[KV 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper I – HUMAN ANATOMY AND PHYSIOLOGY

Q.P. Code: 383801

Time: Three hours

Maximum: 70 marks

Answer All questions

I. Essay Questions:

 $(2 \times 20 = 40)$

- Give an account of the composition and functions of blood. Mention the disorders of blood components.
- Describe the structure, secretions and functions of anterior pituitary gland.Add a note on hyperthyroidism.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- Spinal Cord.
- 2. Cardiac cycle.
- 3. Liver.
- 4. Muscle in exercise.
- Contraceptive devices.
- 6. Drugs and athletics.

March 2010

[KW 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper I – HUMAN ANATOMY AND PHYSIOLOGY

Q.P. Code: 383801

Time: Three hours

Maximum: 70 marks

Answer All questions

I. Essay Questions :

 $(2 \times 20 = 40)$

- With a neat and labelled diagram, describe the structure and functions of heart.
 Write briefly on pulmonary circulation.
- With a neat and labelled diagram, describe the structure and functions of the kidney. Explain how urine is formed.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- 1. Cranial nerves.
- 2. Epithelial tissue.
- 3. Types of movements of joints.
- 4. Ovulation.
- Regulation of respiration.
- 6. Digestion and absorption of proteins.



[KX 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper I – HUMAN ANATOMY AND PHYSIOLOGY

Q.P. Code: 383801

Time: Three hours

Maximum : 70 marks

Answer All questions

 $(2 \times 20 = 40)$

1. Essay Questions:

- Define a Cardiac cycle. Describe the various events taking place in a cardiac cycle with time sequences.
- a) List out the secretions from pituitary gland with its Physiological functions.
 - Explain the Structure and Physiological functions of Thyroid gland.
 - c) Add a note on the disorders of Thyroid gland.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Classify Joints with the possible movements of joints from its location.
- Enumerate the functions of blood.
- 3. Define the following: i) Hypertension ii) Myocardial infarction
 - iii) Hypoxia iv) Resuscitation
- Differentiate the terms Digestion and Absorption.
- Describe the contraceptive devices for both Male and Female based on temporary method.
- Write a brief note on Drug docking.

May 2011

[KY 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER I – HUMAN ANATOMY AND PHYSIOLOGY

O.P. Code: 383801

Time: Three hours

Maximum: 70 marks

Answer All questions

I. Essay Questions:

 $(2 \times 20 = 40)$

- a) Discuss about pancreatic islets and its hormones functions. Explain the diabetes mellitus and its complications.
 - Explain the structure of skin with labelled diagram. Write about the functions of skin.
- 2. a) Explain the menstrual cycle. (7)
 - b) Draw the neat diagram of heart and label it. Explain the structure of heart. Discuss about the blood flow process in the heart. (2+6+5)

II. Write Short Notes:

 $(6 \times 5 = 30)$

- 1. White blood cells and its function.
- Define following terms a) Megaloblastic anaemia b) Hypertension c) Gastritis d)
 Osteoarthritis.
- 3. Salivary glands and its functions.
- 4. Clotting mechanism.
- 5. Adrenal medulla.
- 6. Disorders of pituitary glands.

October 2011

[KZ 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER I – HUMAN ANATOMY AND PHYSIOLOGY

Q.P. Code: 383801

Maximum: 100 marks Time: 3 hours (180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	Pages (Max.)		Marks (Max.)
 Describe the anatomy of lungs and physiology of respiration 	17	40 min	. 20
with diagram. 2. What are the endocrine glands of our body and give their functions?	17	40 min	. 20
11. Write notes on :	4	10 mir	1. 6
1. Enumerate the functions of blood.	4	10 mir	1. 6
control centres in brain.	4	10 mi	n. 6
Write the vital centre Explain in brief structure and functions of skin. Write the various types of clotting factors.	4	10 mir	
	4	10 mi	n. 6
	4	10 mi	n. 6
C Describe briefly about the mechanism of	4	10 mi	n. 6
7. Write a note on electrocardiogram	, 4	10 mi	in. 6
 Write about muscle in exercise. Discuss about any three disorders involved in gastrointestir 	ial 4	10 m	in. 6
tract. 10. Write three phases involved in gastric juice.	4	10 m	in. 6
10. Write three phases at	Let		



April 2012

[LA 801]

Sub. Code: 3801

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER I – HUMAN ANATOMY AND PHYSIOLOGY Q.P. Code : 383801

