

# **R.R. COLLEGE OF PHARMACY**

Chikkabanavara, Bangalore-560090 Affiliated to Rajiv Gandhi University of Health Sciences Bangalore, and recognised by PCI, AICTE and Govt of Karnataka

Internal Quality Assurance Cell

Course out Comes and Programme outcomes

B Pharm I Sem

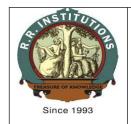
Name of Course: Human Anatomy and Physiology I

Program: B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mr. Prasad kalahal

Section: Theory

Sl.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E /C	(KC) F/C/P/MC	PO1/PO2,PO3PO11
<b>CO</b> 1	Understand anatomical location and structure of Osseous system, CVS, Sense organs.	R/AP	F/C	PO1, PO6 & PO9
<b>CO</b> 2	Understand anatomical location and structure of Skeletal muscles, Lymphatic system & Haemopoietic system.	R/AP	F/C	PO1, PO6 & PO9
CO3	Interpret cell and Tissues.	U	С	PO3
<b>CO</b> 4	Analyze the physiology Osseous system, CVS, Sense organs, Skeletal muscles, Lymphatic system & Haemopoietic system.	R/AP	F/C	PO1, PO6 & PO9
CO5	Understand the disorders and diseases associated with Osseous system, CVS, Sense organs.	R/AP	F/C	PO3, PO6, PO11.
CO6	Understand the disorders and diseases associated with Skeletal muscles, Lymphatic system & Haemopoietic system.	R/AP	F/C	PO3, PO6, PO11.



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Course out Comes and Programme outcomes

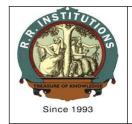
Name of Course: Human Anatomy and Physiology I

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mr. Prasad kalahal

Section: Practical

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
<b>CO</b> 1	Understand anatomical structure of Osseous system and Histology of Tissues.	R/AP	F/C	PO1, PO6 & PO9
<b>CO</b> 2	Examine RBC count.	U	С	PO3
<b>CO</b> 3	Examine WBC count, Respiratory volums & Blood groups	U	С	PO3
<b>CO</b> 4	Understand determination of Heamoglobin, Bleeding time and Clotting time.	R/AP	Р	PO1, PO6 & PO9
<b>CO</b> 5	Analyze Family planning devices.	R/AP	Р	PO3, PO6, PO11.
CO6	Evaluate Organ systems like digestive system Urinary system, Cardiovascular system.	An	MC	PO1, PO6 & PO11



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#### Course out Comes and Programme outcomes

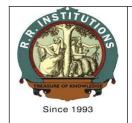
Name of Course: Pharmaceutical Analysis

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mrs. Poornima A N

Section: Theory

Sl.	Course Outcome	Cognitive	Knowledge	Programme
No	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3
		/C	F/C/P/MC	PO11
<b>CO</b> 1	Explain the Methods of expressing concentration,	U	С	PO1
	Preparation, standardization of molar and normal			
	solutions, Errors-their Sources, types, methods to minimize errors.			
<b>CO</b> 2	Describe the Accuracy, precision and significant	U	С	PO1
	figures and to develop ,Analytical techniques and Acid-Base titration.			
<b>CO</b> 3	Explain the principles of titration and their indicators, classification, neutralization curves.	U	C	PO1
<b>CO</b> 4	Explain the Non Aqueous titration, solvents, types and Precipitation titration, Complexometric titrations and types.	U	С	PO1
<b>CO</b> 5	Explain the principals and steps involved in gravimetric, Redox titrations, conductometry.	U	С	PO1
<b>CO</b> 6	Explain the principle and concept of potentiometry, polorography and their types.	U	С	PO1, PO4



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#### Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Analysis

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mrs. Poornima A N

Section: Practical

				,
S1.	Course Outcome	Cognitive	Knowledge	Programme
No	(CO)	level (CL)	Categories (KC)	outcomes (PO)
		R/U/AP/An/E/	F/C/P/MC	PO1/PO2,PO3P
		C		011
CO1	Prepare and standardize sodium hydroxide, sulphuric	U,An,Ap	Р	PO1
	acid; Analyse Ammonium chloride by acid base			
	titration.			
<b>CO2</b>	Prepare and standardize potassium permanganate,	U,An,Ap	Р	PO1
	Analyse Hydrogen Peroxide by permanganometry,			
CO3	Prepare and standardize cerric ammonium sulphate	U,An,Ap	Р	PO1
	and Analyse ferrous sulphate by cerimetry.			
<b>CO4</b>	Prepare and standardize sodium thiosulphate; Analyse	U,An,Ap	Р	PO1
	copper sulphate by Iodometry.			
<b>CO5</b>	Analyse Calcium gluconate by Complexometry,	U,An,Ap	Р	PO1
	Sodium benzoate by non aqueous titration. Sodium			
	chloride by Precipitation titration.			
<b>CO6</b>	Determine the strength of strong acid against strong	U,An,Ap	Р	PO1, PO4
	base and mixture of strong acid and weak acid against			
	strong base by conductometry and potentiometry			
		1	1	



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Course out Comes and Programme outcomes

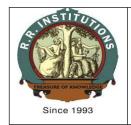
Name of Course: Pharmaceutics

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Ms Savithri T B

Section: Theory

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E/C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3PO11
<b>CO</b> 1	Know the history of profession of pharmacy	U/R	F	PO1, PO7
<b>CO</b> 2	Understand the Basics of different dosage forms, parts and handling of Prescription.	U/R/AP	F/P	PO1, PO7
<b>CO</b> 3	Understand the Basics of Pharmaceutical incompatabilities ,pharmaceutical calculations	U/R/AP	F/P	PO1, PO7
<b>CO</b> 4	Understand the professional way of handling the Prescription.	U/R	F/P	PO1, PO7
CO5	Preparation of various conventional dosage forms	U/R	F/P	PO1, PO7



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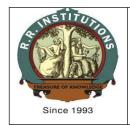
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Course out Comes and Programme outcomes

Name of Course: Pharmaceutics Program:B. Pharm I Sem Section: Practicals At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Ms Savithri T B

Sl. No	Course Outcome (CO)	Cognitive level (CL)	Knowledge Categories (KC)	Programme outcomes (PO)
		R/U/AP/An/E/C	F/C/P/MC	PO1/PO2,PO3PO11
CO1	Prepare Syrups and Elixirs.	Ар	р	PO1,PO4
CO2	Prepare Linctus and Solutions.	Ар	р	PO1,PO4
CO3	Prepare Suspensions and Emulsions.	Ар	p	PO1,PO4
CO4	Prepare Powders and Granules.	Ар	р	PO1,PO4
CO5	Prepare Suppositories, Semisolids.	Ар	р	PO1,PO4
CO6	Prepare Gargles and Mouthwashes	Ар	р	PO1,PO4



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Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Inorganic chemistry I

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mrs C.Geethapriya

Section: Theory

Sl. No	Course Outcome	Cognitive level	Knowledge	e
	(CO)	(CL)	Categories	(PO)
		R/U/AP/An/E/C	(KC)	PO1/PO2,PO3PO11
			F/C/P/MC	
CO1	Explain impurities in pharmaceutical substances.	AN/E	Р	PO1, PO7,
CO2	Illustrate acid, bases and buffers.	AN/E	Р	PO1,
CO3	Illustrate major extra and intra cellular electrolytes.	R,U	F/P	PO1,PO11
CO4	Describe dental products and radio pharmaceuticals	R,U	F/P	PO1,PO11
CO5	Understand the gastrointestinal agents	R,U	F/P	PO1,PO11
CO6	Explain the miscellaneous compounds.	R,U	F/P	PO1,PO11



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Course out Comes and Programme outcomes

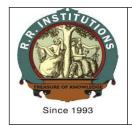
Name of Course: Pharmaceutical Inorganic chemistry I

Program:B. Pharm I Sem

Academic year: 2019-20 Faculty in Charge: Mrs C.Geethapriya

Section: Practical

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes (PO)
No	(CO)	level (CL)	Categories	PO1/PO2,PO3PO11
		R/U/AP/An/E	(KC)	
		/C	F/C/P/MC	
CO1	Perform limit test for inorganic compounds	AN	Р	PO1,PO2,PO4
CO2	Perform limit test for inorganic compounds	AN	Р	PO1,PO2,PO4
CO3	Perform Identification test inorganic compounds	AN	F	PO1,PO2,PO3,PO4
	Perform Identification test inorganic compounds	AN	F	PO1,PO2,PO3,PO4
CO4				
	Perform Test for purity of inorganic compounds	Е	Р	PO1,PO2,PO3,PO4
CO5				
CO6	Prepare inorganic pharmaceuticals	U	Р	PO1,PO2,PO3,PO4

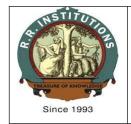


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Internal Quality Assurance Cell

Course out Comes and Programme of Name of Course: Remedial Biology Program:B. Pharm I Sem Section: Theory At the end of the course the student will able to		Academic year: 2019-20 Faculty in Charge: Ms Geetha M		
Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An /E/C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3P O11
CO 1	Understand living world and classify the five kingdoms of life and explain morphology of flowering plants.	U	C, F	PO1, PO6
CO 2	Explain body fluids circulation, Digestion and absorption, Breathing and respiration	U	C, F	PO1, PO6
CO 3	Explain excretory products natural control and Co-Ordination and Human repudiation	U	C, F	PO1, PO6
CO 4	Define plants and mineral nutrition and Photosynthesis, Respiration, Plant growth development.	U	C, F	PO1, PO6



