#### 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
		、		•
		C)	Discuss the structural features and chemical reactions of fructose.	8
		d)	What is muta rotation and explain the mechanism.	6
	S	2)	Discuss various methods of sequence analysis of polypontides	0
	2	a) b)	Write the structural features and the thereasutic importance of evotesin	0
		D)		0
		c)	Discuss the chemistry and important structural features of insulin	6
		d)	Discuss the general method of synthesis of a protein or polypentide	8
		u)	Discuss the general method of synthesis of a protein of polypeptide.	0
	3	a)	Write the chemical properties and therapeutic benefits of flavonoids.	6
		b)	Write about chemistry of citral.	8
		,	OROCO	
		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	~
		<b>հ</b> \	Herzig – Meyer method.	6
,		D)	what are oxidative products of quinine and elucidate the structure of	0
	Y			0
1		c)	Cive the sources uses and elucidate the structure of enhedrine	Q
		d)	Write the general method of alkaloid isolation	9 5
		u)	which the general method of alkaloid isolation.	5
	5	a)	What are cardiotonics, classify with examples and discuss the chemistry and	
	•	с.,	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

### 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) (ii)	Write a note on factors affecting the solubility of solids in liquids. Discuss about the preservative action of weak acids in emulsions.	(10) (4)
	(b) (i)	What is distribution law? Explain partition coefficient and its applications indetail.	(8)
	(II)	in liquids.	(6)
2	(a) (i) (ii)	Give a detailed note on accelerated stability studies along with limitations. Derive an expression for determining the specific reaction rate constant	(9)
	(h) (i)	of a first order reaction.	(5)
	(i) (d) (ii)	of prevention.	(9) (5)
3	(a) (i)	Write about electrical properties of interface with the concept of Electrical	(-)
	(ii)	double layer. Describe about the wetting phenomenon and discuss the importance of	(8)
	(b) (i)	Differentiate surface and interfacial tension and explain about dunouv's	(0)
	(ii)	ring method for the determination of surface tension. Explain the concept of spreading coefficient along with applications.	(8) (6)
4	(a) (i) (ii)	Explain optical and kinetic properties of colloids. Describe about the derived properties of powders with applications.	(8) (6)
	(b) (i) (ii)	Enlist different methods of purification of colloidal dispersions. Describe the air permeability method for the determination of surface	(7)
_		area of particles.	(7)
5	(a) (i) (ii)	Classify viscometers based on rate of shear. Explain cup and bob viscometer with a neat diagram. Discuss dilatant flow of fluids with example. <b>OR</b>	(10) (4)
	(b) (i) (ii)	What is thixotropy? Write about the applications and measurement of thixotropy. Explain plug flow and its prevention.	(7) (3)
	(iii	) Explain bulges and spur with suitable example.	(4)

4	-)	Note: Answer all questions. All questions carry equal marks.	
1	a)	Cosmetics Act 1940.	8
	b)	Write about the pharmacy professional ethics to be followed by a retail pharmacist.	6
	C)	Discuss the legal procedure for cultivation and production of opium and manufacture of morphine and it's derivatives.	14
2	a) b)	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. Write a note on the role of Drugs Consultative Committee.	10 4
	C)	Discuss the requirements as per the Drugs and Cosmetics Act for the manufacture of schedule C and Cl drugs.	14
3	a)	Discuss about the Good Laboratory Practices" as per the Drugs and Cosmetic Act (amendment) for the manufacture of drugs.	14
	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 i) Schedule G parenteral drug	6
~	U	ii) Schedule H drug iii) Cosmetic (shampoo)	
4	a)	What are the qualifications, duties and functions of a Food Inspector?	14
	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) b)	Discuss about the salient features of Drug price control order 2013. Explain the principle and formula for the calculation of i) Ceiling price of a scheduled formulation	6
		ii) Retail price of a new drug for existing manufactures of scheduled formulations.	8
	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

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

Subject : Forensic Pharmacy (Pharmaceutical Jurisprudence)

Time : 3 hours

Max. Marks : 70

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

#### Subject: Pharmacology – II

#### Time: 3 Hours

#### Max.Marks: 70

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#### 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
  - ii) Antiviral

OR

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

#### 2 a) Write short notes on:

- i) Nitric Oxide donors and inhibitors
- ii) Biosynthesis of prostaglandins
- b) Write in detail about:
  - i) Pharmacology of Histamine
  - ii) Anticoagulants

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

- OR
- b) i) Explain in detail about oxytocics and tocolytics.
- i) Explain the biosynthesis of thyroid hormones.
- a) i) Explain the various types of bioassays.
  - ii) Write about the bioassay of oxytocin.

#### OR

- b) i) Write in detail about bioethics of animals used in bioassay studies.ii) Write about the bioassay of insulin.
- 5 a) i) Discuss in detail about phases of clinical trials.
   ii) Write a note on lead poisoning.
   OR
  - b) i) Write about the treatment of organophosphorous toxicity.ii) Write the symptoms and treatment of methyl alcohol poisoning.