Q.P. Code: 383801	Maxim	um : 100	marks
Time: 3 hours	148-6-115	110000 co	
(180 Min) Answer ALL questions in the same ord 1. Elaborate on :	ler. Pages (Max.)	(Max.)	Marks (Max.) 20
 Draw a neat labeled diagram of different parts of nephron. 	17	40	200
Explain the mechanism and hormones regulating urine form	ation.		
Discuss the anatomy of pituitary gland and name the hormo			
secreted by pituitary gland Describe briefly the physiologic	al		20
functions and abnormalities of growth hormone.	17	40	20
II. Write notes on :			
 Briefly explain the Rennin Angoitensin system and its importance in blood pressure maintenance. 	4	10	6
Write the Non auditory functions of ear and name the	4	10	6
nerves of audition. 3. Explain the factors controlling erthropoiesis.	4	10	6
 Define the following terms: a)Atherosclerosis b)Oliguria c)Isundice d)Apnoea e)Leucocyctosis f)Ataxia. 	4	10	6
5. Discuss the transport of oxygen in blood. What are the factors influencing oxygen dissociation curve?	4	10	6
List out the cranial nerves and its functions.	4	10	6
 Name the clotting factors. Add a note on clotting and bleeding disorders. 	4	10	6
8. Describe the physiological changes during severe	Mary Mary	10	6
exercise.	(e)	10	6
9. Anatomy and functions of liver. 10. Write a note contraceptive device. ***********************************	4	10	6

[LB 801]

OCTOBER 2012 PHARM. D DEGREE EXAMS FIRST YEAR

PAPER I – HUMAN ANATOMY AND PHYSIOLOGY

	le : 383801	faxin	um : 10	0 marks
Time: 3 hours				
(180 Min) Answer ALL questi 1. Elaborate on :		iges (ax.)	Time (Max.)	Marks (Max.)
 Describe the mechanism of coag clotting factors involved. How do pathways differ? Add note on er 	o intrinsic and extra	17	40	20
 Explain in detail about the mech of respiration. Explain the follow Diastolic Volume (EDV) (ii) Vit (iii) Glomerular Filtration Rate. 	Albeig derring for	17	40	20
II. Write notes on :				
 Name the elementary tissues of t give their silent features. 	he human body and	4	10	6
Define Micturition. Explain the Micturition.	mechanism of	4	10	6
3. What are the various refractive of it can be corrected?	errors of eye? How	4	10	6
	ioint	4	10	6
 Explain with a diagram the knee explain with a diagram the knee 		4	10	6
Explain various phases of ECG.				
Name the hormones of adrenal p	gland. Add note	4	10	6
1,0000		4	10	6
on Addison's disease. 7. Discuss the digestion and absor	ption of proteins.	4	10	6
		m 4	10	6
 Explain Oogenesis. Write the physiological function Draw a neat labeled diagram of 	as of sympathetic system human brain structure.	4		6
10. Draw a neat labour	******		66	199



Sub. Code: 3801

[KV 802]

Sub. Code: 3802

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper II - PHARMACEUTICS

Q.P. Code: 383802

Time: Three hours

Maximum: 70 marks

Answer All questions

 $(2 \times 20 = 40)$

- L Essay Questions:
 - Define prescription. Write in detail about the various parts and handling of prescriptions.
 - Classify powders. Give example for each type of powder. Mention the advantages and disadvantages of powders.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- 1. Gargles and mouthwash.
- Stability and evaluation of emulsions.
- Methods of preparation of spirits.
- 4. Sutures and ligatures.
- 5. Lotions and liniments.
- Calculation of children doses.

March 2010

[KW 802]

Sub. Code: 3802

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper II – PHARMACEUTICS

Q.P. Code: 383802

Maximum : 70 marks

Time: Three hours

Answer All questions

 $(2 \times 20 = 40)$

- Write the historical background and development of pharmacy and I. Essay Questions :
 - Define posology. Write the methods of calculation of children and infant doses. Write the factors affecting dose selection. $(6 \times 5 = 30)$

II. Write Short Notes :

- Suspensions and suspending agents.
- Throat paints.
- Methods of preparation of suppositories
- Classify and identification of types of emulsion.
- Surgical dressings.
- Physical and chemical incompatibility ******

[KX 802]

Sub. Code: 3802

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper II - PHARMACEUTICS

Q.P. Code: 383802

Time: Three hours

Maximum: 70 marks

Answer All questions

1. Essay Questions:

 $(2 \times 20 = 40)$

- Classify Suppository bases. What are the characteristics of an ideal base?
 Give a detailed method of preparation.
- Define Emulsion. Classify Emulsifying agents and Explain in detail.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- 1. Write about the formulation criteria for effervescent granules.
- Write about the preparation of calamine lotion.
- 3. What is therapeutic incompatability? How do you over come it?
- Classify medicated bandages and its uses.
- 5. How much water should be mixed with 6000 ml of 40% (v/v) alcohol to make 20% (v/v) alcohol?
- Give a short note on preparation of spirits.

[KX 802]

Sub. Code: 3802

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper II – PHARMACEUTICS

Q.P. Code: 383802

Time: Three hours

Maximum: 70 marks

Answer All questions

 $(2 \times 20 = 40)$

1. Essay Questions:

- Classify Suppository bases. What are the characteristics of an ideal base?
 Give a detailed method of preparation.
- Define Emulsion. Classify Emulsifying agents and Explain in detail.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- Write about the formulation criteria for effervescent granules.
- Write about the preparation of calamine lotion.
- 3. What is therapeutic incompatability? How do you over come it?
- Classify medicated bandages and its uses.
- 5. How much water should be mixed with 6000 ml of 40% (v/v) alcohol to make 20% (v/v) alcohol?
- Give a short note on preparation of spirits.