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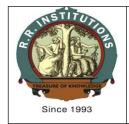
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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Remedial Biology Program:B. Pharm I Sem Section: Practical At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Ms Geetha M

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E/C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3P O11
CO1	Explain Microscope Section cutting Mounting and Staining techniques	U	C, F	PO1, PO6
CO2	Explain About Cell and its inclusions	R, U	C, F	PO1
CO3	Evaluate the showering plant parts by their morphology and microscopical Charters	U, A, N	С	PO1, PO4, PO6
CO4	Explain the frog by using computer models	U, A, N	С, Р	PO1, PO4, PO6
CO5	Identify bones, determine blood group, blood pressure tidal volume	U, A, N	С, Р	PO1, PO4, PO6, PO9



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Course out Comes and Programme outcomes

B Pharm II Sem

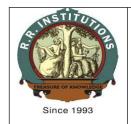
Name of Course: Human Anatomy and Physiology II

Academic year: 2019-20 Faculty in Charge: Mr. Prasad Kalahal

Section: Theory

Program:B. Pharm II Sem

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E/ C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3PO11
<b>CO</b> 1	Understand the anatomatical concepts of CNS, Digestive system, Respiratory system, Urinary system,	R/U	C	PO1, PO6
<b>CO</b> 2	Understand the Reproductive system & Endocrine system, energetics and genetics.	U	С	PO1
<b>CO3</b>	Understand the physiology of CNS, Digestive system, Respiratory system.	R/U	С	PO1, PO6
<b>CO</b> 4	Understand the physiology of Urinary system, Reproductive system & Endocrine system	R/U	С	PO3, PO6
CO5	Understand the disorders and diseases associated with Digestive system, Respiratory system,	R/U	С	PO3, PO6
CO6	Understand the disorders and diseases associated with Urinary system, Reproductive system & Endocrine system	R/U	С	PO3, PO6



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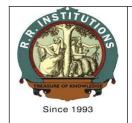
Name of Course: Human Anatomy and Physiology II

Program:B. Pharm II Sem

Academic year: 2019-20 Faculty in Charge: Mr. Prasad Kalahal

Section: Practicals

Sl.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
<b>CO</b> 1	Understand anatomical structure of Osseous	R/AP/U	C	PO1, PO6
	system and Histology of Tissues.			
<b>CO</b> 2	Examine RBC count.	R/AP	С	PO1,PO3, PO6
CO3	Examine WBC count, Respiratory volumes &	R/AP	С	PO1,PO3, PO6
	Blood groups.			
<b>CO</b> 4	Determination of Hemoglobin count, Bleeding	R/AP	Р	PO1,PO3, PO6
	time and Clotting time.			
<b>CO5</b>	Understand the concepts of Family planning	R/AP	Р	PO3, PO6
	devices.			
<b>CO6</b>	Evaluate Organ systems like digestive system	An	MC	PO1, PO6
	Urinary system, Cardiovascular system.			



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#### Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Organic chemistry I

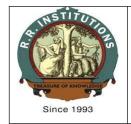
Program:B. Pharm II Sem

Academic year: 2019-20

Faculty in Charge: Mrs C.Geethapriya

Section: Theory

Sl. No	Course Outcome	Cognitive	Knowledge	Programme outcomes
	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Categorize isomerism and nomenclature of organic compounds.	R,U	C	PO1/PO3
CO2	Determine the reaction and orientation of alkanes, alkenes and conjugated dienes.	R,U	С	PO1/PO3
CO3	Explain kinetics, structure and applications of alkyl halide.	R,U	С	PO1
CO4	Describe structure and applications of alcohols.	AN	C	PO1/PO3
CO5	Understand the mechanism of carbonyl compounds.	AP	С	PO1/PO3
CO6	Explain the acidity and basicity, structure and qualitative test for carboxylic acid aliphatic amines.	AP/AN/E	P/C	PO1/PO3



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Faculty in Charge: Mrs C.Geethapriya

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Organic chemistry I

Academic year: 2019-20

Program:B. Pharm II Sem Section: Practical At the end of the course the student will able to

S1. Course Outcome Cognitive Knowledge Programme outcomes Categories level No (CO)(CL) (PO) R/U/AP/An/E (KC) PO1/PO2.PO3....PO11 F/C/P/MC /CQualitative PO1,PO2 Perform analysis of Р CO1 organic AN compound PO1.PO2 CO2 Perform Oualitative analysis of organic AN Р compound PO1,PO2 CO3 Perform Functional group test U Р Determine melting point and boiling point of **PO1.PO2** CO4 U Р organic compound CO5 Prepare suitable solid derivatives from organic С MC PO1,PO2 compound Demonstrate the construction of molecular С PO1,PO2 CO6 MC models



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Course out Comes and Programme outcomes

Academic year: 2019-20 Name of Course: Biochemistry Program:B. Pharm II Sem Faculty in Charge: Mrs. Poornima A N Section: Theory At the end of the course the student will able to S1. **Course Outcome** Cognitive Knowledge Programme outcomes level (CL) No Categories (PO) (CO)R/U/AP/An/E/ (KC) PO1/PO2,PO3....PO1 С F/C/P/MC CO1 Explain the classification of Enzymes and their U PO1 С kinetics, inhibition, regulation and applications. CO<sub>2</sub> Explain the biological oxidation process, U С PO1 Bioenergetics and classification, chemical nature, biological role of Carbohydrates, lipids, Nucleic acid, amino acid and Proteins. Describe the metabolism of Carbohydrates in U С **PO1**, **PO3** CO<sub>3</sub> physiological and pathological conditions. С CO4 Describe the metabolism of lipids in physiological U **PO1**, **PO3** and pathological conditions. Describe the metabolism of proteins, amino acids U С **PO1**, **PO3** CO5 in physiological and pathological conditions. С Describe the genetic organization of mammalian U **PO1**, **PO3** CO6 genome and functions of DNA in the synthesis of RNA's and proteins.



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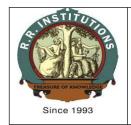
Name of Course: Biochemistry

Program:B. Pharm II Sem

Academic year: 2019-20 Faculty in Charge: Mrs. Poornima A N

Section: practical

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/	(KC)	PO1/PO2,PO3PO11
		E/C	F/C/P/MC	
CO1	Analyse the carbohydrates - Glucose, Fructose,	U,An, Ap	Р	PO1
	Lactose, Maltose, Sucrose, starch - Qualitatively			
CO2	Analyse the Proteins- Albumin, casein:	U,An, Ap	Р	PO1
	Abnormal constituents of Urine - Qualitatively	-		
CO3	Analyse the Reducing sugars by DNSA method :	U,An, Ap	Р	PO1, PO4
	proteins by biuret method- Quantitatively			
CO4	Determine the blood Creatinine, Blood sugar,	U,An, Ap	Р	PO1, PO4
	Serum total cholesterol	_		
CO5	Prepare the buffer solution and measure the pH;	U,An, Ap	Р	PO1, PO4
	Perform the enzymatic hydrolysis of starch			
CO6	Determine of Salivary amylase activity,	U,An, Ap	Р	PO1, PO4
	understand the effect of Temperature & substrate			
	concentration on Salivary amylase activity.			



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Course out Comes and Programme outcomes

Name of Course: Pathophysiology Program:B. Pharm II Sem Section: Theory

Academic year: 2019-20 Faculty in Charge: Ms.Ramya H

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Understand the basic principles of cell	U	C	PO1, PO6
	injury ,cellular adaptations& inflammation			
CO2	Understand the pathophysiology of diseases of	U	F/C	PO1, PO6
	cardio vascular, respiratory& renal system			
CO3	Explain and understand haematological disorders	U	С	PO1, PO6
CO4	Understand the pathophysiology of endocrine,	U	F/C	PO1, PO6
	nervous& gastro intestinal system disease			
CO5	Explain the pathophysiology of disease of bones	R	F/C	PO1, PO6
	& joints			
CO6	Understand the principle of cancer	U	С	PO1, PO6
		<u> </u>		



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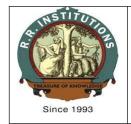
Name of Course: Computer Application

Program:B. Pharm II Sem

Academic year: 2019-20 Faculty in Charge: Mr Tony Antony

Section: Theory

				1
Sl. No	Course Outcome	Cognitive level	Knowledge	Programme
	(CO)	(CL)	Categories	outcomes (PO)
		R/U/AP/An/E/	(KC)	PO1/PO2,PO3
		C	F/C/P/MC	PO11
CO1	Understand the Binary, Decimal, Octal,			
	Hexadecimal number system and conversion of the	U & Ap	C & P	PO2, PO4
	same and addition, substraction, multiplication and	-		
	binary division, information system and software.			
CO2	Explain the web technology like HTML, XML, CSS			
	and programming language, Web servers. Explain	U & Ap	C & P	PO2, PO4
	various types of databases of pharmacy drug.			102,101
CO3	Explain the various types of applications of			
	computers in pharmacy Understand diagnostic	U & Ap	C &P	PO2, PO4
	system, lab-diagnostic, patient monitoring and	0 a np		102,104
	pharma information system.			
CO4	Understand the concept and objectives of			
	1 5		C P-D	
	Bioinformatics, impact of bioinformatics in vaccine	U & Ap	C&P	PO2, PO4
	discovery.			
CO5	Understand the concept of computer as data analysis			
	in preclinical development.	U & Ap	C &P	PO2, PO4