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

C	р. Г	narmacy 5/4 ii-Semester (Supplementary) Examination, November 2015							
Subject : Bio-Statistics (Pharmaco Statistics)									
Tir	Time : 3 hours Max. Marks :								
1	Note: Answer all questions. All questions carry equal marks.a) Explain the significance of the following :i) Correlation coefficientii) Regressioniv) Histogram								
b)	Са	Calculate the standard deviation and coefficient of variation from the following dataAge20-3030-4040-5050-6060-7070-8080-90No. of members361132153140512							
2	a)	) Explain the following :14i) Binomial Distributionii) Data collection and organizationiii) Histogramsiv) Box and whisker plotOR							
	D)	representation of data? Explain the different methods of diagrammatic	14						
3	a)	Why sampling is essential in biological studies also discuss about stratified random sampling and systematic sampling.	14						
D	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								
<ul> <li>a) Discuss the following :         <ul> <li>i) Type I &amp; Type II errors</li> <li>ii) Confidence Intervals</li> <li>iii) Power of a test</li> <li>OR</li> </ul> </li> <li>b) Differentiate between descriptive and inferential statistics. Discuss the</li> </ul>									
		various steps involved in testing of hypothesis.	14						
5	<ul> <li>a) Discuss the following with example.</li> <li>i) Replication and Randomization (ii) Sign Test</li> <li>iii) Randomized block design (iv) T-Test</li> <li>OR</li> </ul>								
	D)	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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# Library G.Pulla Reddy College of Pharmacy,Hyderabad <sup>Code No. 8054 / M</sup> 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.

(a) Write note on:	(14)
(i) Macrolide Antibiotics	
(ii) Cephalosporin antibiotics	
OR	
(b) Write the mechanism, adverse effects and therapeutic uses of following dru	gs.
(i) Protease inhibitors	(6)
(ii) Paclitaxol	(4)
(iii) Metronidazole	(4)
(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)
(a) (i) Explain in detail about antithyroid drugs	(7)
(ii) Write a note on tocolytics and ovytocin	(7)
	(r)
(b) (i) Write a note on aromatase inhibitors.	(7)
(ii) Write in brief about oral hypoglycemic agents.	(7)
(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)
(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)
	<ul> <li>(a) Write note on: <ul> <li>(i) Macrolide Antibiotics</li> <li>(ii) Cephalosporin antibiotics</li> </ul> </li> <li>OR</li> </ul> <li>(b) Write the mechanism, adverse effects and therapeutic uses of following dru <ul> <li>(i) Protease inhibitors</li> <li>(ii) Paclitaxol</li> <li>(iii) Metronidazole</li> </ul> </li> <li>(a) (i) Describe in detail about pharmacology of serotonin. <ul> <li>(ii) Write a note on NO donors and inhibitors.</li> </ul> </li> <li>(b) (i) Write a note on haematinics. <ul> <li>(ii) Write a note on haematinics.</li> <li>(ii) Write the pharmacology of antihistamines</li> </ul> </li> <li>(a) (i) Explain in detail about antithyroid drugs. <ul> <li>(ii) Write a note on aromatase inhibitors.</li> <li>(ii) Write a note on aromatase inhibitors.</li> <li>(ii) Write a note on aromatase inhibitors.</li> <li>(ii) Write in brief about oral hypoglycemic agents.</li> </ul> </li> <li>(a) (i) Describe in detail about principles of bioethics and bioassay. <ul> <li>(ii) Write the advantages and disadvantages of bioassay.</li> <li>(ii) Write the advantages and disadvantages of bioassay.</li> <li>(ii) Write a note on phases of clinical trails.</li> <li>(ii) Write a note on BAL and 2-PAM.</li> </ul> </li> <li>(b) (i) Write the symptoms and treatment for opium and barbiturate poison. <ul> <li>(ii) Write a note on N-Accetylcystine and disulfiram.</li> </ul> </li>

# Library G.Pulla Reddy College of Pharmacy Hyderabad<sup>ode No. 8053 / M</sup>

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

Subject : Pharmaceutical Chemistry (Chemistry of Natural Products)