May 2011

[KY 802]

Sub. Code: 3802

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER II – PHARMACEUTICS

Q.P. Code: 383802

Time: Three hours

Maximum: 70 marks

Answer All questions

 $(2 \times 20 = 40)$

- I. Essay Questions:
 - Define and classify monophasic liquid dosage forms.
 Discuss the various adjuvant used in the formulation of oral liquid dosage forms.
 - Define incompatibility and classify them with suitable example.
 Discuss physical incompatibility and therapeutic incompatibility with the help of suitable example.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Discuss different factors affecting fixation of dose of a drug.
- 2. Convert 40% v/v alcohol into proof strength.
- 3. Describe the identification tests for emulsion.
- Displacement value and its importance.
- Soxhlet extraction process.
- Differentiate between the procedures followed in the preparation of tinctures from organized and unorganized drugs.

Time: 3 hours

Sub. Code: 3802

Maximum: 100 marks

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER II - PHARMACEUTICS

Q.P. Code : 383802

(180 Min)		Maximum : 100 marks				
Ans	wer ALL questions in the same or	der.				
I. Elaborate on :	quantities in the same of	Pag	es Time x.) (Max.)	Marks (Max.)		
 Discuss about posolog affecting the dose an 	ty. Explain about the factors d action of drugs with examples.	17	7 40 mi	n. 20		
	t suppository bases with examples.	17	40 mii	n. 20		
II. Write notes on:						
 Food 2. Twice Give the English me 	e a day 3. apply caning for the following	4	10 min.	6		
		4	10 min.	6		
	그가 무슨데 이렇게 그 그들이 무슨이 많아 하지 않아 하지 않아 하지 않아.					
4. What are advantages an	d disadvantages of suppositories?	4	10 min.	6		
by mixing 200 g of 10% 100 g of 5 % ointment?	6 ointment, 50 g of 20% ointment as	nd 4 4	10 min.	6		
	used in powder formulation?	4	10 mm.	o .		
7. Rx a) Atropine sulphate Phenobarbital Aspirin	0.006 0.015 0.3	2				
Find out the incompati and the steps to correct	t it	4 ption	10 min			
b) If 1500g solution conta what is the percentage	aining 75g of a drug substance strength (w/w) of the solution	00077 - 7	10	62019		
8. What is effervescent power	ler and explain this with example.	4		W.		
9. Explain in brief about surg	cal sutures.	4		6 6		
Write about the formulation	b) Give the English meaning for the following 1. Pulvis 2. Receipe 3. Solve Explain about soxhlation? What are colouring agents? Explain them with example What are advantages and disadvantages of suppositories? What is the percentage of zinc oxide in an ointment prepared by mixing 200 g of 10% ointment, 50 g of 20% ointment an 100 g of 5 % ointment? What are the ingredients used in powder formulation? Rx a) Atropine sulphate Phenobarbital 0.006 Phenobarbital					

April 2012

Sub. Code: 3802

[LA 802] April 2012 Sub. Con-DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER II - PHARMACEUTICS

Q.P. Code: 383802	Maxim	laximum : 100 marks				
Time: 3 hours	TATAL STATE					
(180 Min) Answer ALL questions in the same ord I. Elaborate on :	er. Pages (Max.)	1 11111	Marks (Max.)			
(a) Define prescription. Explain the various parts of prescription. (b) Write the historical background and development of pharmacy Define 'Surgical dressings'. Write the ideal characteristic of surgical dressings and explain about bandages.	17	40 40	20 20			
1. Write notes on: 1. What are the various factors that influence done? Explain with examples. 2. Write a short note on sutures and sutures materials. 3. Identification test available for the types of emulsion. 4. Pharmaceutical Powders. 5. Define and differentiate lotions and liniments. 6. Suppository Bases. 7. Convert 70% of Alcohol to proof spirit. 8. Discuss about suspending agent 9. Soxhlet extraction process	39	10 10 10	. 6 6 6 0 6			
10. Write the various adjuvant used in the formulation of o liquid dosage forms ***********************************	ral	4 10	O Gran			

[KV 803]

Sub. Code: 3803

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper III - MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Time: Three hours

Maximum: 70 marks

Answer All questions

1. Essay Questions:

 $(2 \times 20 = 40)$

- a) Define and classify enzymes. Discuss the various factors affectingenzyme activity.
 - b) Explain Glycolysis with its energetics.
- a) What are ketone bodies. Write in detail about Ketogenesis.
 - b) Discuss in detail about radioimmuno assay and enzyme linked immunosorbent assay.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- Oxidative phosphorylation.
- Urea cycle.
- 3. Replication.
- Vanden Berg reaction.
- Lipoproteins.
- Urine concentration tests.



March 2010

[KW 803]

Sub. Code: 3803

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper III - MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Time: Three hours

Maximum : 70 marks

Answer All questions

 $(2 \times 20 = 40)$

I. Essay Questions:

- a) Explain TCA cycle in detail with its energetics.
 - b) Discuss the β oxidation of saturated fatty acids.
- a) Write the biosynthesis of pyrimidine nucleotides.
 - b) Enumerate the various liver function test and discuss the tests for serum bilirubin and urine bilirubin.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Transport across cell membranes.
- Co enzymes.
- 3. GTT.
- 4. Various components of electron transport chain.
- Protein biosynthesis.
- Jaundice.