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Computer Application Program:B. Pharm II Sem

Academic year: 2019-20 Faculty in Charge: Mr Tony Antony

Section: Practical At the end of the course the student will able to

Sl.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/	(KC)	PO1/PO2,PO3PO11
		E/C	F/C/P/MC	
CO1	Ability to apply the knowledge of computer application for design questionnaires comparative analysis of results in pharmaceutical and clinical studies.	R	С	PO1, PO3
CO2	To apply the computer programme concepts in Pharmacy to retrieve the information, Create a data base.	U	C,P	PO1, PO4. PO11
CO3	Apply the knowledge of MS word, Excel, XML pages, web pages, HTML and Access for pharmaceutical and clinical studies.	U	C,P	PO1, PO4. PO11
CO4	To develop programmes, label wizard, generating labels, invoice table.	U	C,P	PO1, PO4



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Environmental Science

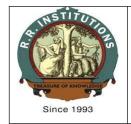
Program: B. Pharm II Sem

Section: Theory

At the end of the course the student will able to

Cognitive S1. **Course Outcome** Knowledg Programme outcomes No (CO)level (CL) (PO) e R/U/AP/An/E PO1/PO2,PO3....PO11 Categories /C(KC) F/C/P/MC Understand the multidisciplinary nature of R&U F&C PO1 & PO10 CO1 environmental studies, Natural resources, Renewable and non renewable resource. CO<sub>2</sub> Understand the Natural resources and associated R&U F&C PO1 & PO10 problem, Role of an individual in the conservation of natural resources. CO3 Understand the concept of Ecosystem with its R&U F&C PO1 & PO10 structure, function, characteristic features. CO4 Describe the Environmental pollution-Air, R&U F&C PO1 & PO10 water, soil pollution.

Academic year: 2019-20 Faculty in Charge: Ms Geetha M



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Organic Chemistry II

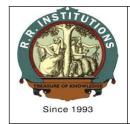
Program: B. Pharm III Sem

**B** Pharm III Sem Academic year: 2019-20

Faculty in Charge: Ms Manju .S

Section: Theory

Sl.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Explain the structure, name and type of Isomerism of the organic compounds	U	F	PO1, PO2
CO2	Explain the structure, name and type of allipathic organic compounds	U	F	PO1, PO2
CO3	Describe the nomenclature, synthesis and reactions of organic compounds	U	F	PO1, PO2, P03
CO4	Discuss the orientation of reactions and stability of organic compounds	С	С	PO1, PO2
CO5	Apply the principles of reaction mechanism in synthesis of organic compounds	A	С	PO1, PO2, PO3



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Organic Chemistry II

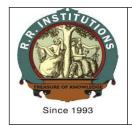
Program: B. Pharm III Sem

Section: Practicals

At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Ms Manju .S

Sl. No	Course Outcome	Cognitive level	Knowledge	Programme outcomes
	(CO)	(CL)	Categories (KC)	(PO)
		R/U/AP/An/E/C	F/C/P/MC	PO1/PO2,PO3PO11
CO1	Prepare and evaluate the physiochemical properties	U	Р	PO1, PO2
CO2	Demonstrate the steam distillation and Re crystallization	U	Р	PO1, PO2
CO3	Determine the oil values of Acid value	U	Р	PO1, PO2
CO4	Determine the oil values of Saponification value	A	С	PO1, PO2
CO5	Determine the Oil values of Iodine value	Е	Р	PO1, PO2
CO6	Preparation of compound	Е	Р	PO1, PO2



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Physical Pharmacy - I Program: B. Pharm III Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Mr.Subhash P G

Sl. No	Course Outcome (CO)	Cognitive level (CL)	Knowledge Categories	Programme outcomes (PO)
		R/U/AP/An/E/C	0	PO1/PO2,PO3PO11
CO1	Understand the quantitative approach to the factors influencing solubility of drugs.	U & AP	C and P	PO1
CO2	Explain the types of changes in the states of matter.	U	С	PO1, PO2 & PO3
CO3	Explain the surface and interfacial phenomena.	U & AP	C & P	PO1, PO2 & PO3
CO4	Explain the complexation phenomenon and protein binding concept.	U & AP	C & P	PO1, PO2 & PO3
CO5	Understand the determination of pH determination methods.	U &AP	C & P	PO1



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Physical Pharmacy – I

Program: B. Pharm III Sem

Section: Practicals

At the end of the course the student will able to

Cognitive S1. **Course Outcome** Knowledge Programme outcomes level (CL) Categories No (CO)(PO) R/U/AP/An/E (KC) PO1/PO2,PO3....PO11 /CF/C/P/MC PO1, PO3 and PO4 CO1 Determination of the solubility, Partition co-U and AP C and P efficient of benzoic acid in benzene, Iodine in carbon tetrachloride and water. Determination of % composition of NaCl in a U and AP C and P PO1, PO3 and PO4 CO<sub>2</sub> solution using phenol-water system by CST method. Determination of surface tension by drop count U and AP C and P PO1, PO3 and PO4 CO3 and drop weight method, HLB number of a surfactant by saponification method. Determination of Freundlich and Langmuir U and AP C and P PO1, PO3 and PO4 CO4 constants Determination of critical micellar concentration U and AP PO1, PO3 and PO4 C and P CO5 of surfactants. Determination of stability constant and donor U and AP C and P PO1, PO3 and PO4 CO6 acceptor ratio of Cupric-Glycine complex by pH titration method.

Academic year: 2019-20 Faculty in Charge: Mr.Subhash P G



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Course out Comes and Programme outcomes

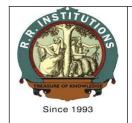
Name of Course: Pharmaceutical Microbiology

Program: B. Pharm III Sem

Academic year: 2019-20 Faculty in Charge: Mrs. K S Srilatha

Section: Theory

Sl. No	Course Outcome	Cognitive	Knowledge	Programme outcomes
	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Understand the methods of identification,	U	C & P	PO1, PO11
	cultivation and preservation of microrganism			
CO 2	Explain the staining techniques and	R & U	C & P	PO1,PO2, PO3
	implementation of sterilization in			
	pharmaceutical process and industry and			
CO 3	Understand virus, fungi and disinfection and	Ap &U	С	PO1,PO8, PO11
	evaluation			
CO 4	Determine the sterility testing of	Ap & U	C & P	PO1
	pharmaceuticals			
CO 5	Explain aseptic area and microbial	An & U	С	PO1, PO2, PO3
	standardization of pharmaceuticals			
CO 6	Summarize cell culture technology and its	U	С	PO1,PO11
	applications in pharmaceuticals industry			



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#### Course out Comes and Programme outcomes

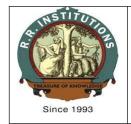
Name of Course: Pharmaceutical Microbiology

Program: B. Pharm III Sem

Academic year: 2019-20 Faculty in Charge: Mrs. K S Srilatha

Section: Practicals

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Explain the apparatus used in microbiology	U	C & P	PO1,PO2, PO3
CO2	Determine staining techniques	U, Ap	C &P	PO1,PO2, PO3
CO3	Explain the sterility testing of media and glass wares used	U, An	C &P	PO1,PO2, PO3
CO4	Estimate the microbial counting	U, Ap	C & P	PO1, PO2, PO3
CO5	Detect the biochemical reactions	U, E	C & P	PO1, PO2, PO3
CO6	Explain pure culture	U	C & P	PO1, PO2, PO3



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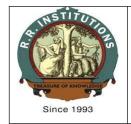
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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Engineering Program: B. Pharm III Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Ms. Himavarshini J

Sl. No	Course Outcome	Cognitive	Knowledge	Programme
	(CO)	level (CL)	Categories (KC)	outcomes (PO)
		R/U/AP/An/E	F/C/P/MC	PO1/PO2,PO3
		/C		PO11
	Explain the principle, instrumentations and	R&U	C&P	PO1&PO4
CO1	Applications of flow of fluids, Size reduction, and			
	Size separation			
CO2	Explain the principles, instrumentations and	R&U	C&P	PO1&PO4
	Applications of Heat transfer, Evaporation,			
	Distillation.			
CO3	Explain the principle, instrumentations and	R&U	C&P	PO1&PO4
	Applications of drying, mixing			
CO4	Explain the principle, instrumentations and	R&U	C&P	PO1&PO4
	Applications of filtration and centrifugal.			
CO5	Understand the materials of pharmaceutical plant	R&U	C&P	PO1&PO4
	construction, corrosion and its prevention.			



