Code No. 6053 / S

FACULTY OF PHARMACY

B. Pharmacy 3/4 Year II – Semester (Supplementary) Examination, November 2015

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 are carbohydrates, classify and give the color reactions.	6
	b)	Write about the pyranose structure of glucose.	8
		OR	
	c)	Discuss the structural features and chemical reactions of fructose.	8
	d)	What is muta rotation and explain the mechanism.	6
2	a)	Discuss various methods of sequence analysis of polypeptides.	8
	b)	Write the structural features and the therapeutic importance of oxytocin.	6
		OR	
	c)	Discuss the chemistry and important structural features of insulin.	6
	d)	Discuss the general method of synthesis of a protein or polypeptide.	8
3	a)	Write the chemical properties and therapeutic benefits of flavonoids.	6
	b)	Write about chemistry of citral.	8
		OR	
	c)	Write the synthesis of menthol.	6
	d)	Give the sources, chemistry and spectral characters of arbutin.	8
4	a)	Explain the significance and difference between Zeisel method and Herzig – Meyer method.	6
	b)	What are oxidative products of quinine and elucidate the structure of meroquinene.	8
		OR	
	c)	Give the sources, uses and elucidate the structure of ephedrine.	9
	d)	Write the general method of alkaloid isolation.	5
5	a)	What are cardiotonics, classify with examples and discuss the chemistry and mechanism action of digitalis.	6
	b)	Write the chemical structure and sources of i) Hecogenin ii) Diosgenin	4
	c)	Write the structural features of corticosteroids with examples.	4
		OR	
	d)	What are bile acids and give the therapeutic importance of bile acids.	5
	e)	Give an informative note about oral contraceptives.	5
	f)	Give the chemical structure and uses of i) Stropanthidin ii) Testosterone	4

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Code No. 6055 / S

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Supplementary) Examination, November 2015

Subject : Physical Pharmacy - II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) (i) Write a note on factors affecting the solubility of solids in liquids. (10)
(ii) Discuss about the preservative action of weak acids in emulsions. (4)

OR

(b) (i) What is distribution law? Explain partition coefficient and its applications indetail. (8)
(ii) Discuss the importance of pressure and temperature on solubility of gases in liquids. (6)

2 (a) (i) Give a detailed note on accelerated stability studies along with limitations. (9)
(ii) Derive an expression for determining the specific reaction rate constant of a first order reaction. (5)

OR

(b) (i) Explain drug degradative pathway of hydrolysis and suggest the methods of prevention. (9)
(ii) Discuss different methods of determination of order of a reaction. (5)

3 (a) (i) Write about electrical properties of interface with the concept of Electrical double layer. (8)
(ii) Describe about the wetting phenomenon and discuss the importance of Wetting and contact angle. (6)

OR

(b) (i) Differentiate surface and interfacial tension and explain about dunouy's ring method for the determination of surface tension. (8)
(ii) Explain the concept of spreading coefficient along with applications. (6)

4 (a) (i) Explain optical and kinetic properties of colloids. (8)
(ii) Describe about the derived properties of powders with applications. (6)

OR

(b) (i) Enlist different methods of purification of colloidal dispersions. (7)
(ii) Describe the air permeability method for the determination of surface area of particles. (7)

5 (a) (i) Classify viscometers based on rate of shear. Explain cup and bob viscometer with a neat diagram. (10)
(ii) Discuss dilatant flow of fluids with example. (4)

OR

(b) (i) What is thixotropy? Write about the applications and measurement of thixotropy. (7)
(ii) Explain plug flow and its prevention. (3)
(iii) Explain bulges and spur with suitable example. (4)

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Code No. 6056 / S

FACULTY OF PHARMACY

B. Pharmacy 3/4 II–Semester (Supplementary) Examination, November 2015

Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 hours **Max. Marks : 70**

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

1 a) Discuss the background for the evolution of Pharmacy Act 1948 and Drugs & Cosmetics Act 1940. 8

b) Write about the pharmacy professional ethics to be followed by a retail pharmacist. 6

OR

c) Discuss the legal procedure for cultivation and production of opium and manufacture of morphine and it's derivatives. 14

2 a) What are the qualifications eligible for the appointment of Drugs Inspector as per drugs and cosmetics act? Discuss the duties and procedures of a drugs. inspector in ensuring the manufacture and sale of quality drugs. 10

b) Write a note on the role of Drugs Consultative Committee. 4

OR

c) Discuss the requirements as per the Drugs and Cosmetics Act for the manufacture of schedule C and CI drugs. 14

3 a) Discuss about the Good Laboratory Practices" as per the Drugs and Cosmetic Act (amendment) for the manufacture of drugs. 14

OR

b) Explain the importance of labeling and packing requirements for drugs as per the Drugs and Cosmetics Act. 8

c) Write the specimen label for 6

i) Schedule G parenteral drug

ii) Schedule H drug

iii) Cosmetic (shampoo)

