

FACULTY OF PHARMACY**B. Pharmacy III - Year II - Semester (Supplementary) Examination, November 2014****Subject: Bio-Statistics (Pharmaco-Statistics)****Time : 3 Hours****Max. Marks: 70****Note: Answer All questions. All questions carry equal marks.**

- 1 (a) Explain the significance of the following: (14)
 (i) Correlation (ii) Regression
 (iii) Histogram (iv) Median
OR
 (b) Calculate Mean and Standard Deviation of the following frequency distribution. (14)

x	0	1	2	3	4	5	6	7
Frequency	14	21	25	43	51	40	39	12

- 2 (a) Discuss the following: (5)
 (i) Poisson distribution (5)
 (ii) Stem and leaf plots (5)
 (iii) Pie charts (4)
OR
 (b) (i) Explain about Binomial distribution. (6)
 (ii) In a family of three children, find the probability of having atleast two male child. (8)
- 3 (a) Discuss the following: (14)
 (i) Simple Random Sampling
 (ii) Stratified Random Sampling
 (iii) Cluster Sampling
OR
 (b) (i) Explain about the basic principles of Design of Experiments. (8)
 (ii) Sampling and non-sampling errors. (6)
- 4 (a) Discuss the following: (14)
 (i) Standard Error
 (ii) Type-I and Type -II Errors
 (iii) Point estimation and interval estimation
OR
 (b) Explain about the significance of parametric and non-parametric tests. (14)
- 5 (a) Describe the analysis of variance one-way classification with ANOVA Table. (14)
OR
 (b) Explain about Randomized block design with ANOVA Table.

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Suppl.) Examination, October/November 2014

Subject: Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours

Max. Marks: 70

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

- 1 (a) Define and classify carbohydrates with examples. Add a note on mutarotation. (7)
 (b) Discuss the constitution of maltose. (7)
- OR**
- (c) Define and classify lipids. Discuss chemical properties of fats and oils. (7)
 (d) Discuss in detail the methylation method in determining the size of ring in aldoses. (7)
- 2 (a) What are essential amino acids? Write any five structures. (5)
 (b) Write a note on : (9)
 (i) Solid phase peptide synthesis (ii) Secondary & tertiary structure of proteins
- OR**
- (c) Discuss the constitution of Thyroxine. (7)
 (d) Write in detail isolation of oxytoxic drugs. (7)
- 3 (a) Discuss the constitution of Querectin. (7)
 (b) Outline the synthesis of (i) Camphor (ii) Arbutin (7)
- OR**
- (c) Define and explain isoprene and special isoprene rule with examples. (4)
 (d) Discuss the chemistry of citral. Add a note on stereoisomerism. (7)
 (e) Write source, structure and uses of Amygdalin. (3)
- 4 (a) Explain the Hoffmann's exhaustive methylation method. (5)
 (b) Discuss the Chemistry of tropine. (9)
- OR**
- (c) Discuss the classification and general methods of extraction and chemical tests of identification for alkaloids. (14)
- 5 (a) Write chemistry and biological significance of bile acids. (6)
 (b) Write a note on cardiac glycosides. (6)
 (c) Write any two colour reactions of cholesterol. (2)
- OR**
- (d) Explain the reactions in establishing the position of hydroxyl group and double bond in cholesterol. (9)
 (e) Write the structure, physiological role and therapeutic use of cortisol. (5)