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Engineering

Program: B. Pharm III Sem

Section: Practicals

At the end of the course the student will able to

end of the course the student will able to	1	1	
Course Outcome	Cognitive level	Knowledge	Programme outcomes
(CO)	(CL)	Categories (KC)	(PO)PO1/PO2,PO3
	R/U/AP/An/E/C	F/C/P/MC	PO11
Determine the radiation constant of brass, iron,	U &Ap	C&P	PO1, PO2 &PO3
unpainted and painted glass, Heat transfer coefficient			
by heat exchanger.			
Calculate the efficiency of steam distillation	U&AP	C&P	PO1, PO2 &PO3
Explain the moisture content, loss on drying, drying	U &Ap	C&P	PO1, PO2&PO3
curves, size reduction using ball mill, factors affecting			
Rate of Filtration and Evaporation			
Determine the humidity of air by using Dew point	U &Ap	C&P	PO1, PO2&PO3
method, effect of crystallization rate and uniformity			
Index.			
Understand the working and application rotary tablet	U &Ap	C&P	PO1, PO2&PO3
machine, fluidized bed coater, fluid energy mill,			
dehumidifier, colloid mill, planetary mixer, fluidized			
bed dryer, freeze dryer.			
Evaluate size distribution of tablet granulations by	U&R	C&P	PO1&PO11
various size frequency curves including arithmetic			
and logarithmic probability plots			
	Course Outcome (CO) Determine the radiation constant of brass, iron, unpainted and painted glass, Heat transfer coefficient by heat exchanger. Calculate the efficiency of steam distillation Explain the moisture content,loss on drying, drying curves,size reduction using ball mill, factors affecting Rate of Filtration and Evaporation Determine the humidity of air by using Dew point method, effect of crystallization rate and uniformity Index. Understand the working and application rotary tablet machine, fluidized bed coater, fluid energy mill, dehumidifier,colloid mill, planetary mixer, fluidized bed dryer, freeze dryer. Evaluate size distribution of tablet granulations by various size frequency curves including arithmetic	Course Outcome (CO)Cognitive level (CL) R/U/AP/An/E/CDetermine the radiation constant of brass, iron, unpainted and painted glass, Heat transfer coefficient by heat exchanger.U &ApCalculate the efficiency of steam distillationU&APExplain the moisture content,loss on drying, drying curves,size reduction using ball mill, factors affecting Rate of Filtration and EvaporationU &ApDetermine the humidity of air by using Dew point method, effect of crystallization rate and uniformity Index.U &ApUnderstand the working and application rotary tablet machine, fluidized bed coater, fluid energy mill, dehumidifier,colloid mill, planetary mixer, fluidized bed dryer, freeze dryer.U &R	Course Outcome (CO)Cognitive level (CL) R/U/AP/An/E/CKnowledge Categories (KC) R/U/AP/An/E/CDetermine the radiation constant of brass, iron, unpainted and painted glass, Heat transfer coefficient by heat exchanger.U &ApC&PCalculate the efficiency of steam distillationU&APC&PExplain the moisture content,loss on drying, drying curves,size reduction using ball mill, factors affecting Rate of Filtration and EvaporationU &ApC&PDetermine the humidity of air by using Dew point method, effect of crystallization rate and uniformity Index.U &ApC&PUnderstand the working and application rotary tablet machine, fluidized bed coater, fluid energy mill, dehumidifier,colloid mill, planetary mixer, fluidized bed dryer, freeze dryer.U &RC&PEvaluate size distribution of tablet granulations by various size frequency curves including arithmeticU &RC&P

Academic year: 2019-20 Faculty in Charge: Ms. Himavarshini J



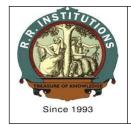
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Internal Quality Assurance Cell

Course out Comes and Programme outcomes B Pharm IV Se					
Nam	e of Course: Pharmaceutical Organic Chemistry III		Academic year: 2019-20		
Prog	ram: B. Pharm IV Sem		Faculty in Charge: Mr. Nagaraj D		
Secti	on: Theory				
At th	e end of the course the student will able to				
S1.	Course Outcome	Cognitive level	Knowledge	Programme outcomes	
No	(CO)	(CL)	Categories	(PO)	
		R/U/AP/An/E/C	(KC) F/C/P/MC	PO1/PO2,PO3PO11	
$\overline{CO1}$	Evaluin the Stance chamical concerts and reportions	TT	<b></b>		

CO1	Explain the Stereo chemical aspects and reactions of organic compounds	U	F	PO1,PO2
CO2	Describe the nomenclature, synthesis and reactions of certain heterocyclic compounds	U	С	PO1,PO2,P03
CO3	Discuss the medicinal derivatives of certain heterocyclic compounds	С	С	PO1,PO2
CO4	Apply the principles of reaction mechanism in synthesis of organic compounds	А	MC	POC1PO2,PO3



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Medicinal Chemistry- I

Program: B. Pharm IV Sem

Academic year: 2019-20 Faculty in Charge: Mr. Hemanth S

Section: Theory

S1.	Course Outcome	Cognitive level	Knowledge	Programme outcomes
No	(CO)	(CL)	Categories (KC)	(PO)
		R/U/AP/An/E/	F/C/P/MC	PO1/PO2,PO3PO1
		С		1
CO1	Explain the chemistry of drugs with their	U	C	PO1,PO2
	pharmacological activity			
CO2	Describe the drug metabolic pathways, adverse	R	C	PO1,PO2
	effect and therapeutic value of drugs			
CO3	Discuss the structural activity relationship of	A	F	PO1,PO2
	different class of drugs			
CO4	Write the chemical synthesis of some drugs	С	MC	PO1



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#### Course out Comes and Programme outcomes

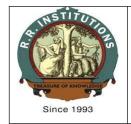
Name of Course: Medicinal Chemistry- I

Program: B. Pharm IV Sem

Academic year: 2019-20 Faculty in Charge: Mr. Hemanth S

Section: Practical

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Prepare and evaluate the physiochemical properties	U	Р	PO1,PO2
CO2	Determine the molecular weight and purity of medicinal drugs	A	С	PO1,PO2
CO3	Evaluate the partition coefficient of drugs	Е	Р	PO1,PO2



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Physical Pharmacy - II Program: B. Pharm IV Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Mr. Subhash P G

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Understand the colloidal dispersion systems	U	С	PO1
	with their properties.			
CO2	Explainthe types of rheological properties of	U and AP	C and P	PO1, PO2, and PO3
	systems with methods for determination of			
	viscosity.			
CO3	Explain the types of coarse dispersion systems	U and AP	C and P	PO1, PO2, and PO3
	with their properties, theories and stability.			
CO4	Explain the micrometrics with particle size	U and AP	C and P	PO1, PO2, and PO3
	distribution, methods for determination of			
	particle size and surface area and properties.			
CO5	Understand the types of reaction kinetics and	U	С	PO1
	factors and overcoming methods for degradation			
	of pharmaceutical product.			



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Internal Quality Assurance Cell

	Course out Comes a	and Programme o	outcomes	
Name	of Course: Physical Pharmacy – II		Acade	emic year: 2019-20
Progra	am: B. Pharm IV Sem		Facult	ty in Charge: Mr. Subhash P G
Sectio	on: Practical			
At the	e end of the course the student will able to		1	
S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Determination of particle size, particle size	U, AP	С, Р	PO1, PO3 and PO4
	distribution using sieving method, Microscopic			
	method for the given samples.			
CO2	Determination of bulk density, true	U, AP	C, P	PO1, PO3 and PO4
	density ,porosity and angle of repose for the			
	powder samples.			
CO3	Determination of viscosity of liquids using	U, AP	C, P	PO1, PO3 and PO4
	Ostwald's viscometer			
CO4	Determination of sedimentation volume with	U, AP	C, P	PO1, PO3 and PO4
	effect of different concentration of single			
	suspending agents.			
CO5	Determination of reaction rate constant first	U, AP	C, P	PO1, PO3 and PO4
	order, Second order.			
CO6	Determination of sedimentation volume with	U, AP	C, P	PO1, PO3 and PO4
	effect of different suspending agent			

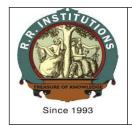


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Internal Quality Assurance Cell

Course out Comes and Programme outcomes Name of Course: Pharmacology I Academic year: 2019-20 Faculty in Charge: Mrs. Aparna S Program: B. Pharm IV Sem Section: Theory At the end of the course the student will able to S1. **Course Outcome** Cognitive Knowledge Programme level (CL) Categories outcomes (PO) No (CO)(KC) R/U/AP/An/ PO1/PO2,PO3....P E/C F/C/P/MC 011 Understand the basic concepts of С PO1.PO7 CO1 U pharmacological history, scope & general principles. Explain the importance of drugs & illustrate PO1.PO4 CO2 R С different types of drugs and their uses, routes of administration of drugs with their advantages & disadvantages Understand the process of new drug discovery R PO1,PO4 CO3 С &development of drug, basics of pharmacokinetic & pharmacodynamics CO4 Explain different types of receptors & the factors С PO1.PO6 U modifying drug action Understand the various pharmacological effects U С PO1 CO5 of drugs on ANS. CO6 Understand the various pharmacological effects R,U С PO1,PO7 of drugs on CNS.