4 a) What are the qualifications, duties and functions of a Food Inspector? 14

OR

b) What are the objectives of Factories Act? 4

c) Discuss about various welfare measures to be provided for the workers of Factory as per the Factories 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 manufactures of scheduled formulations. 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 Indian Pharmaceutical company. 6

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Code No. 6054 / S

FACULTY OF PHARMACY

B. Pharmacy 3/4 II – Semester (Supplementary) Examination, November 2015

Subject: Pharmacology – II

Time: 3 Hours **Max.Marks: 70**

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

1 a) Write the mechanism of action, adverse effects and therapeutic uses of the following drugs:
   i) Antimetabolites 7
   ii) Antiviral 7

OR

   b) Write short notes on:
   i) Antitubercular drugs 7
   ii) Aminoglycoside antibiotics 7

2 a) Write short notes on:
   i) Nitric Oxide donors and inhibitors 7
   ii) Biosynthesis of prostaglandins 7

OR

   b) Write in detail about:
   i) Pharmacology of Histamine 7
   ii) Anticoagulants 7

3 a) i) Write about the biosynthesis of sex hormones. 6
   ii) Write about oral hypoglycemic agents. 8

OR

   b) i) Explain in detail about oxytocics and tocolytics. 8
   ii) Explain the biosynthesis of thyroid hormones. 6

4 a) i) Explain the various types of bioassays. 6
   ii) Write about the bioassay of oxytocin. 8

OR

   b) i) Write in detail about bioethics of animals used in bioassay studies. 8
   ii) Write about the bioassay of insulin. 6

5 a) i) Discuss in detail about phases of clinical trials. 8
   ii) Write a note on lead poisoning. 6

OR

   b) i) Write about the treatment of organophosphorous toxicity. 7
   ii) Write the symptoms and treatment of methyl alcohol poisoning. 7

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Code No. 6057 / S

FACULTY OF PHARMACY

B. Pharmacy 3/4 II–Semester (Supplementary) Examination, November 2015

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 coefficient ii) Median

iii) Regression iv) Histogram

OR

b) Calculate the standard deviation and coefficient of variation from the following data. 14

Age	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of members	3	61	132	153	140	51	2

2 a) Explain the following : 14

i) Binomial Distribution ii) Data collection and organization

iii) Histograms iv) Box and whisker plot

OR

b) What is presentation of data? Explain the different methods of diagrammatic representation of data. 14

3 a) Why sampling is essential in biological studies also discuss about stratified random sampling and systematic sampling. 14

OR

b) The following data relate to the expenditure of the A and B families per month. Represent this data by a Pie diagram. 14

Items of expenditure	Family A	Family B
Food	40	70
Rent	15	30
Clothing	10	25
Education	10	25
Transport	12	30
Miscellaneous	13	20

4 a) Discuss the following : 14

i) Type I & Type II errors ii) Confidence Intervals iii) Power of a test

OR

b) Differentiate between descriptive and inferential statistics. Discuss the various steps involved in testing of hypothesis. 14

5 a) Discuss the following with example. 14

i) Replication and Randomization (ii) Sign Test

iii) Randomized block design (iv) T-Test

OR

b) Perform ANOVA for the following data and find out whether means of the three samples differ significantly or not (F_{tab} at $\alpha = 0.05 = 3.9$). 14

Sample 1	Sample 2	Sample 3
20	19	13
10	13	12
17	17	10
17	12	15
16	9	5

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Code No. 8054 / M

FACULTY OF PHARMACY

B. Pharmacy III / II-Semester (Main) Examination, April 2015

Subject: Pharmacology - II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Write note on: (14)
(i) Macrolide Antibiotics
(ii) Cephalosporin antibiotics

OR

(b) Write the mechanism, adverse effects and therapeutic uses of following drugs.
(i) Protease inhibitors (6)
(ii) Paclitaxol (4)
(iii) Metronidazole (4)

2 (a) (i) Describe in detail about pharmacology of serotonin. (7)
(ii) Write a note on NO donors and inhibitors. (7)

OR

(b) (i) Write a note on haematinics. (7)
(ii) Write the pharmacology of antihistamines (7)

3 (a) (i) Explain in detail about antithyroid drugs. (7)
(ii) Write a note on tocolytics and oxytocin. (7)

OR

(b) (i) Write a note on aromatase inhibitors. (7)
(ii) Write in brief about oral hypoglycemic agents. (7)

4 (a) (i) Describe in detail about principles of bioethics and bioassay. (8)
(ii) Write the bioassay of tuberculin vaccine. (6)

OR

(b) (i) Write the advantages and disadvantages of bioassay. (6)
(ii) Write a note on bioassay of vasopressin. (8)

5 (a) (i) Write a note on phases of clinical trails. (8)
(ii) Write a note on BAL and 2-PAM. (6)

OR

(b) (i) Write the symptoms and treatment for opium and barbiturate poison. (8)
(ii) Write a note on N-Accetylcystine and disulfiram. (6)

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Code No. 8055 / M

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Main) Examination, April 2015

