
(iii) Bayesian Estimations

OR

- (b) Explain the following with examples: (14)
- (i) Null Hypothesis and alternative Hypothesis
(ii) Type I and Type II Errors
(iii) Level of Significance

- 5 (a) Explain :
(i) t - test and Paired t – test
(ii) Chi-square test for goodness of Fit

OR

- (b) Explain:
(i) Basic principles of Design of Experiments
(ii) Explain about Randomized block Design with ANOVA Table.

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Main) Examination, April 2016

Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 hours

Max. Marks : 70

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

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|---|---|----|
| 1 | a) Discuss the objectives of Consumer Protection Act and the powers and functions of Central council. | 14 |
| | OR | |
| | b) Discuss the constitution and functions of pharmacy council of India. | 14 |
| 2 | a) What are the qualifications eligible for the appointment of Government Analyst. Discuss the duties and procedures of Government Analyst in ensuring the manufacture and sale of quality drugs. | 10 |
| | b) Write a note on the role of DTAB. | 4 |
| | OR | |
| | c) Discuss the requirements as per the D and C Act for the manufacture of schedule F and F1 drugs. | 14 |
| 3 | a) Discuss about the “Good manufacturing practices” as per the Drugs and Cosmetics Act (Amendment) and packing requirements. | 14 |
| | OR | |
| | b) Explain the importance of labelling for drugs as per the Drugs and Cosmetics Act. | 6 |
| | c) Write the specimen label for | 8 |
| | i) Schedule G parenteral drug | |
| | ii) Schedule H drug | |
| | iii) Cosmetic (shampoo) | |
| 4 | a) What are the objectives of drugs and magic remedies act? What are the advertisements prohibited as per the act? | 10 |
| | b) Why drugs are not to be advertised. | 4 |
| | OR | |
| | c) What are the objectives of Factories Act? | 4 |
| | d) Discuss about various welfare measures to be taken care for the workers of a factory by the owner as per the Factory Act. | 10 |
| 5 | a) Discuss about the salient features of drug price control order 2013. | 6 |
| | b) Explain the principle and formula for the calculation of | |
| | i) Ceiling price of a scheduled formulation | |
| | ii) Retail price of a new drug for existing manufacturer of scheduled formulation. | 8 |
| | OR | |
| | c) Define and discuss the procedure to obtain a patent. | 8 |
| | d) Write a note on compulsory licence with the recent example of such licence sanctioned to an Indian Ph. Company. | 6 |

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2016****Subject : Pharmacology - II****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Write note on :
(i) Alkylating agents (7)
(ii) Cephalosporin's (7)
- OR**
- (b) Write the mechanism, adverse effects and therapeutic uses of following drugs.
(i) Erythromycin (6)
(ii) Acyclovir (4)
(iii) Cisplatin (4)
- 2 (a) Write a note on:
(i) The biosynthesis and pharmacology of serotonin (7)
(ii) Nitric oxide (7)
- OR**
- (b) (i) Write the pharmacology of histamine. (7)
(ii) Classify anti-coagulants and explain the pharmacology of heparin. (7)
- 3 (a) Discuss the pharmacology of metformin and glimipramide. (8)
(b) Write a note on tocolytics. (6)
- OR**
- (c) Classify anti-thyroid agents. Explain the pharmacology of any one drug. (8)
(d) Write in brief about oral contraceptives. (6)
- 4 (a) Discuss in detail about principles of bioethics and bioassays. (7)
(b) Write the bioassay of anti-rabies vaccine. (7)
- OR**
- (c) Explain about the types bioassay. (7)
(d) Write a note on bioassay of oxytocin. (7)
- 5 (a) Write a note on phase-III and IV clinical trials. (7)
(b) Write the symptoms and treatment for opium poison. (7)
- OR**
- (c) Write the symptoms and treatment for barbiturate poison. (7)
(d) Write a note on heavy metal poisoning. (7)

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, April 2016****Subject : Physical Pharmacy - II****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) (i) Describe the effect of ionic dissociation and molecular association on Partition. (10)
 (ii) State and explain Henry's law with applications. (4)
- OR**
- (b) (i) Explain about solubility of solids in liquids in detail. (7)
 (ii) Give a detailed note on partition coefficient and its applications. (7)
- 2 (a) (i) Discuss the influence of temperature on drug decomposition with Arrhenius equation. (9)
 (ii) What is a pseudo zero order reaction? Explain it with example. (5)
- OR**
- (b) (i) Explain about oxidative decomposition of drugs and write about the preventive methods against oxidation. (8)
 (ii) Differentiate order of a reaction and molecularity of a reaction. (6)
- 3 (a) (i) Define surface tension. Explain capillary rise method for the determination of surface tension. (9)
 (ii) Discuss the factors influencing surface tension. (5)
- OR**
- (b) (i) What are adsorption isotherms? Explain about Freundlich isotherm and Langmuir adsorption isotherms in solid gas adsorption. (8)
 (ii) What are surfactants? Write the applications of surface active agents. (5)
- 4 (a) (i) Explain the electrical properties of colloids with the concept of donnan membrane equilibrium. (9)
 (ii) Enlist the factors influencing the flow properties of powders. (5)
- OR**
- (b) (i) Write about the stability of lyophobic colloids with DLVO Theory. (8)
 (ii) How the particle size of a pharmaceutical substance is measured by Andreasen apparatus? (6)
- 5 (a) (i) Describe Newton's law of fluid flow. Explain different types of non Newtonian flow behaviour with rheograms. (10)
 (ii) Explain about the factors influencing viscosity. (4)
- OR**
- (b) (i) What is thixotropy? Write about the applications of thixotropy and measurement of thixotropy. (7)
 (ii) Explain plug flow and its prevention. (3)
 (iii) Explain bulges and spur with suitable example. (4)