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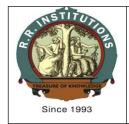
Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Academic year: 2019-20 Faculty in Charge: Mrs. Aparna S

Name of Course: Pharmacology I Program: B. Pharm IV Sem Section: Practical At the end of the course the student will able to

Sl.	Course Outcome	Cognitive level	Knowledge	Programme
No	(CO)	(CL) R/U/AP/An/E/C	Categories (KC) F/C/P/MC	outcomes (PO) PO1/PO2,PO3P O11
CO1	Understand the concepts in the routes of administration of drugs in animals, Study the common laboratory animals	U/R	U/R	PO1,PO7
CO2	Understand the guidelines for the maintainace of laboratory animals as per CPCSEA	U/R	U/R	PO1,PO7
CO3	Observe the effect of skeletal muscle relaxant on animals by simulated experiments	U/R	U/R	PO1,PO7
CO4	Observe the effect of anticonvulsant drugs on animals by simulated experiments	U/R	U/R	PO1,PO7
CO5	Observe the effect of anxiolytic drug on animals by simulated experiments	U/R	U/R	PO1,PO7
CO6	Study of anesthetics on animals	U/R	U/R	PO1,PO7



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Course out Comes and Programme outcomes

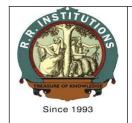
Name of Course: Pharmacognosy & Phytochemistry -I

Program: B. Pharm IV Sem

Academic year: 2019-20 Faculty in Charge: Mr. Hoonesh N H

Section: Theory

Sl. No	Course Outcome	Cognitive	Knowledg	Programme outcomes
	(CO)	level (CL)	e	(PO)
		R/U/AP/An	Categories	PO1/PO2,PO3PO11
		/E/C	(KC)	
			F/C/P/MC	
CO1	Explain Pharmacognosy, Sources of crude drugs	U	F	PO1,PO2,PO6
	and categorize the organized and unorganized			
	drugs			
CO2	Classify the crude drugs and analyze Quality	U,AN	C,P	PO1,PO2,PO3
	control of drugs of Natural origin			
CO3	Explain techniques in cultivation and production	U,AP	С	PO1,PO2,PO3, PO4,
	of crude drugs.			PO11
CO4	Summarize Plant Tissue Culture applications in	U	С	PO1,PO2,PO4
	Pharmacognosy and types of cultures, growth and			
	their maintenance.			
CO5	Illustrate role of Pharmacognosy in AYUSH and	U,AN	С	PO1,PO6,PO7,PO9
	identify the plant secondary metabolites.			
CO6	Explain biological source, chemical nature and	U	F	PO1,PO9
	uses of plant products, primary metabolites and			
	marine drugs			



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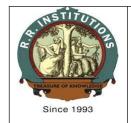
Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmacognosy & Phytochemistry -I Program: B. Pharm IV Sem Section: Practicals At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Mr. Hoonesh N H

Sl.	Course Outcome	Cognitive	Knowledge	Programme
No	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3
		/C	F/C/P/MC	PO11
CO1	Analyse of crude drugs by Chemical tests	U,AN	C,P	PO1,PO2,PO6
CO2	Determine the stomatal number and index, Vein	U,AN	C,P	PO1,PO2,PO4,P
	islet number, Vein termination and palisade ratio			O6
CO3	Perform the Quantitative microscopical study of	AN, R, E	C,P	PO1,PO2,PO4,P
	crude drugs and determine the starch			06
	grains, Calcium oxalate crystals, fibre length and			
	width by eyepiece micrometer			
CO4	Determine the number of Starch grains by	U,AN	C,P	PO1,PO2,PO4,P
	Lycopodium Spore Method.			O6
CO5	Determine the moisture content, Extractive values	E,AN	P,C	PO1,PO2,PO3,
	and ash values of crude drugs			PO4
CO6	Evaluate the Swelling index and Foaming index of	U,AN	C,P	PO1,PO2,PO3,
	crude drugs			PO4

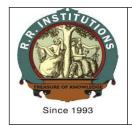


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Internal Quality Assurance Cell

Course out Comes and Programme outcomes B Pharm V Se					/ Sem	
Name	of Course: Medicinal Chemistry II	Academ	nic year: 2019			
Progra	am: B. Pharm V Sem	Faculty	in Charge: M	r. Nagaraj N Durgad	asheemi	
Sectio	Section: Theory					
At the	e end of the course the student will able to					
S1.	Course Outcome	Cognitive	Knowledge	Programme		
No	(CO)	level (CL)	Categories	outcomes (PO)		
		R/U/AP/An/E/	(KC)	PO1/PO2,PO3		
		C	F/C/P/MC	PO11		
CO1	Understand fundamental knowledge on the structure	AN/U	Р	PO1, PO7,		
CO2	Study of the development of the drugs, Classification, and mechanism of action.	R	Р	PO1,PO9		
CO3	Understand the chemistry of drugs with respect to their pharmacological activity	R,U	F/P	PO1,PO9 ,PO11		
CO4	Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs	R,U	F/P	PO1,PO11		
CO5	Remember the Structural Activity Relationship of different class of drug	R,U	F/P	PO1,PO11		
CO6	Remember the chemical synthesis of selected drugs	R,U	F/P	PO1,PO11		



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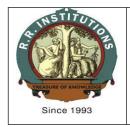
#### Course out Comes and Programme outcomes

Name of Course: Industrial Pharmacy -I

Program: B. Pharm V Sem Section: Theory At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Mr. Pannaga M S

end of the course the student will able to		1	
Course Outcome	Cognitive	Knowledg	Programme
(CO)	level (CL)	e	outcomes (PO)
	R/U/AP/An/	Categories	PO1/PO2,PO3
	E/C	(KC)	.PO11
		F/C/P/MC	
Understand the physicochemical characteristics of drug	U	С	PO1, PO11
substances & Application of pre-formulation considerations in			
the development of solid, liquid oral and parenteral dosage			
forms			
Explain the processing of tablets, tablet coating & Quality	U	C,P	PO1, PO4, PO11
control test with equipment.			
Explain the production of hard gelatin capsule, Soft gelatin	U	C,P	PO1, PO4, PO11
capsules & QC test & Pellets			
Explain the formulation, production & QC test of parenteral	U	C,P	PO1, PO4, PO11
Explain the formulation and manufacturing considerations,	U	C,P	PO1, PO4, PO11
filling, packaging methods of liquid orals & the Formulation			
of emulsions, suspensions and Ophthalmic formulations			
Explain the formulation and preparation of Aerosols,	U	C,P	PO1, PO4, PO11
Cosmetics and packaging materials			
	Course Outcome (CO) Understand the physicochemical characteristics of drug substances & Application of pre-formulation considerations in the development of solid, liquid oral and parenteral dosage forms Explain the processing of tablets, tablet coating & Quality control test with equipment. Explain the production of hard gelatin capsule, Soft gelatin capsules & QC test & Pellets Explain the formulation, production & QC test of parenteral Explain the formulation and manufacturing considerations, filling, packaging methods of liquid orals & the Formulation of emulsions, suspensions and Ophthalmic formulations Explain the formulation and preparation of Aerosols,	Course Outcome (CO)Cognitive level (CL) R/U/AP/An/ E/CUnderstand the physicochemical characteristics of drug substances & Application of pre-formulation considerations in the development of solid, liquid oral and parenteral dosage formsUExplain the processing of tablets, tablet coating & Quality control test with equipment.UExplain the production of hard gelatin capsule, Soft gelatin capsules & QC test & PelletsUExplain the formulation, production & QC test of parenteral filling, packaging methods of liquid orals & the Formulation of emulsions, suspensions and Ophthalmic formulationsUExplain the formulation and preparation of Aerosols,U	Course Outcome (CO)Cognitive level (CL) R/U/AP/An/ E/CKnowledg e e(CO)R/U/AP/An/ E/CCategories (KC) F/C/P/MCUnderstand the physicochemical characteristics of drug 



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Academic year: 2019-20

Faculty in Charge: Mr. Pannaga M S

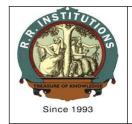
Course out Comes and Programme outcomes

Name of Course: Industrial Pharmacy -I

Program: B. Pharm V Sem

Section: Practical

CO	Course Outcome	Cognitive	Knowledg	Programme
No	(CO)	level (CL)	e	outcomes (PO)
		R/U/AP/An/E/	Categorie	PO1/PO2,PO3
		C	s (KC)	.PO11
			F/C/P/MC	
CO1	Prepare & evaluate and pre-fomulation studies of	Ap, E	C,P	PO2,PO3,PO4,
	Paracetamol tablets and Aspirin tablets.			PO11
CO2	Prepare ampoules of Ascorbic acid Injection, calcium	Ap, E	C,P	PO2,PO3,PO4,
	gluconate Injection,			PO11
CO3	Evaluate the quality control tests for tablets, Capsules	Ap, E	C,P	PO2,PO3,PO4,
				PO11
CO4	Prepare and evaluation of Tetracycline capsules	Ap, E	C,P	PO2,PO3,PO4,
				PO11
CO5	Prepare eye drops /eye ointment, cold cream, vanishing	Ap, E	C,P	PO2,PO3,PO4,
	cream			PO11
CO6	Evaluate Glass containers (as per IP) and Demonstrate	U, Ap, C	F,C,P	PO2,PO3,PO4,
	coating of tablets/granules			PO11



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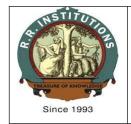
Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Academic year: 2019-20 Faculty in Charge: Mr. Dhanunjaya E

Name of Course: Pharmacology II Program: B. Pharm V Sem Section: Theory At the end of the course the student will able to

CO	Course Outcome	Cognitive level	Knowledge	Programme
	(CO)	(CL)	Categories (KC)	outcomes (PO)
		R/U/AP/An/E/	F/C/P/MC	PO1/PO2,
		С		PO3PO11
CO1	Apply the current knowledge of	R/AP	F/C	PO1, PO6 & PO9
	Cardiovascular system			
CO2	Assess involvement of drugs used for	U	С	PO3
	the treatment of urinary system.			
CO3	Elucidate the approaches to the	R/AP	F/C	PO1, PO6 & PO9
	autacoids and related drugs			
CO4	Explain the pharmacotherapy of	R/AP	F/C	PO3, PO6, PO11.
	Endocrine system.			
CO5	Elaborate the concepts and types of	R/AP	F/C	PO3, PO6, PO11.
	bioassay.			



