



GRY INSTITUTE OF PHARMACY

BORAWAN, KHARGONE

(Approved by AICTE & PCI; Affiliated to RGPV; Recognized by Govt. of M.P.)

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2.6.2 Attainment of programme outcomes and course outcomes are evaluated by the institution

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Attainment of programme outcomes and course outcomes are evaluated by the institution.

Attainment of Course outcome with program outcome (I semester)

Course Outcome (BP101T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Explain the gross morphology, structure and functions of various organs of the human body.	H	H	M	M						H	M	
CO-02 Describe the various homeostatic mechanisms and their imbalances and explain coordinated working pattern of different organs of each system.	H	H	M	M	L					H	M	
CO-03 Clarify various tissues and organs of different systems of human body.	H	H	M	M						H	M	
CO-04 Describe various experiments related to special senses and nervous system.	H	H	M	M						H	M	
CO-05 To identify the various tissues and organs of different systems of human body.	H	H	M	M						H	M	
CO-06 To perform the various experiments related to special senses and nervous system	H	H	M	M						H	M	
CO-07 To describe the various homeostatic mechanisms and their imbalances.	H	H	M	M				L	L	H	M	
CO-08 To study the maintenance of normal functioning of human body.	H	H	M	M					L	H	M	

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Course Outcome (BP102T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 To study fundamentals of pharmaceutical analysis and pharmacopoeia.	H	H	H	H		L		M		H		
CO-02 Understand basic concepts involved in errors and to know the sources of impurities and methods to determine the impurities.	H	H	H	H			M	M		H	M	
CO-03 Clarify need and basic principles of Acid Base titration, non aqueous titration, complexometric titration, precipitation titrations, gravimetric analysis etc for the determination of percentage purity of drugs.	H	H	M	H			M			H		



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CO-04 Illustrate principle, types of electrode, instrumentation and applications of Potentiometry, Conductometry and Polarography	H	H	L	H				M		H		
CO-05 To gain information about the qualitative and quantitative composition of substances and species, that is to find out what a substance is composed of and exactly how much. This information guides development of the manufacturing operation and therapeutic action of drugs.	H	H	M	M				M		H		
CO-06 To get acquainted to basic apparatus and instruments and their calibration. and Understand concept of various volumetric analysis	H	H	H	H				M		H		
CO-07 To develop analytical skills in data interpretation and calculations.	H	H	H	H				H		H		H

Course Outcome (BP103T / BP109P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 To Know the history of profession of pharmacy.	H											
CO-02 Understand the professional way of handling the prescription.	H				H	M	M			M	M	M
CO-03 Understand the basics of different dosage forms, pharmaceutical incompatibilities.	H		H		M					H		
CO-04 To understand pharmaceutical calculations	H		M		H					H		
CO-05 Understand formulation and evaluation of Pharmaceutical solution.	H		H					L				
CO-06 Understand formulation and evaluation of Pharmaceutical dispersed system.	H		H					L				
CO-07 Understand formulation and evaluation of pharmaceutical powders.	H		H					L				
CO-08 Understand formulation and evaluation of semisolid dosage form.	H		H					L				



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Course Outcome (BP104T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1 Knowledge of sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals.	H	H	H							H		
CO2 Understanding of the basic concepts of acidity/basicity, buffers and tonicity applicable in pharmaceuticals.	H	H	H							H		
CO3 Understanding of the medicinal and pharmaceutical Importance of inorganic compounds.	H	H	H			M	M		M	H	M	
CO4 Understanding of concepts and principles of radiopharmaceuticals.	H	H	L							H		
CO5 Understanding concepts regarding acidifiers and antacids.	H				L					H	L	
CO6 Developed skills to perform limit test for given sample.	H	H	M					L		H		M
CO7 Perform identification of inorganic salts through various qualitative tests.	H	H	H							H		
CO8 Ability to perform tests for purity for different compounds as per IP.	H	H	H							H		M

Course Outcome (BP105T/P)	Program Outcome (PO)										
	1	2	3	4	5	6	7	8	9	10	11
CO-01 Understand the behavioral needs for Pharmacist to function effectively in the areas of pharmaceutical operation.	H								M		
CO-02 Communicate effectively (Verbal and Non-verbal).	H					H					
CO-03 Effectively manage the team as a team player.	H									M	
CO-04 Develop interview skills	H							M			
CO-05 Develop leadership qualities and essentials.	H										
CO-06 Understand the role of communication in personal and professional life.	H									H	

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Course Outcome (BP106RBT)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1 Knowledge of Living world and morphology of flowering plant.	H	M								H		
CO2 Understanding the concept of Body fluids, digestion and respiration.	H	M				M	M			H	L	
CO3 Understanding concepts regarding Human reproduction.	H	M				M	M			H	M	
CO4 Understanding the unit of life and plant nutrition.	H	M								H		
CO5 Developed skills to understand handling of Microscope.	H	H		L						H		M
CO6 Knowledge and skills to prepare permanent slides.	H	M								H		M
CO7 Demonstration of frog by computer model.	H	M								H		M
CO8 Performed determination of blood pressure and blood group	H	M		M	M	M	H			H	M	M