FACULTY OF PHARMACY**B.Pharmacy 3/4 II-Semester (Supplementary) Examination, October/November 2014****Subject : Pharmacology - II****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Write note on:
- (i) Aminoglycoside Antibiotics (7)
 - (ii) fluroquinolines (7)
- OR**
- (b) Write the mechanism, adverse effects and therapeutic uses of following drugs.
- (i) Reverse transcriptase inhibitors (6)
 - (ii) Cisplatin (4)
 - (iii) Albendazole (4)
- 2 (a) (i) Describe in detail about pharmacology of histamine. (7)
- (ii) Write a note on prostaglandins (7)
- OR**
- (b) (i) Write a note on thrombolytics (7)
- (ii) Write the pharmacology of ergot alkaloids (7)
- 3 (a) (i) Explain about pharmacology glucagon and insulin. (8)
- (ii) Write a note on Thyroid drugs. (6)
- OR**
- (b) (i) Write a note on 5 α -reductase inhibitors. (7)
- (ii) Write in brief about DPP-4 inhibitors (7)
- 4 (a) (i) Describe in detail about bioethics and bioassay. (8)
- (ii) Write the bioassay of Heparin sodium. (6)
- OR**
- (b) (i) write the bioassay of tetanus anti-toxin. (7)
- (ii) Write a note on bioassay of anti-hemophilic fraction. (7)
- 5 (a) (i) Write a note on phase-II and III clinical trails. (6)
- (ii) Write the general principles for treatment of poisoning. (8)
- OR**
- (b) (i) Write the symptoms and treatment for digitals and arsenic poison. (8)
- (ii) Write a note on organophosphorus toxicity. (6)

FACULTY L OF PHARMACY**B. Pharmacy 3/4 II - Semester (Suppl.) Examination, October / November 2014****Subject: Physical Pharmacy - II****Time: 3 Hours****Max. Marks: 70****Note: Answer All questions. All questions carry equal marks**

- 1 (a) (i) Discuss Newtonian and Non-Newtonian systems with the help of rheograms. (10)
 (ii) Describe (a) Rheopexy (b) Negative Thixotropy (2+2)
OR
 (b) (i) Give a note on 'Psychorheology' and describe its significance. (7)
 (ii) Discuss the applications of polymers in pharmaceuticals. (7)
- 2 (a) (i) Explain 'Faraday's Tyndall' effect in colloidal systems. (4)
 (ii) Define & explain the significance of various flow properties for pharmaceutical powders. How can we improve? (10)
OR
 (b) (i) Explain electrical properties of colloidal systems. (6)
 (ii) Explain (a) Ostwald ripening (b) DLVO theory (4+4)
- 3 (a) (i) Derive the equation to determine surface tension (Capillary method). (5)
 (ii) Write a note on (a) spread ability coefficient (b) CMC (c) Contact angle (3+3+3)
OR
 (b) (i) Explain 'Gibb's adsorption' equation and its significance. (7)
 (ii) Discuss various methods of improving solubility and its significance. (7)
- 4 (a) (i) Explain 'Arrhenius method' of accelerated stability study. (10)
 (ii) Explain $t^{1/2}$ and its significance. (4)
OR
 (b) (i) Explain various mechanisms of pharmaceutical degradation. How can you prevent? (7)
 (ii) Define and derive 'zero order' kinetic equation. (7)
- 5 (a) (i) Give an account on 'Extended Hildebrand solubility (EHS) for determination of solubility. (7)
 (ii) Explain solubility of gases in liquid. (7)
OR
 (b) (i) Define and explain 'Raoult's law'. (7)
 (ii) Discuss preservative action of weak acids in emulsions. (7)

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FACULTY L OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, March 2014****Subject: Pharmacology - II****Time : 3 Hours****Max. Marks: 70****Not e: Answer All questions. All questions carry equal marks**

- 1 (a) Write short notes on : (7+7)
 (i) Antifungal agents
 (ii) Antiprotozoal agents
- OR**
- (b) Write the mechanism of action adverse effects and therapeutic uses of following drugs. (7+7)
 (i) Alkylating agents
 (ii) Tetracyclines
- 2 (a) Write short notes on : (8+6)
 (i) Coagulants and anticoagulants
 (ii) Pharmacology of 5-Hydroxy triptamine
- OR**
- (b) Write in detail about: (8+6)
 (i) Folic acid and vitamin B₁₂
 (ii) Pharmacology of prostaglandins
- 3 (a) (i) Write about the pharmacology of Insulin and glucagon. (8)
 (ii) Write about Anti-thyroid drugs. (6)
- OR**
- (b) Write short notes on : (7+7)
 (i) Anti pituitary Hormones
 (ii) Oxytocics and tocolytics
- 4 (a) (i) Write about the principles of Bioassays. (6)
 (ii) Write about the bioassay of oxytocin. (8)
- OR**
- (b) (i) Write about the bioethics of animals used in bioassay studies. (8)
 (ii) Write about the bioassay of anti-tuberculin vaccine. (6)
- 5 (a) (i) Describe in detail about phases of clinical trials. (8)
 (ii) Write a note on barbiturate poisoning. (6)
- OR**
- (b) (i) Write the symptoms and treatment of paracetamol and digitalis toxicity. (8)
 (ii) Write short note on arsenic poisoning. (6)