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Course out Comes and Programme outcomes

Academic year: 2019-20 Faculty in Charge: Mr. Dhanunjaya E

Name of Course: Pharmacology II Program: B. Pharm V Sem Section: Practical At the end of the course the student will able to

CO	Course Outcome	Cognitive	Knowledge	Programme
	(CO)	level (CL)	Categories (KC)	outcomes (PO)
		R/U/AP/An/E	F/C/P/MC	PO1/PO2,
		/C		PO3PO11
CO1	Understand the in-vitro pharmacology and physiological salt solution, drugs on isolated frog heart with the activity.	R/AP	F/C	PO1, PO6 & PO9
CO2	Asses involvement of diuretic activity, DRC of acetylcholine activity.	U	С	PO3
CO3	Understand the Bioassay of oxytocin, serotonin by using three point bioassay and four point bioassay.	R/AP	F/C	PO1, PO6 & PO9
CO4	Understand the determination of PA2 value and PD2 value, spasmogens and analgesic activity of drugs by using rats.	R/AP	F/C	PO3, PO6, PO11.



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Course out Comes and Programme outcomes

Name of Course: Pharmacognosy & Phytochemistry II

Program: B. Pharm V Sem

Academic year: 2019-20 Faculty in Charge: Mrs Akila E

Section: Theory

S1.	Course Outcome	Cognitive level	Knowledge	Programme outcomes
No	(CO)	(CL)	Categories	(PO)
		R/U/APO/An/E/C	(KC)	PO1/PO2,PO3PO11
			F/C/PO/MC	
CO1	Illustrate the Basic Metabolic Pathways	U,R,APO,AN	C,F,PO	PO1,PO3,PO4,PO6,
	in Higher Plants and their			PO11
	determination			
CO2	Summarize the modern extraction	U,R,AN,APO,C	C, F, PO	PO1,PO2,PO3,PO4,
	techniques, Characterization and			PO5,PO6
	identification of the herbal drugs and			
	Phytoconstituents			
CO3	Exemplify the Preparation and	U,R,AN,APO,C	C, F, PO	PO1,PO3,PO4,
	development of Herbal formulation			PO5,PO6,PO11
CO4	Detect the Herbal drug interactions	E,U,R,AN,APO	C, F, PO	PO1,PO2,PO3,PO4,
				PO6,PO11
CO5	Perform isolation and identification of	R,U,APO,AN,C	C, F, PO	PO1,PO2,PO3,PO4,
	Phytoconstituents			PO6,PO11



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Course out Comes and Programme outcomes

Name of Course: Pharmacognosy & Phytochemistry II

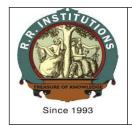
Program: B. Pharm V Sem

Section: Practical

At the end of the course the student will able to

S1. Course Outcome Cognitive level Knowledge Programme outcomes No (CO)(CL) Categories (KC) (PO) R/U/AP/An/E/C F/C/P/MC PO1/PO2,PO3...PO11 CO1 Identify crude drugs by U,R,AP,AN C,F,P PO1,PO3,PO4,PO6,PO Morphology& Microscopical 11 characters C,F,P isolation U,R,AN,AP,C PO1,PO2,PO3,PO4, ,P CO2 Execute the and Detection of active principles of O6,PO11 phytoconstituents C,F,P CO3 Detect the crude drugs by U,R,AN,AP,C PO1,PO2,PO3, ,PO5,P **Chemical Test** O6,PO11 Illustrate the chromatographic E,U,R,AN,AP,C C,F,P PO1,PO2,PO3,PO4,PO CO4 techniques 5.PO6. Describe the Distillation of C,F,P PO1,PO2,PO3,PO4, ,P CO5 R,U,AP,AN,C Volatile Oils and Detection of O6,PO11 phytoconstituents by TLC

Academic year: 2019-20 Faculty in Charge: Mrs Akila E



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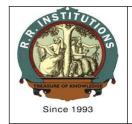
Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Academic year: 2019-20 Faculty in Charge: Mrs. Sujatha Muchalambe

Name of Course: Jurisprudence Program: B. Pharm V Sem Section: Theory At the end of the course the student will able to

S1.	Course Outcome	Cognitive level	Knowledge	Programme outcomes
No	(CO)	(CL)	Categories (KC)	(PO)
		R/U/AP/An/E/C	F/C/P/MC	PO1/PO2,PO3PO11
CO1	Understand the various concepts of	U/R	F	PO1,PO7
	the pharmaceutical legislations in			
	india.			
CO2	Known the various parameters in the	U/R	F/P	PO1,PO7
	drug and cosmetic act and its rules.			
CO3	Know the Drug policy, DPCO,	U/R	F/P	PO1,PO7
	Patent and design act			
CO4	Understand the concept of	U/R	F/P	PO1,PO7
	Dangerous Drugs act, Pharmacy act,			
	Excise duties act			



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Internal Quality Assurance Cell

#### Course out Comes and Programme outcomes

#### **B** Pharm VI Sem

Name of Course: Medicinal Chemistry-III Program: B. Pharm VI Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20

Faculty in Charge: Mr. Nagaraj. N. Durgadasheemi

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An /E/C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3 PO11
CO1	Explain Antibiotics, Aminoglycosides.	U	С	PO1 &PO3
CO2	Explain Macrolide, Prodrugs, Antimalarials.	U	C &P	PO1 &PO3
CO3	Explain Anti-tubercularAgents, Anti tubercular antibiotics, Urinary tract anti-infective agents, Antiviral agents.	U	C&P	PO1 &PO3
CO4	Explain Antifungal agents, Antifungal antibiotics, Anti- protozoal Agents, Anthelmintics, Sulphonamides, Folate reductase inhibitors.	U	C&P	PO1 &PO3
CO5	Explain Drug Design Various approaches used in drug design, Physicochemical parameters QSAR, Pharmacophoremodeling and docking techniques.	U	C&P	PO1 &PO3
CO6	Combinatorial Chemistry: Concept and applications chemistry: solid phase and solution phase synthesis.	U	C&P	PO1 &PO3



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	Course out Comes and Programme outcomes				
Name	of Course: Medicinal Chemistry-III	Academic year: 2019-20			
Program	m: B. Pharm VI Sem	Faculty in Ch	arge: Mr. Nag	araj. N. Durgadasheemi	
Sectior	n: Practical				
At the	end of the course the student will able to				
Sl. No	Course Outcome	Cognitive	Knowledge	Programme	
	(CO)	level (CL) R/U/AP/An/ E/C	Categories (KC) F/C/P/MC	outcomes (PO) PO1/PO2,PO3PO 11	
CO1	Perform the synthesis of Sulphanilamide, 7-Hydroxy, 4-methyl coumarin , Chlorobutanol, Triphenyl imidazole, Tolbutamide, Hexamine.	U	С &Р	PO1 &PO3	
CO2	Estimate the Isonicotinic acid hydrazide, Chloroquine, Metronidazole, Dapsone, Chlorpheniraminemaleate, Benzyl penicillin	U	С &Р	PO1 &PO3	
CO3	Preparation of medicinally important compounds or intermediates by Microwave irradiation technique.	U	C&P	PO1 &PO3	
CO4	Drawing structures and reactions using chem draw®	U	C & P	PO1 &PO3	
CO5	Determination of physicochemical properties such as logP, clogP, MR, Molecular weight, Hydrogen bond donors and acceptors for class of drugs course content using drug design software Drug likeliness screening (Lipinskies RO5)	U	С &Р	PO1 &PO3	



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmacology -III Program: B. Pharm VI Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Mr. Dhanunjaya E

Sl.No	Course Outcome	Cognitive	Knowledge	Programme
	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/	(KC)	PO1/PO2,
		E/C	F/C/P/MC	PO3PO11
CO1	Apply the current knowledge of pharmacological and	R/AP	F/C	PO1, PO6 & PO9
	toxicological aspects of various			
	disorders.			
CO2	Assess involvement of autacoids along with	U	С	PO3
	therapeutics of inflammatory			
	processes.			
CO3	Elucidate the approaches to the treatment of	R/AP	F/C	PO1, PO6 & PO9
	respiratory disorders.			
CO4	Explain the pharmacotherapy of gastrointestinal and	R/AP	F/C	PO3, PO6, PO11.
	CNS ailments.			
CO5	Elaborate the concepts and general management of	R/AP	F/C	PO3, PO6, PO11.
	toxicity.			