Course Outcome (BP106RMT)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Know the theory and their application in Pharmacy	H									L		
CO-02 Solve the different types of problems by applying theory	H									M		
CO-03 Appreciate the important application of mathematics in Pharmacy.	H									L		
CO-04 Know to solve analytical problem in Pharmacy.	H	H								H		
CO-05 Know to solve Statistical problems in Pharmacy.	H									M		


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Attainment of Course outcome with program outcome (II semester)

Course Outcome	Program Outcome (PO)												
	(BP201T)	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Explain the gross morphology, structure and functions of various organs of the human body.		H	M								H		
CO-02 Describe the various homeostatic mechanisms and their imbalance		H					H				H		
CO-03 Explain the various tissues and organs of different systems of human body with coordinated working pattern of different organs of each system		H			M		M				M		
CO-04 Explain the interlinked mechanism in the maintenance of normal functioning of human body.		H			M		M	L			M	M	

Course Outcome	Program Outcome (PO)												
	(BP202T/208P)	1	2	3	4	5	6	7	8	9	10	11	12
CO (1) Understanding of important physical properties, general reaction and mechanism of basic reactions like substitution, elimination, addition etc and methods of preparation of various functional groups		H	M	M							H		
CO (2) Knowledge of the classification, nomenclature (Common and IUPAC) & structure of organic compound		H	M	M							H		
CO (3) Knowledge of isomers & type of isomerism of the organic compound		H	M	M							H		
CO (4) Account for reactivity/stability of compounds and intermediates forming in reactions		H	M	M							H		
CO (5) Knowledge of safety measures in organic chemistry laboratory and various laboratory techniques.		H	H	L							H		



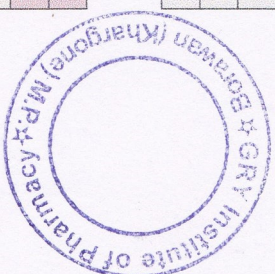
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CO (6) Ability to Identify/confirm the organic compounds on the basis of important identification tests like Preliminary tests, Lassaigne's & Solubility test.	H	H	M						M		H		M
CO (7) Ability to prepare suitable solid derivatives from organic compounds.	H	H	H	M					M		H		M
CO (8) Ability to determine the important characteristic properties of organic compound like melting point and Boiling point	H	M	M	H					M		H		M
CO (9) Develop skills to prepare stereo models containing various functional groups	H	H	M	M					M		H		M

Course Outcome (BP203T/P)	Program Outcome (PO)												
	1	2	3	4	5	6	7	8	9	10	11	12	
CO1 Knowledge of Biomolecules and bioenergetics.	H	H	H								H		L
CO2 Understanding of the basic concepts of carbohydrate, lipids, amino acid and their metabolism.	H	H									H		L
CO3 Understanding of the Nucleic acid metabolism and genetic information transfer.	H	H	H								H		L
CO4 Understanding concepts regarding enzymes.	H	H	H	H							H		L
CO5 Developed skills to perform qualitative analysis of carbohydrates and protein.	H	H	M	M							M		M
CO6 Perform the effect of temperature and substrate concentration on salivary amylase activity.	H	H							M		H		M
CO7 Ability to prepare buffer system and measurement of pH.	H	H	M	M					M		H		M
CO8 Knowledge and skills to determine blood sugar.	H	H		M	M				M		H		M

Course Outcome (BP204T)	Program Outcome (PO)												
	1	2	3	4	5	6	7	8	9	10	11	12	
CO-01 Describe the etiology and pathogenesis of the selected disease states	H	H		M	H				M		H		H
CO-02 Describe the signs and symptoms of the diseases	H	H		M	H				M		H		H
CO-03 Explain the complications of the diseases.	H	H		M	H				M		H		H

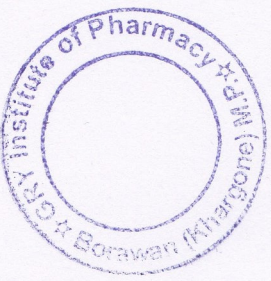



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Course Outcome (BP205T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Basic and advanced Knowledge of computer	H											
CO-02 Knowledge of Hardware and Software.	H											
CO-03 Knowledge of the various types of application of computer in pharmacy.	H											
CO-04 Knowledge of the various types Database and its uses in pharmacy	H											
CO-05 Knowledge of the various Application of Databases in pharmacy	H											
CO-06 Knowledge of the various Application software that are used in different department of pharmacy.	H											