FACULTY OF PHARMACY**B. Pharmacy 3/4 II-Semester (Main) Examination, March 2014****Subject : Physical Pharmacy - II****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) Discuss the importance of partition coefficient in predicting the drug action. (8)
(b) Write the importance of solubility product in solubility of slightly soluble drugs. (6)
- OR**
- (c) Discuss the solvent – solute interactions of polar solvents. (8)
(d) Write the effect of temperature and pressure on solubility of gases in liquids. (6)
- 2 (a) Derive the equation for first order rate kinetics. (7)
(b) Define and explain the importance of half life and shelf life and derive the equation for half life for first order kinetics. (7)
- OR**
- (c) Discuss Zero and Apparent Zero order reactions. (7)
(d) Write the methods to determine the Order of a Reaction. (7)
- 3 (a) Define and explain the importance of Surface and Interfacial Tension. (7)
(b) Describe the capillary rise method for the determination of surface tension. (7)
- OR**
- (c) Define and explain the applications of adsorption in pharmaceuticals. Explain the Adsorption Isotherm graph. (7)
(d) What is HLB? How is it useful in preparation of various formulations. (7)
- 4 (a) Discuss in detail the applications of colloids in pharmaceuticals. (14)
- OR**
- (b) Discuss the electrokinetic properties of colloidal systems with the help of electric double layer diagram.
- 5 (a) Define and explain the importance of Thixotropy in pharmaceutical formulations. (7)
(b) Describe the measurement of viscosity with Capillary Viscometer. (7)
- OR**
- (c) Define viscosity and explain various types of flows with the help of flow diagrams. (7)
(d) Describe the determination of viscosity with Cup and Cone or Cup and Bob Viscometer. (7)

FACULTY OF PHARMACY

B. Pharmacy III-Year II – Semester (Main) Examination, April 2014
Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 hours

Max. Marks : 70

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

- 1 a) Differentiate between law and ethics. Write a note on professional conduct of pharmacist.
b) What are the objectives of consumer protection act and narrate the powers and functions of central council? 7+7
- OR**
- c) Discuss the procedure in cultivation of poppy and production of opium according to narcotic and psychotropic substances act.
d) Write about the constitution and functions of pharmacy council of India. 5+9
- 2 a) Define the following terms as per drugs and cosmetic act
i) Drug ii) Proprietary medicine iii) Adulterated drugs iv) Cosmetic
b) Drug technical advisory board.
c) Qualification and powers of Drug's inspector. 4+4+6
- OR**
- d) Describe the method of test for sterility as per drugs and cosmetics act.
e) Qualifications and duties of government analyst.
f) Write a note on schedule N. 4+4+6
- 3 a) Write about
i) Classes of drugs prohibited to be imported
ii) Loan Licenses
iii) Write specific label requirements for schedule G, schedule X and ophthalmic solution. 5+5+4
- OR**
- b) List out the particulars to be maintained in manufacturing record for parental preparation.
c) Describe the objectives of medicinal and toilet preparation act. Write about the design and layout of bonded laboratory.
d) Give specific label requirements for vaccines and hair dyes. 6+6+2
- 4 a) Describe the objectives of food adulteration act.
b) List out the advertisements exempted from drugs and magic remedies act, give the condition and reasons.
c) Define magic remedies and misbranded food. 3+7+4
- OR**
- d) Write the qualifications, duties, and powers of food inspector.
e) Discuss the rights, and provisions to be provided for welfare of workers according to factories act. 6+8
- 5 a) Describe the terms trade mark, copyright and industrial design.
b) Discuss the method of calculating the retail price of formulation.
c) Discuss salient features of patent act 1970 and 2005. 4+6+4
- OR**
- d) Define and describe the objectives of patent system. Write a note on rights of patentee.
e) Define the terms invention and new according to patent act.
f) Briefly describe the non patentable invention as per section 3 and 4. 6+3+5