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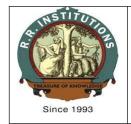
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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmacology -III Program: B. Pharm VI Sem Section: Practical At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Mr. Dhanunjaya E

CO	Course Outcome	Cognitive	Knowledge	Programme
	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/	(KC)	PO1/PO2,
		E/C	F/C/P/MC	PO3PO11
CO1	Understand the dose calculation of different experimentation	R/AP	F/C	PO1, PO6 & PO9
CO2	Clarify test for pyrogen	U	С	PO3
CO3	Understand the effect of drugs on motility	R/AP	F/C	PO1, PO6 & PO9
CO4	Understand biochemical parameters	R/AP	F/C	PO3, PO6, PO11.



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Herbal Drug Technology Program: B. Pharm VI Sem

Academic year: 2019-20 Faculty in Charge: Mrs. Akila E

Section: Theory At the end of the course the student will able to

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E/ C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3PO11
CO1	Describe the herb as a source of medicine along with the cultivation of the herbal drugs & other Indian system of medicine with their preparation and standardization of Ayurvedic formulation.	U,R,AP,AN	F,P	PO1,PO2,PO3, PO5,PO6,PO8, PO11
CO2	Explain importance of Nutraceuticals in the health care system, their possible side effects and interactions with drugs and food.	U,R,AN,AP	C,F,P	PO1,PO2,PO3,PO4,P O9, PO10,PO11
CO3	Explain the various herbal cosmetics, excipients and conventional herbal formulations.	U,R,AP,C	C,F	PO1,PO2,PO3,PO6,P O7, PO8, PO10, PO11
CO4	Explain the patenting and other regulatory bodies for the evaluation, assessment of herbal and ASU drugs.	U,R,AN,AP	C,F,P	PO1,PO2,PO3,PO4, PO10,PO11
CO5	Describe the importance and scope of Herbal Drug Industry & GMP (Schedule T).	R,U,AP,AN,C	C,F,P	PO1, PO3,PO4, PO6,PO7, PO10,PO11



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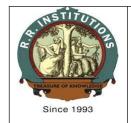
Course out Comes and Programme outcomes

Name of Course: Herbal Drug Technology

Academic year: 2019-20 Faculty in Charge: Mrs. Akila E

Program: B. Pharm VI Sem Section: Practical At the end of the course the student will able to

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/ E/C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3PO11
CO1	Assessment of the phyto constituents of crude drug.	U,R,AP,AN	F,P	PO1,PO2,PO3,PO5,PO6, PO8,PO11.
CO2	Evaluation and analysis of excipients, herbs drugs from a pharmacopoeia.	U,R,AN,AP	C,F,P	PO1,PO2,PO3,PO4,PO9, PO10,PO11.
CO3	Evaluation and formulation of various herbal cosmetics, conventional herbal dosage form.	U,R,AP,C	C,F	PO1,PO2,PO3,PO6,PO7, PO8, PO10, PO11.
CO4	Determination of phenolic, aldehyde, total alkaloid contents and alcohol content of asava and arista	U,R,AN,AP	C,F,P	PO1,PO2,PO3,PO4, PO10,PO11.



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Course out Comes and Programme outcomes

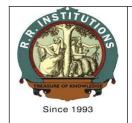
Name of Course: Bio Pharm. Pharmacokinetics

Program: B. Pharm VI Sem

Academic year: 2019-20 Faculty in Charge: Mrs. Sujatha muchalambe

Section: Theory At the end of the course the student will able to

	Course Outcome	Cognitive	Knowledge	Programme
Sl. No	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/	(KC)	PO1/PO2,PO3
		E/C	F/C/P/MC	PO11
	Understand Biopharmaceutics, Absorption of drugs	U, AP	С	PO1,PO10, PO11
CO1	from gastrointestinal tract & Distribution.			
CO2	Understand Drug Distribution & Elimination.	U, AP	C & P	PO1,PO10,PO11
CO3	Understand Bioavailability & bioequivalence	U, AP	C&P	PO1, PO10, PO11
	Apply Pharmacokinetics :One compartment open	U, AP	C&P	PO1, PO10, PO11
CO4	model a. Intravenous Injection (Bolus) b. Intravenous			
	infusion.			
	Apply & calculate Multicompartment models.	U, AP	C&P	PO1, PO10, PO11
CO5	Two compartment open model. IV bolus ,kinetics of			
	muiltiple dosing, steady state drug levels , loading &			
	maintenance doses			
CO6	Explain Nonlinear Pharmacokinetics, Michaelis-	U, AP	C&P	PO1, PO10, PO11
	menten equation.			



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Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Biotechnology

Academic year: 2019-20 Faculty in Charge: Mrs. K S Srilatha

Program: B. Pharm VI Sem Section: Theory At the end of the course the student will able to

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E /C	Knowledge Categories (KC) F/C/P/MC	Programme outcomes (PO) PO1/PO2,PO3PO11
CO1	Understand the different methods of enzyme immobilization	U	С	PO1,PO6 PO7
CO2	Understand the cloning vectors and r DNA technology	R, U	С	PO1,PO6 PO7
CO3	Understand the immunity and structure of immunoglobulin	Ap, U	Р	PO1,PO6
CO4	Determine the immune blotting techniques	An, U	C, P	PO1 PO7
CO5	Explain the fermentation methods using microorganisms and Summarize storage condition of blood products and vaccines	U	С	PO1,PO6



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Internal Quality Assurance Cell

#### Course out Comes and Programme outcomes

Name of Course: Quality Assurance Program: B. Pharm VI Sem Section: Theory At the end of the course the student will able to Academic year: 2019-20 Faculty in Charge: Mr. Mahalingan K

Sl. No	Course Outcome	Cognitive level	Knowledge	Programme outcomes
	(CO)	(CL)	Categories	(PO)
		R/U/AP/An/E/C	(KC) F/C/P/MC	PO1/PO2,PO3PO1
				1
CO1	Quality Assurance and Quality	U, AP	С	PO1, PO10, PO11
	Management concepts, ICH			
	Guidelines: Quality by design (QbD),			
	ISO 9000 & ISO14000, NABL			
	accreditation			
CO2	Organization and personnel,	U, AP	C &P	PO1, PO10, PO11
	Premises, Equipments and raw			
	materials			
CO3	Quality Control, Good Laboratory	U, AP	C&P	PO1, PO10, PO11
	Practices			
CO4	Complaints, Document maintenance in	U, AP	C&P	PO1, PO10, PO11
	pharmaceutical industry			
CO5	Calibration and Validation,	U, AP	C&P	PO1, PO10, PO11
	Warehousing			



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes Name of Course: Instrumental Methods of Analysis

Program: B. Pharm VII Sem

B Pharm VII Sem Academic year: 2019-20 Faculty in Charge: Ms. Shilpashree A T

Section: Theory

Sl. No	Course Outcome	Cognitive level	Knowledge	Programme outcomes
	(CO)	(CL)	Categories	(PO)
		R/U/AP/An/E/C	(KC) F/C/P/MC	PO1/PO2,PO3PO
				11
CO1	Explain the theoretical principles of	U	С	PO1, PO4, PO11
	UV and Fluorimetry.			
CO2	Learn basic principles and	U	С	PO1, PO4, PO11
	instrumentation of IR spectroscopy,			
	flame photometry, Atomic absorption			
	spectroscopy, Nepheloturbidometry.			
CO3	Learn basic principles involved in	U	C	PO1, PO4, PO11
	TLC, column chromatography, paper			
	chromatography and electrophoresis.			
CO4	Explain theory and instrumentation of	U	С	PO1, PO4, PO11
	GC, HPLC.			
CO5	Explain theory and instrumentation gel	U	С	PO1, PO4, PO11
	chromatography, ion exchange			
	chromatography and affinity			
	chromatography.			



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

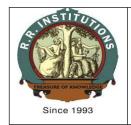
Name of Course: Instrumental Methods of Analysis

Program: B. Pharm VII Sem

Academic year: 2019-20 Faculty in Charge: Ms. Shilpashree A T

Section: Practical

Sl.	Course Outcome	Cognitive level	Knowledge	Programme outcomes
No	(CO)	(CL)	Categories (KC)	(PO)
		R/U/AP/An/E/C	F/C/P/MC	PO1/PO2,PO3PO1
				1
CO1	Learn absorption maxima and effect of	U,An,Ap	Р	PO1, PO4, PO11,
	solvents on absorption of various organic compounds.			
CO2	Learn separation and identification of	U,An,Ap	Р	PO1, PO4, PO11,
	compounds by various chromatographic			
	techniques.			
CO3	Analyse the compounds by UV-Visible	U,An,Ap	P	PO1, PO4, PO11,
	spectrophotometry.			
CO4	Analyse the compounds by fluorimetry.	U,An,Ap	Р	PO1, PO4, PO11,
CO5	Analyse the inorganic ions by flame	U,An,Ap	Р	PO1, PO4, PO11,
	photometry and Nepheloturbidometry.			
CO6	Understand the separation of compounds	U,An,Ap	Р	PO1, PO4, PO11,
	by GC & HPLC methods.	_		



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Internal Quality Assurance Cell