Subject : Physical Pharmacy-II

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Explain the solubility of solids in liquids. Write the factors (particle size, temperature and other solids) influencing the same. (9)
(b) Explain the importance of solvents in solubility of Drugs. (5)

OR

(c) Discuss the preservative action of benzoic acid as it gets distributed between oil and water (assuming no association molecules). (9)
(d) Write the effect of temperature and pressure on solubility of gases in liquids. (6)

2 (a) Discuss the accelerated stability testing of drugs with the help of various types of graphs for solution dosage forms. (14)

OR

(b) Derive the first order kinetic equation. (8)
(c) What are various methods of determine the order of a reaction? (6)

3 (a) Define the importance of Zeta potential as a factor of stability indicator. With the help of electric double layer diagram. (14)

OR

(b) Define and explain the importance of adsorption and discuss various types adsorption isotherms.

4 (a) Discuss the association of colloids and the phenomenon of CMC. (8)
(b) Define and write the importance of
(i) True density (ii) Bulk density (iii) Granular density. (6)

OR

(c) Discuss the importance of particle size, size distribution and particle shape in manufacturing of tablets. (14)

5 (a) Define and explain the importance of Thixotropy in pharmaceutical formulation. (7)
(b) Describe the measurement of viscosity with capillary viscometer. (7)

OR

(c) Define viscosity and explain various types flow with the help of flow diagram. (7)
(d) Describe the determination of viscosity with Cup and Bob viscometer. (7)

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Code No. 8056 / M

FACULTY OF PHARMACY

B. Pharmacy 3/4 II-Semester (Main) Examination, April 2015

Subject: Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 Hours **Max. Marks: 70**

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

1 (a) Enlist the objectives of pharmacy Act, 1948. Write about the Constitution and functions of state pharmacy council. (8)
(b) What is the role of pharmacist in relation to his trade as per code of Ethics? (6)

OR

(c) Write the importance of Consumer Protection Act, 1986. (10)
(d) Explain the functions of pharmacy council of India. (4)

2 (a) Write about the qualifications and duties of a Government analyst. (6)
(b) Explain provisions of drugs and Cosmetics Act, 1940 and 1945 in respect of manufacture certain (i) drugs and (ii) Cosmetics. (8)

OR

(c) Add a note on sale and distribution of schedule C and X drugs. (7)
(d) Explain functions of central drug control authorities. (7)

3 (a) Write a note on export of alcoholic preparation. (7)
(b) Explain schedule M, as under drugs and Cosmetics Act. (7)

OR

(c) Explain about : (7+7)
(i) Loan licences
(ii) Licence for repacking

4 (a) Write a brief note on Drugs and magic Remedies Act. (7)
(b) Explain the salient features of factories Act. (7)

OR

(c) Discuss about the salient features of prevention of food adulteration Act, 1954. (14)

5 (a) Write a note on Intellectual Property Rights. (6)
(b) State the salient features of DPCO. (8)

OR

(c) Give a note on Rights of patentee. (4)
(d) Explain about the salient features of pharmaceutical policy. (10)

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Code No. 8057 / M

FACULTY OF PHARMACY

B.Pharmacy 3/4 II-Semester (Main) Examination, April 2015

Subject : Biostatistics (Pharmaco Statistics)

Time : 3 Hours **Max. Marks: 70**

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

1 (a) (i) Define Mean, Median and Mode. Discuss their merits and demerits.
(ii) Compute the correlation coefficient for the following data:

X	70	65	50	62	48	52	75
Y	66	70	46	63	54	63	70

OR

(b) (i) State the Bayes Theorem. Give its applications in Pharma Industry and discuss at least two of them in detail.
(ii) Dr. A will diagnose a disease 'X' correctly is 60% and a patient will die by his treatment after correct diagnosis is 40%. A patient will die by wrong diagnosis is 70%. A patient who had disease X died. What is the probability that his disease was diagnosed correctly.

2 (a) (i) Write the applications of statistical methods used in pharma industry.
(ii) Define the measures of dispersions. Explain how can you measure them using graphical representations.

OR

(b) (i) Define the Binomial distribution by stating its physical conditions for the occurrence.
(ii) Discuss the importance of Normal distribution.

3 (a) (i) Explain the principles of experimental Designs.
(ii) Draw the Bar and Pie diagrams following data:

Drugs	Usage of the Drug	Production of the Drug
A	12000	15000
B	5000	8000
C	750	1000
D	500	300

OR

(b) Explain the stratified, systematic and simple random sampling methods. Discuss their merits and demerits.

4 (a) Define the Analysis of variance. Explain the procedure for carrying the analysis of variance for one way classified data with a suitable numerical example.

OR

(b) Write a note on :
(i) Chi-Square test
(ii) Test of significance
(iii) Test of Hypothesis

5 (a) (i) State and principles of Biological assays.
(ii) Explain the parallel time 4 point and 6 point assays.

OR

(b) Explain the construction of Range chart with a suitable example.

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