FACULTY OF PHARMACY

B. Pharmacy III-Year II – Semester (Main) Examination, April 2014

Subject : Bio-Statistics (Pharmaco Statistics)

Time : 3 hours

Max. Marks : 70

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

- 1 a) Define mean, median and mode. Explain how these are computed for a frequency distribution. Also discuss their merits, demerits and suitability.

OR

- b) Discuss correlation versus regression. Compute the correlation coefficient and regression line of y on x to the following data :

x :	3	8	5	7	4
y :	9	19	13	17	11

- 2 a) Discuss the various graphical representation of data.

OR

- b) Define binomial distribution and give two real life examples for its occurrence. A box consists of 4 red, 5 black and 3 green balls. If three balls are selected at random from the box, what is the probability that there is one ball of each colour.

- 3 a) Describe simple random and stratified random sampling methods with an example for each.

OR

- b) Describe the construction of bar and pie diagrams with an example for each.

- 4 a) Distinguish between
i) Point and interval estimations
ii) Parametric and nonparametric tests

OR

- b) Illustrate the following with examples.
i) Null and alternative hypothesis
ii) One and two tail tests
iii) Critical and acceptance regions.

- 5 a) Describe the ANOVA one way classification with an example.

OR

- b) Write the equations and applications of
i) T-test
ii) Chi-square test with examples

FACULTY OF PHARMACY

B. Pharmacy 3/4 Year II-Semester (Main) Examination, March 2014

Subject : Pharmaceutical Chemistry (Chemistry of Natural Products)

Time: 3 Hours

Max.Marks: 70

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

- 1 (a) What is mutarotation and explain the mechanism. 3
 (b) Give the chemical tests for glucose, sucrose, maltose and starch. 4
 (c) Write about the chemical reactions of fructose. 7
- OR**
- (d) Explain the pyranose structure of fructose and glucose. 10
 (f) What are disacharies and give the colour reactions and nomenclature. 4
- 2 (a) Chemically define and distinguish the oils and fats. 3
 (b) Write about the chemistry, types and mechanism of action of insulin. 8
 (c) Write a note on rancidity and methods to prevent. 3
- OR**
- (d) Explain the pharmacopoeial analytical methods to determine the quality of fixed oils and give the significance of each method. 10
 (e) Write a note on anti-thyroid drugs. 4
- 3 (a) Define and classify the flavonoids with examples. 3
 (b) Explain the structure of Quercetin by chemical and spectral characters. 7
 (c) Write synthesis of menthol. 4
- OR**
- (d) Give the pharmaceutical significance of monoterpenoids and explain the chemical and structural features of camphor. 8
 (e) Explain the isoprene rule. 3
 (f) Write the synthesis of citral. 3
- 4 (a) What are purines, classify and elucidate the structure of caffeine. 10
 (b) Explain the Hoffmann's exhaustive methylation. 4
- OR**
- (c) Explain the presence and positions of methoxy groups in papaverine. 6
 (d) Write the general methods of alkaloid isolation. 5
 (e) Give the color reactions of alkaloids. 3
- 5 (a) What are steroids, classify and give the colour reactions. 5
 (b) What are glycosides and discuss the chemistry of cardiac glycosides. 5
 (c) Give the chemical structure and significance of (i) Androsterone (ii) Hecogenin. 4
- OR**
- (d) What are bile acids and explain the therapeutic importance of bile acids. 5
 (e) Give the chemical structure and significance of (i) Progesterone (ii) Scillaren 'A'. 4
 (f) Give an informative note on oral contraceptives. 5