#### Course out Comes and Programme outcomes

Name of Course: Industrial Pharmacy-II Program: B. Pharm VII Sem

Academic year: 2019-20 Faculty in Charge: Ms. Savithri T B

Section: Theory

Sl. No	Course Outcome (CO)	Cognitive level (CL) R/U/AP/An/E/C	Knowledge Categories (KC)F/C/P/MC	Programme outcomes(PO)PO1 /PO2,PO3PO11
CO1	Understand the Pilot plant scale up techniques and considerations for solids, liquid orals, semi solids and relevant documentation, SUPAC guidelines, platform technology.	R,U	F, C	PO1,PO11
CO2	Explain the technology development, transfer, WHO guidelines for Technology Transfer, Commercialization, TT agencies in India its confidentiality agreement, licensing, MoUs, legal issues.	R, U	F, C	PO1, PO11
CO3	Explain the Regulatory affairs and Regulatory requirements for drug approval	R, U, and A	С, Р	PO1, PO2, and PO11
CO4	Explain the Quality management systems & Certifications, Quality by Design , Six Sigma concept, Out of Specifications, Change control, Introduction to ISO 9000 series of quality systems standards.	R, U	F, C	PO1, PO11
CO5	Understand the Indian Regulatory Requirements for CDSCO and State Licensing Authority	R, U, and A	F, C	PO1, PO11



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#### Course out Comes and Programme outcomes

Name of Course: Pharmacy Practice

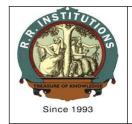
Program: B. Pharm VII Sem

Section: Theory

At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Ms. Nayana P Kunderi

C1	Course Outeering	Constitute	V	Due ano na a
Sl.	Course Outcome	Cognitive	Knowledge	Programme
No	(CO)	level (CL)	Categories	outcomes (PO)
		R/U/AP/An/	(KC)	PO1/PO2,PO3P
		E/C	F/C/P/MC	011
CO1	Demonstrate knowledge and ability to use principles	U/R/ AP	F/P	PO1,PO2
	of therapeutics, quality improvement,			,
•	communication, economics, health behavior, social			
	and administrative aspects, health policy and legal			
000	issues in the practice of pharmacy.		<b>E</b> /O	
CO2	Knowledge of drug distribution methods in hospital	U/R/AP	F/C	PO1,PO4
	and apply it in the practice of pharmacy.			
CO3	Effectively apply principles of drug store	U/R/AP/C	F/P	PO1,PO2, PO4
	management and inventory control to medication			, ,
	use.			
004				
CO4	Provide patient-centered care to diverse patients	U/R	F/C/P	PO1,PO6, PO8
	using the best available evidence and monitor drug			
	therapy of patient			
CO5	Students will engage in innovative activities by	U/R/AP	F/P	PO1,PO4
	making use of the knowledge of clinical trials			
CO6	Exhibit professional ethics by producing safe and	U/R	F/C	PO1, PO7
		U/K	$\Gamma'/C$	101,107
	appropriate medication use throughout society.			



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Novel Drug Delivery System Program: B. Pharm VII Sem Section: Theory At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Mr. Subhash P G

S1.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Understand the various approaches for	R and U	С	PO1 and PO11
	development of novel drug delivery systems.			
CO2	Understand the various methods for	R and U	С	PO1 and PO11
	development of microspheres.			
CO3	Explain the gastro retentive drug delivery	U, A and E	C and P	PO1, PO2, PO4 and
	systems.			PO11
CO4	Understand ocular drug delivery systems and	R and U	С	PO1 and PO11
	vaccine delivery systems.			
CO5	Explain the transdermal drug delivery systems.	U, A and E	C and P	PO1, PO2, PO4 and
				PO11
CO6	Explain the concepts and approaches for	U, A and E	C and P	PO1, PO2, PO4 and
	targeted drug delivery.			PO11



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Internal Quality Assurance Cell

	Course out Comes and Progra	mme outcomes		B Pharm VIII
Name	e of Course: Biostatistics and Research Methodology	Acad	lemic year: 2	019-20
Progr	ram: B. Pharm VIII Sem	Faculty	in Charge:	Ms. Kavita Yadav
Sectio	on: Theory			
At the	e end of the course the student will able to			
Co.	Course Outcome	Cognitive	Knowledg	Programme
No	(CO)	level (CL)	e	outcomes (PO)
		R/U/AP/An/E/	Categories	PO1/PO2,PO3PO
		C	(KC)	11
			F/C/P/MC	
CO1	Understand Statistics, Biostatistics, Frequency	R, U A and E	C,P	PO1, PO4,PO11
	distribution			
	Measures of central tendency, Measures of dispersion			
	and			
	Correlation			
CO2	Understand Regression, Probability and Parametric	R, U A and E	C,P	PO1, PO2, PO3,
	test			PO4 and PO11
CO3	Explain Non Parametric tests	R, U A and E	C,P	PO1, PO2, PO3,
				PO4 and PO11
CO4	Know the need for design of Experiments,	R, U A and E	C,P	PO1, PO2, PO3,
	Experiential Design Technique, plagiarism, Graphs			PO4 and PO11
	and Designing the methodology for formulation.			
CO5	Know the Blocking and confounding system for	R, U A and E	C,P	PO1, PO2, PO3,
	Two-level factorials, Regression modeling, Statistical			PO4 and PO11
	Analysis Using Excel, SPSS, MINITAB®, DESIGN			
	OF EXPERIMENTS, R-Online Statistical Software's			
	to Industrial and Clinical trial approach			
CO6	Design and Analysis experiments by using design of	R, U A and E	C,P	PO1, PO2, PO3,
	experiment software			PO4 and PO11

Sem



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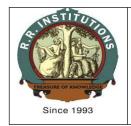
Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Social and Preventive Pharmacy Program: B. Pharm VIII Sem Section: Theory At the end of the course the student will able to

Academic year: 2019-20 Faculty in Charge: Ms. Nayana P Kunderi

Sl.	Course Outcome	Cognitive	Knowledg	Programme
No	(CO)	level (CL)	e	outcomes (PO)
		R/U/AP/An/E/	Categorie	PO1/PO2,PO3P
		C	s (KC)	011
			F/C/P/MC	
CO1	Recognize the concepts and evaluation of public health	U/R	F/P	PO1,PO3
			T/C	DO1 DO11
CO2	Illustrate socio-cultural factors and its relation with health	U/R/AP	F/C	PO1,PO11
CO3	Identify avoidable habits for personal hygiene and health	U/R/An	F/P	PO3,PO11
CO4	Explain the principles on the prevention and control of	U/R	F/C/P	PO1,PO11
	communicable and non-communicable diseases			
CO5	Identify National health programs its objectives functioning	U/R	F/P	PO1,PO4
	and outcomes			
CO6	Recognize the community services in rural, urban and	U/R/Ap	F/C	PO1, PO6, PO8
	school health			



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Internal Quality Assurance Cell

Course out Comes and Programme outcomes

Name of Course: Pharmaceutical Regulatory Science Program: B. Pharm VIII Sem Section: Theory At the end of the course the student will able to

Academic year: 2019-20

Faculty in Charge: Mr. Subhash P G

Sl.	Course Outcome	Cognitive	Knowledge	Programme outcomes
No	(CO)	level (CL)	Categories	(PO)
		R/U/AP/An/E	(KC)	PO1/PO2,PO3PO11
		/C	F/C/P/MC	
CO1	Understand the concepts of innovator and	R and U	F and C	PO1 and PO11
	generic drugs, drug development process.			
CO2	Understand the regulatory guidelines and	R and U	F and C	PO1 and PO11
	guidelines for filling and approval process.			
CO3	Apply preparation of dossiers and their	R, U, and A	C and P	PO1, PO2, and PO11
	submission to regulatory agencies in different			
	countries.			
CO4	Understand the post-approval regulatory	R and U	F and C	PO1 and PO11
	requirements for actives and drug products.			
CO5	Explain the submission of global documents in	R, U, and A	F and C	PO1 and PO11
	CTD/eCTD formats.			
CO6	Explain the clinical trial requirements for	R, U, and A	C and P	PO1 and PO11
	approval for conducting clinical trials.			
CO7	Explain the pharmacovigilence and process of	R, U, and A	C and P	PO1 and PO11
	monitoring in clinical trials.			



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Course out Comes and Programme outcomes							
N	Jame of Course: Cosmetic Science	Academic year: 2019-20					
Program: B. Pharm VIII Sem		Faculty in Charge: Mr. Pannaga M S					
S	Section: Theory						
At the end of the course the student will able to							
Sl.	Course Outcome	Cognitive level	Knowledge	Programme outcomes			
No	(CO)	(CL)	Categories	(PO)			
		R/U/AP/An/E/	(KC)	PO1/PO2,PO3PO11			
		C	F/C/P/MC				
CO1	Understand & classify cosmetic & cosmetical	U	С	PO1, PO10, PO11			
	products,cosmetic excipients,structure & function of						
	skin.hair&oral cavity.						
CO2	Understand & explain formulation & building blocks	U, AP	C &P	PO1, PO10, PO11			
	of skin care, hair care & oral care products.						
CO3	Understand & analyze role of herbs in cosmetics. skin	U, AP	C&P	PO1, PO10, PO11			
	care,hair care & oral care products.						
CO4	Understand & apply	U, AP	C&P	PO1, PO10, PO11			
	sebumeter,corneometer,TEWL,Skin color, hair tensile						
	strength, hair combing properties, syndet bars & soaps.						
CO5	Understand & apply oily & dry skin, skin	U, AP	C&P	PO1, PO10, PO11			
	moisterisation, comedogenic & dermatitis cosmetic						
	problem associated with hair & scalp, skin,						
	antiperspirants & deodorants.						