[KX 803]

Sub. Code: 3803

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper III - MEDICINAL BIOCHEMISTRY

O.P. Code: 383803

Time: Three hours

Maximum: 70 marks

Answer All questions

 $(2 \times 20 = 40)$

I. Essay Questions :

- Describe the reaction, regulation and metabolic significance of citric acid cycle.
- Discuss in detail about the metabolism of Cholesterol.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Cyclic AMP and their biological significance.
- Anaerobic dehydrogenases involved in biological oxidation.
- Therapeutic and diagnostic applications of Coenzyme A.
- Metabolic disorders of Amino acids.
- DNA replication.
- Kidney Function Tests.



Sub. Code: 3803

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER III - MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Time: Three hours

Maximum: 70 marks

L Essay Questions:

Answer All questions

 $(2 \times 20 = 40)$

a) Define crzymes. Classify them and describe the factors affecting enzyme.

b) What are coenzymes? Describe the biochemical role of niacin and pyridoxine. (6) activity. (14)

a) Define lipids and Explain beta oxidation of fatty acids with its energetics. (14)

b) Atherosclerosis. (6)

 $(6 \times 5 = 30)$

IL Write Short Notes:

- Explain in detail about ATP and its biological significance.
- Write a brief note on metabolic disorders of carbohydrates.
- Radio immuno assay.
- 4. Hyperbilinabinemia.
- Lipoproteins Types and functions.

6. HMP Shunt- A brief account

+ +

October 2011

KZ 803

Sub. Code: 3803

Maximum : 100 marks

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER III – MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Time: 3 hours (180 Min) Answer ALL questions in the same order. Pages Time Marks (Max.) (Max.) (Max.) I. Elaborate on : 40 min. 20 1. a. Reactions of Oxidative Phosphorylation 17 b. Components of respiratory chain c. Chemiosmotic theory. 40 min. 20 2. a. Reactions of TCA 17 b. Energetics of TCA c. Reactions of β Oxidation 10 min. II. Write notes on : 10 min. Active transport. Structure of cholesterol and its functions. 10 min. Determination of sodium in serum. 10 min. 10 min. Transamination. 10 min. Porphyrias. 10 min. Purine catabolism. Maple syrup urine and alkatonuria. 10 min. 6 10 min. 8. ELISA. 10 min. Vandenburg. Creatinine clearance test.

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

FIRST YEAR

PAPER III – MEDICINAL BIOCHEMISTRY

Q.P. Code: 383803

Q.P. Code; 303003					
The second of th	Maxir	num : 100 mark			
(180 Min) Answer ALL questions in the same or LEIaborate on:		Time	Marks		
 Write a detailed note on the Urea cycle with reactions. Ment its major metabolic disorders. 	tion 17	40	20		
Explain the semi conservative replication of a double stranded DNA molecule. Add a note on its repair mechanism.	17	40	20		
II. Write notes on :	4	10	6		
Explain the Van den Bergh reaction. Discuss the biological significance of cyclic – adenosine	4	10	6		
monophosphate (c-AMP).	4	10	6		
3. Write a note on Atherosclerosis.	4	10	6		
Explain the mechanism of Transammation A Explain the mechanism of Transammation	4	10	6		
Explain the blockers of enzymes with Enumerate the IUB classification of enzymes with	4	10	6		
wamnle	4	10	6		
To the Galactose tolerance test.	1 4	10	6		
8 What are the various types of Torpes) 4	10	6		
Write a note on Urine analysis.	4	10	6		
10. Write a note on Urea clearance.	9		*		

[KV 804]

Sub. Code: 3804

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper IV – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 383804

Time: Three hours

Maximum: 70 marks

Answer All questions

 $(2 \times 20 = 40)$

1. Essay Questions:

- a) Explain the nucleophilic substitution reactions with suitable examples.
 - b) Add a note on mechanisms and kinetics involved in SN¹ and SN² reactions.
- Explain the mechanisms of following name reactions.
 - a) Benzoin condensation.
 - b) Wittig reaction.
 - c) Cannizaro reaction.
 - d) Kolh's reaction.

 $(6 \times 5 = 30)$

II. Write Short Notes :

- Preparation, tests for purity, assay and uses of aspirin.
- Explain the reaction mechanisms of sandmeyer's reduction with suitable examples.
- 3. Explain the bimolecular displacement mechanism for nucleophilic aromatic substitution with suitable examples.
- Explain the conversion of acid to acid chloride and aid to esters with suitable
- Describe the effect of substituent groups on aromatic nucleus.
- Outline any two methods of preparation of ketones.