#### Time : 3 Hours

Max. Marks: 70

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

1	<ul><li>(a) Discuss the constitution of fructose.</li><li>(b) Explain one method of converting an aldose to a higher ketose.</li><li>(c) Write a note on rancidity.</li></ul>	(6) (4) (4)
	OR (d) Discuss the chemistry of glucose. (e) Define and write the principle, method of determination and the significance of (i) lodine value (ii) Saponification value	(8) (2x3)
2	<ul> <li>(a) Classify proteins with examples.</li> <li>(b) Explain α-amino acid synthesis by</li> <li>(i) Erlen meyer Azelactone method</li> <li>(ii) Phthalimido malonic ester method</li> </ul>	(5) (2x3)
	(c) Write a note on anti thyroid drugs.	(3)
	(d) Discuss the constitution of Oxytocin. (e) Write any two methods in the determination of N-terminal amino acid in a	(6)
	<ul><li>(f) Write the biological significance of Insulin.</li></ul>	(6) (2)
3	<ul> <li>(a) What are terpenoids? Write in detail the general methods for structure elucidation of terpenoids.</li> <li>(b) Discuss the chemistry of menthol. Add a note on stereoisomerism.</li> </ul>	(8) (6)
C	(c) Discuss the constitution of Quercetin. (d) Outline the synthesis of (i) Citral (ii) Amygdalin	(7) (2x3.5)
4	<ul> <li>(a) Explain the methods to determine the functional nature of oxygen in alkaloids.</li> <li>(b) Discuss the chemistry of caffeine.</li> </ul>	(6) (8)
	<ul><li>(c) Establish the constitution of meroquinine.</li><li>(d) Elucidate the structure of papaverine.</li></ul>	(7) (7)
5	<ul> <li>(a) Write chemistry and physiological role of</li> <li>(i) Corticosteroids (ii) Bile acids</li> </ul>	(2x7)
	<ul> <li>(b) Differentiate between cardenolides and bufadienolides. Write the chemistry of digitalis glycosides. Add a note on mechanism of action.</li> <li>(c) Write the structure and uses of :</li> <li>(i) Discussion (ii) Decrease on the structure and uses of :</li> </ul>	(6) (2x2)
	(d) Write a note on Oral contraceptives.	(4)

# Library G.Pulla Reddy College of Pharmacy, Hyderabad<sup>Code No. 8055 / M</sup> 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. OR	(5) (5)
	<ul> <li>(c) Discuss the preservative action of benzoic acid as it gets distributed between oil and water (assuming no association molecules).</li> <li>(d) Write the effect of temperature and pressure on solubility of gases in liquids.</li> </ul>	(9) (6)
		(-)
2	(a) Discuss the accelerated stability testing of drugs with the help of various types of graphs for solution dosage forms.	(14)
	<ul><li>(b) Derive the first order kinetic equation.</li><li>(c) What are various methods of determine the order of a reaction?</li></ul>	(8) (6)
3	(a) Define the importance of Zeta potential as a factor of stability indicator. With the help of electric double layer diagram.	(14)
	(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)
P	(i) True density (ii) Bulk density (iii) Granular density.	(6)
	(c) Discuss the importance of particle size, size distribution and particle shape in manufacturing of tablets.	(14)
5	<ul> <li>(a) Define and explain the importance of Thixotropy in pharmaceutical formulation.</li> <li>(b) Describe the measurement of viscosity with capillary viscometer.</li> </ul>	(7) (7)
	<ul><li>(c) Define viscosity and explain various types flow with the help of flow diagram.</li><li>(d) Describe the determination of viscosity with Cup and Bob viscometer.</li></ul>	(7) (7)

# Library G.Pulla Reddy College of Pharmacy,Hyderabad<sup>Code No. 8056 / M</sup> 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)
	<ul><li>(c) Write the importance of Consumer Protection Act, 1986.</li><li>(d) Explain the functions of pharmacy council of India.</li></ul>	(10) (4)
2	<ul> <li>(a) Write about the qualifications and duties of a Government analyst.</li> <li>(b) Explain provisions of drugs and Cosmetics Act, 1940 and 1945 in respect of manufacture certain (i) drugs and (ii) Cosmetics.</li> </ul>	(6) (8)
	<ul> <li>(c) Add a note on sale and distribution of schedule C and X drugs.</li> <li>(d) Explain functions of central drug control authorities.</li> </ul>	(7) (7)
3	<ul> <li>(a) Write a note on export of alcoholic preparation.</li> <li>(b) Explain schedule M, as under drugs and Cosmetics Act.</li> </ul>	(7) (7)
	(c) Explain about : (i) Loan licences (ii) Licence for repacking	(7+7)
4	(a) Write a brief note on Drugs and magic Remedies Act. (b) Explain the salient features of factories Act	(7) (7)
	OR	(.)
	(c) Discuss about the salient features of prevention of food adulteration Act, 1954.	(14)
5	<ul><li>(a) Write a note on Intellectual Property Rights.</li><li>(b) State the salient features of DPCO.</li></ul>	(6) (8)
	(c) Give a note on Rights of patentee	(4)
	(d) Explain about the salient features of pharmaceutical policy.	(10)
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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:

clation coefficient for the following e							
Х	70	65	50	62	48	52	75
Υ	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) Drav

N	the	Bar	and	Pie	diag	gram	is fol	lowing da	ita:

Drugs	Usage of the Drug	Production of the Drug				
А	12000	15000				
В	5000	8000				
С	750	1000				
D	500	300				
OR						

- Explain the stratified, systematic and simple random sampling methods. (b) Discuss their merits and demerits.
- Define the Analysis of variance. Explain the procedure for carrying the analysis 4 (a) of variance for one way classified data with a suitable numerical example.

OR

Write a note on : (b)

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- (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.