[KW 804]

Sub. Code: 3804

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper IV - PHARMACEUTICAL ORGANIC CHEMISTRY

O.P. Code: 383804

Time: Three hours

Maximum: 70 marks

Answer All questions

I. Essay Questions:

 $(2 \times 20 = 40)$

- Explain the preparation of alcohol with special reference to gniguard synthesis, reduction of carbonyl compounds, acids and esters.
- Explain the mechanisms of following name reactions.
 - a) Claisen condensation.
 - b) Knorvenagel reaction.
 - c) Michael addition.
 - d) Perkin condensation.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- Explain fries rearrangement and hofmann rearrangement.
- Preparation, tests for purity, assay and uses of methyl salicylate.
- 3. Explain the diazotization and coupling reactions of amioes.
- Explain the 1,2 addition and 1,4 addition reactions of conjugated dienes.
- Outline the important chemical properties of aldehydes.
- 6. What are cycloalkanes? Give egs. How the cycloalkanes are prepared?



[KX 804]

Sub. Code: 3804

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper IV - PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 383804

Time: Three hours

Maximum: 70 marks

Answer All questions

I. Essay Questions:

 $(2 \times 20 = 40)$

- Write the Mechanism, reactivity, orientation of aromatic electrophilic substitution reaction with suitable examples.
 - b) Explain briefly about hybridization.
- a) Why are aldehydes more reactive than ketone? Give an account of the nucleophilic additions of aldehyde with the help of general mechanism.
 - b) What are Organometallic compounds? How they are prepared? Give its synthetic applications.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- 1. Give the general methods of preparations of alcohols with examples?
 How will you differentiate between 1°, 2°, 3° alcohols?
- 2. Explain the following reactions:
 - i) Cannizaro reaction ii) Diel's Alder reaction.
- 3. Give the préparations of Ethers by Williamson's synthesis.
- 4. Add a note on Isomerism.
- Explain Bayer's Strain Theory.
- 6. Add a note on Free Radicals.



Sub. Code: 3804

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER IV – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 383804

Time: Three hours

Maximum: 70 marks

Answer All questions

1. Essay Questions:

 $(2 \times 20 = 40)$

- 1. Describe the two mechanisms of aliphatic nucleophilic substitution reactions. Compare and contrast these two reactions in detail.
- 2. Describe in detail free radical halogenation of methane explaining the thermodynamics of the reaction with respect to the halogens: F, Cl, Br, & I.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Preparation, tests for purity, assay, and uses of Aspirin.
- Aldol condensation and cyanohydrin reaction of aldehydes.
- Explain Sandmeyer's reaction with suitable examples.
- Two methods of preparations of aldehydes.
- Explain Schotten-Bauman reaction.

Write a note on the advantages of Friedal Crafts Acylation over Alkylation.



[KZ 804]

Sub. Code: 3804

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION FIRST YEAR

PAPER IV – PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 383804

Time : 3 hours (180 Min) Maximum : 100 marks

Answer ALL questions in the same order.

l. Elaborate on :

Time (Max.) (Max.) (Max.)

- 1. (a) Define Electrophilic aromatic substitution reaction. Explain the mechanism of nitration, sulphonation, halogenation and Friedel craft's alkylation reactions with examples.
- 40 min. 20 17
- (b) Write a note on activating and deactivating O, P, and M directing groups.
- (a) Compare aliphatic nucleophilic bimolecular and unimolecular reaction. (SN2 vs SN1).
 - (b) Explain the mechanism and kinetics of 1, 2 Elimination reactions. (E2 and E1).

40 min. 20 17

II. Write notes on :

- Write a note on Markownikoff's rule and Peroxide effect.
- Explain about electrophilic addition of conjugated dienes. (1, 2 versus 1, 4 addition).
- 3. Write about the mechanism of Cannizaro's reaction with example.
- 4. Define polarity of molecules and intermolecular forces with
- examples. Explain Bayer's strain theory with its merits and limitations.
- Explain Kolbe's reaction and Reimer -Tiemann's reaction.
- Write a note on allyl radical as a resonance hybrid.
- Write a note on oxidation-reduction reactions with examples.
- 9. Give an example for free radical halogenation of alkenes with respect to carbon - carbon double bond acting as substituent.

. ******

Define orientation, reactivity and stability.

10 min.

10 min.

10 min. 6

10 min. 10 min.

10 min.

10 min.

4

10 min.

10 min. 6

10 min. 6

[LA 804]

reaction.

Write a note on Diels alder reaction.

10. Preparation, test for purity, assay and uses of Aspirin.

Sub. Code: 3804 APRIL 2012 DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

FIRST YEAR

PAPER IV - PHARMACEUTICAL ORGANIC CHEMISTRY

Q.P. Code: 383804 Time: 3 hours Maximum: 100 marks (180 Min) Answer ALL questions in the same order. L Elaborate on : Pages Time (Max.) (Max.) (Max.) 1. (a) Elaborate the mechanism, kinetic and stereochemistry of aliphatic nucleophilic Substitution (SN1 and SN2) reaction. (b) Explain about the role of phase transfer catalysis in 20 40 17 substitution reaction. 2. (a) Illustrate about the Kinetic, mechanism and isotopic effect of Eland E2 reactions. 20 40 17 (b) Add a note on dehydration of acid catalysis. II. Write notes on : Give an account of acid and base on the basis of Lewis 6 10 4 6 theories. Preparation, test for purity, assay and uses of vanillin. 10 4 Explain the mechanism of halogenations of alkanes. 10 Give the evidence for the same. Outline any two methods of conversion of acids to acid 10 chloride and amide. 5. Discuss the mechanism and synthetic uses of benzoin 10 condensation reaction. 10 Describe the preparation methods for esters. 6 10 Outline briefly about Bayer strain theory. 8. Discuss the mechanism and synthetic uses of witting 6 10



10

6

[KV 805]

Sub. Code: 3805

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper V - PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 383805

Time: Three hours

Maximum : 70 marks

Answer All questions

I. Essay Questions:

 $(2 \times 20 = 40)$

- a) Describe the various sources of impurities in pharmaceutical substances.
 - b) What is ceriometry? Explain its advantage over other oxidizing agents.
 - c) List out various volumetric methods and explain back titration with example.
- a) What is complexometric titrations. Explain its principle with suitable examples.
 - b) Explain the various theories of indicators.
 - c) Describe the principle and procedure involved in the limit test for Iron.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- What are antacid? Classify them with examples. Give the method of preparation of any one of them.
- Explain the role of fluorides as anti caries agent.
- Define the following terms: a) Cathartics b) Disinfectant.
 - c) Aantiseptic d) Astringent e) Dentritrices.
- 4. Write the composition of Ringer's solution. Explain its importance.
- Describe the principle involved in modified volhard's method with example,
- Write short notes on pharmaceutical aid.

March 2010

[KW 805]

Sub. Code: 3805

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper V – PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 383805

Time: Three hours

Answer All questions

Maximum: 70 marks

L Essay Questions:

 $(2 \times 20 = 40)$

- 1. a) Describe the principle and procedure involved in conducting limit test for arsenic with neat diagram.
 - b) List out various volumetric methods. Explain redox titration with suitable example.
 - c) What are cathartics? Give examples. Give the method of preparation of any one of them.
- 2. a) What is gravimetric method? Explain the various steps involved in it with example.
 - b) What is non aqueous titration? Explain its principle with suitable example.
 - c) What are antimicrobials? List out various official preparation. Explain the assay of any one of them.

II. Write Short Notes:

 $(6 \times 5 = 30)$

- Write any one method to measure radio activity.
- Write short notes on masking and demasking agents.
- What are dentritrices? List out the official compounds.
- 4. List out various official compounds of iodine. Give the principle involved in the assay of weak iodine solution.
- 5. Give the principle and reaction involved in the preparation of boric acid and magnesium sulphate.
- 6. Write a note pharmaceutical importance of medicinal gases.

Sub. Code: 3805

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION (Regulations 2008 - 2009) (Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Time: Three hours

Paper V – PHARMACEUTICAL INORGANIC CHEMISTRY Q.P. Code: 383805

Maximum: 70 marks

L Essay Questions :

Answer All questions

 $(2 \times 20 = 40)$

- a) Write in detail the preparation, properties assay, identification test and
 - b) Write the preparation, acid consuming capacity and assay of aluminium
- 2. a) Write the principle involved in the non aqueous titration.
 - b) Preparation and Standardisation of perchloric acid.
 - c) Explain the experimental techniques of gravimetric analysis.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Explain the theory of Indicators.
- 2. Write a note on the preparation assay and uses of Boric acid.
- 3. Write the Medicinal uses of the following compounds
 - a) Potassium Bromide.
 - b) Sodium Nitrate.
 - c) Ferrous Sulphate.
 - d) Carbon dioxide.
 - e) Hydrogen Peroxide.
- Define error and write its types.
- Write about the Pm indicator used in complexometric titration.

Write any five radio pharmaceuticals and their uses.



May 2011

[KY 805]

Sub. Code: 3805

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

PAPER V – PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 383805

Time: Three hours

Maximum: 70 marks

Answer All questions

J. Essay Questions :

 $(2 \times 20 = 40)$

- 1. a) Describe the sources of impurities in pharmaceutical substances.
 - b) Explain the principle and procedure involved in the limit test for arsenic with neat labeled diagram of the apparatus.
- 2. a) What are the various errors that occurs during analysis?
 - b) Write briefly about Complexometric titrations.

II. Write Short Notes :

 $(6 \times 5 = 30)$

- Explain the principle of Redox titrations with suitable examples.
- Give the preparation, assay and uses of calcium gluconate.
- Explain the theory of precipitation titrations.
- 4. What are antidotes? Explain about any one antidote used for cyanide poisoning.
- 5. Write a note on various pharmaceutical aids with examples.
- Clinical applications of Radio-Pharmaceuticals.



DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

Sub. Code: 3805

FIRST YEAR

PAPER V - PHARMACEUTICAL INORGANIC CHEMISTRY

Q.P. Code: 383805 Time: 3 hours (180 Min)

Maximum: 100 marks

Answer ALL questions in the same order. I. Elaborate on :

- Pages Time Marks (Max.) (Max.) (Max.) 1. (a) What is gravimetric analysis? Discuss the steps involved in gravimetric analysis. (12) 40 min. 20 17 (b) Discuss about organic precipitants. (8)
- 2. (a) What are antacids? Give the classification of antacids. (3)
 - 17 40 min. 20 (b) What are the qualities of an ideal antacid? (3)
 - (c) Give the preparation, identification test, assay and medicinal uses of aluminium hydroxide gel and magnesium carbonate. (12)

II. Write notes on :

- Define acidifier. Discuss the preparation, assay and 10 min. medicinal uses of ammonium chloride. 10 min. 4 Write notes on non-aqueous solvents. 10 min. 4 Explain the role of fluorides as anticaries agents. 10 min. 6 Write a note on respiratory stimulants with an example. 4 10 min. 6 4 Explain the physiological role of Iron and copper. 10 min. 6 4 What are cathartics? Give an example, 10 min. 6 7. How do you minimize errors in pharmaceutical analysis? 10 min. 6 Discuss oral rehydration therapy. Describe the principle involved in Modified Volhard's 10 min. 6 10 min. 6
- method with an example. 10. What are the fundamentals of volumetric analysis?
-

Sub. Code: 3806

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION

(Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards)

FIRST YEAR

Paper VI - REMEDIAL MATHEMATICS

Q.P. Code: 383806

Time: Three hours

Answer All questions

Maximum: 70 marks

 $(2X\ 20 = 40)$

L Essay Questions :

1. a) Define matrix,
Given A**
$$\begin{pmatrix}
1 & 2 \\
2 & 1
\end{pmatrix}
B = \begin{pmatrix}
2 & 1 \\
2 & 4
\end{pmatrix}
C = \begin{pmatrix}
1 & 0 \\
0 & -1
\end{pmatrix}$$

 b) Define Lelbnitz's linear differential equation and solve $X \log X$ DY + Y = 2 log X

DX X+Y-2 Find the differential coefficients of the following function.

II. Write Short Notes:

- Define column matrix, determinants and multiplication of two matrices.
- Find the equation of two straight lines through (1-1) inclined at 45° at the line 2X-5X+7=0
- Differentiate the function 6X-4Y=12, to obtain DY/DX.

5. What is fundamental formulae of integration and evaluate the integral

$$\int_{a}^{b} \frac{Logx}{X} dx = ?$$



Draw graph of function Y = ax² + bx + c, where a, b and c are costants and a≠o.

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

(Candidates admitted from 2008-2009 onwards) FIRST YEAR

Paper VI - REMEDIAL MATHEMATICS Q.P. Code : 383806 Maximum: 70 marks

Time : Three hours

Answer All questions

(2X 20 = 40)

L Essay Questions:

1. a) Define spatrix À

940 ま b) Show that 3+5 Cta 7 a+b 6 6 8 6 0

2, a) If x²y +xy² <25 verify \$ g dy/dx =x2 ļ. (1+logx) x les x-12(log x).

b) If y-x²+xlogx, prove that,

(6 X 5 = 30)

II. Write Short Notes :

Give the methods for evaluation of limits.

- Define and explain about scalar matrix. Find dy/dx of the function: $x^2+5x^2y+yx^{-5}$.
- Draw graph of function Y=2x2. Define lablace trans form and solve sin² (at)³.

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[KX 806]

DOCTOR OF PHARMACY (PHARM. D) DEGREE EXAMINATION (Regulations 2008 - 2009)

(Candidates admitted from 2008-2009 onwards) FIRST YEAR

Paper VI – REMEDICAL MATHEMATICS

Time: Three hours

Q.P. Code: 383806

Answer All questions

Maximum: 70 marks

1. Essay Questions :

 $(2X\ 20 = 40)$

1. (a) For the Square Matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & 1 & 3 \end{bmatrix}$

Prove that A (adj A) = lAl I.

(b) If $A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$. Show that A^2 -FA-2I=0

- (a) Find the equation of the circle passing through the points (1, 1), (2, -1) & (3, 2).
 - (b) If $x=a\cos\theta+b\sin\nu\theta$ and $y=a\sin\theta-b\cos\theta$. Prove that $x^2+y^2=a^2+b^2$.

II. Write Short Notes:

 $(6 \times 5 = 30)$

1. Find the ad joint of (3 1 2) 2 2 5

Find the equation of the parabola whole focus if (1, 2) and directive is x+y-2=0.

Integrate x²e²xdx.

Verify the Euler's theorem. if $u=x^3+y^3+3x^2y+3xy^2$.

5. Solve $(D^2-6D+a)v=e^{3x}$.

6. Find the area of the triangle whole vertices are (4, 7), (2,-3) and (-1, 3).

May 2011

DOCTOR OF PHARMACY (PHARM, D) DEGREE EXAMINATION

(Candidates admitted from 2008-2009 onwards) (Regulations 2008 - 2009)

FIRST YEAR

PAPER VI – REMEDICAL MATHEMATICS

Q.P. Code: 383806

Time: Three hours

Maximum: 70 marks

Answer All questions

(2X 20 = 40)

L.Essay Questions:

1.a. Find the Inverse of

b. If A-

Find (i) AB- BA (ii) (A+B) (A-B)

2a. Integrate 3x+1 ďχ

 $(x-1)^{2}(x+3)$

quadrant, find the values of b. If cosα= -12/13 and cosβ-24/7, where α lies in the second quadrant and β lies in fourth

- (i) sin (α+β)
- (ii) cos (α+β)
- (iii) tun (a+B)



(PTO)

11. Write Short Notes :

(6 X 5 = 30)

- Define Square matrix and Diagonal matrix with examples.
- 2. Differentiate: $\frac{(x+3)(x-2)}{(x-1)(x-3)}$
- 3. Integrate $\begin{cases} 2 \\ 1 \end{cases} (x^2+3x+1)dx$
- 4. Prove that, tan 13A - tan9A -tan4A = (tan13A tan9A tan4A)
- Using Euler's theorem, if u=log (tanx+tany+tanz), prove that ∑sin 2x (∂u/∂x)= 2
- Find the area of the triangle whose vertices are:
 i) (3,8), (-4,2), and (5,-1)



October 2011

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KZ 806	· ·						1906
P DOCTOR O	FPH	ARM	MACY	(PHARM. D) DEGREE		Sub. Cod	N Sauce
	PAPI	ER 1	71	FIRST YEAR	EXAM	INATIO	7.03
			K	EMEDIAL MATTERIAL	TICS		
rime: 3 hours			2.	P. Code : 383806	Marrien	um : 100	marks
(180 Min)						0111	
I. Elaborate on :		iswe	ALL	uestions in the same ord		Time (Max.)	Marks (Max.)
1. Find the inverse of	1	-	2		(Max.)	(May)	10000
1	-3	0	4		17	40	20
	1	2	5				
2. Solve the differentia (D ² - 4D +4) y= 8 II. Write notes on:			sin2x)		17	40	20
1. If A = 2 -2 -1 3 1 -2	-4				4	10	6
-1 3	4				•		
1 -2	-3						
Show that A2= A.				1	riv 4	10	6
2. Define i) Square mat	trix, (i	i) Di	agonal	matrix, (iii) Transpose mat	4	10	6
3. Prove that tan13A	- tar	9A -	tan4A	A = tan13A tan9A tan4A	7		
4. Find the distance bet	ween	the p	oints,			10	6
(acosα, asin α) and (-4	10	
5. Differentiate: (x					2	10	6
(x	-1) (x	-3)			2	1 10	6
6. Integrate: ∫logx dx					136	1 10) 6
7. Solve: (D ² +D+1) y ⁴	=0					1 10) 6
8. Find laplace transfor				Sain Co	1		
$F(t) = e^{2t} + 4t^3 - 2\sin t$	3t +3c	os2t		\$ (in	1		
				Net	1	4 1	0 6
$(x^2 + 3x^2)$	+1)dx			Sal	9	4 1	0 6
9. Evaluate: $\int_{1}^{2} (x^{2} + 3x^{2})^{2}$ 10. Solve $(D^{2} + 6D + 9)y^{2}$	=0			Z01	1		:

|LA 806| poctor of Pharmacy (Pharm. D) degree examination

APRIL 2012

Sub. Code: 3806

FIRST YEAR PAPER VI – REMEDIAL MATHEMATICS

Q.P. Code: 383806

Time: 3 hours (180 Min)

Maximum: 100 marks

Answer ALL questions in the same order.

	Answer /	LL question	ons in t	he can	o orde	r		3		
I. Elaborate on :				ne san			Time (Ma	Marl (.) (Ma	ks (x.)	
I Integrate d	X 15- 16					17	1	10	20	
/ x.	+3X +0							40	20	
1. Integrate $\int \frac{d}{X^2}$ 2. If $A^{=}$ $\begin{vmatrix} 2 \\ 4 \end{vmatrix}$	-1 find A ³ -3/	A+ 2A - 4I				17	2	40		
notes on	: 0 **				75					
1. Find the value of	of a, b, c, d, e th	at satisfy th	he matri c-2	x relation	onship 3		4	10	6	
a-1 b+3 2 5			c-2 d+4	-3+c	2					
2. Find the invers	e of 3 -1						4	10	6	
	-4 2						4	10	6	ŝ
3. Prove that: co	s20° cos40° cos	:80° = 1/8	200000				4	10	6	je.
			d (5, -1)	2)	and (-5,	2)	4	10		5
4. Find the area of	tion of the line t	hrough the	points (-1,-2)	and (3.00	4	10	,	6
6 Differentiate	$\sin^2(3x+4)$						4	10		6
7. Differentiate	{ax³+bx²+cx²	u,					4	10		6
8. Evaluate $\int_{0}^{1} \{x^2 - 3x^{2/3}\}$	$+(1/x^2)$ dx						4	10		6
0,1		os 3x	- 61 —	3 sin5t)	in Cole	4	10		6
10. Find the la	+ 4D +13) y = c place transform	s: e''(2	***		Lings.	(F	1			