Course Outcome (BP206T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Student should be able to Create the awareness about environmental problems among learners).	H				L	H						
CO-02 Student should be able to Impart basic knowledge about the environment and its allied problems).	H				L	M						
CO-03 Student should be able to Develop an attitude of concern for environment).	H				L	H						
CO-04 Student should be able to Motivate learner to participate in environment protection and environment improvement).	H				L	H						
CO-05 Student should be able to Acquire skills to help the concerned individuals in identifying and solving environmental problems).	H				L	H						
CO-06 Student should be able to Strive to attain harmony with nature).	H				L	H						

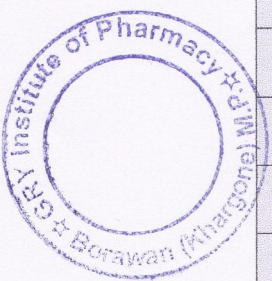



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Attainment of Course outcome with program outcome (III semester)

Course Outcome (BP301T/ 305P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO (1) Understand the introduction, orbital picture, resonance, and effects of substituent's on further substitution on benzene.	H	H	H							H		
CO (2) Write the structure, name and medicinal use of concerned organic compounds in the course.	H	H	H							H		
CO (3) Special emphasis on mechanisms and orientation of chemical reactions of organic compounds.	H	H	H							H		
CO (4) Explain acidity, effect of substituent's, and qualitative test of phenols & Aromatic acids. Also elucidate basicity, effect of substituents, of aromatic amines.	H	H	H							H		
CO (5) Understand the chemistry of fatty acids. Also covers theoretical and practical knowledge of significance, principle and determination of important analytical constants of fats and oils.	H	M	M							H		
CO (6) Knowledge of synthesis and reactions polynuclear hydrocarbons.	H	H	M					M		H		M
CO (7) Explain the reactions and important theories explains reactivity and stability of cycloalkanes.	H	H	L							H		
CO (8) Demonstration of recrystallization and Steam distillation.	H	M	H	M				M		H		M
CO (9) Determine the analytical constants of oil/fat sample.	H	M	L	M				M		H		M
CO (10) Synthesize the different organic compounds and understand the reaction mechanisms.	H	H	H	H				M		H		H



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Course Outcome (BP302T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Recognize the Solubility phenomenon, factor influencing the solubility, diffusion principles in biological system, phase rule and applications of distribution law.	H		H							H		
CO-02 Understand the different matter properties, physical and chemical properties of the drugs molecules with their application.	H		H							H		
CO-03 Distinguish the concept of surface tension and interfacial tension between different states, adsorption of liquid and gas on adsorbate.	H	H	M	H						H		
CO-04 Distinguish the principles of complexation/ protein binding; know the types of complexation with their application.	H									H		
CO-05 Understand the role of pH and buffer in the dosage forms	H	M	H	M						H		

Course Outcome (BP-303T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand methods of identification, cultivation and preservation of various microorganisms	H			H				H		H	M	H
CO-02 To understand the importance and implementation of sterilization in pharmaceutical processing and industry	H			H				H		H	M	M
CO-03 Learn sterility testing of pharmaceutical products.	H	L		H				H		H	M	H
CO-04 Carried out microbiological standardization of Pharmaceuticals.	H	H		H				H		H	L	H
CO-05 To understand the importance and implementation and evaluation of disinfectant in pharmaceutical industry	H	M		H				H		H	H	M
CO-06 Understand the cell culture technology and its applications in pharmaceutical industries	H			H				H		H	H	M
CO-07 Understand methods of clean area and aseptic area classification	H	M		H	L			H		H	H	M
CO-08 Knowledge and working of laminar air flow bench.	H	M		H	L			H		H	H	L



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Course Outcome	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
(BP304T/BP 308P)												
CO-01 To know various unit operations used in Pharmaceutical industries, understand the material handling techniques.	H	M		H	M	H				H	L	H
CO-02 To perform various processes involved in pharmaceutical manufacturing process, carry out various tests to prevent environmental pollution.	H	M		H	M	H				H	L	M
CO-03 To appreciate and comprehend significance of plant lay out design for optimum use of resources.	H	L		H	L	H				H	L	M
CO-04 To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries.	H	L		H	L	H				H	L	M

Attainment of Course outcome with program outcome (IV semester)

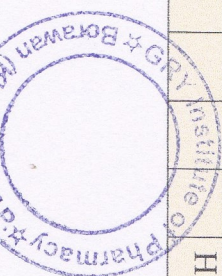
Course Outcome (BP401T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand the introduction, orbital picture, resonance, reactions and effects of substituent's of benzene. Explain acidity, effect of substituents, reaction and qualitative test of phenols. Also elucidate basicity, effect of substituents, reaction of aromatic amines.	H		H								H	
CO-02 Knowledge of synthesis, reactions and structure and medicinal uses of some polynuclear hydrocarbons.	H	H	H							H		
CO-03 Understand the theory of cycloalkanes and chemistry of fats and oils.	H									H		
CO-04 Explain the optical isomerism and geometrical isomerism of organic compounds. Clarify the concept of resolution of racemic modifications	H		M							H		



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Course Outcome (BP-402T & BP-406P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1 Explain the influence of physicochemical properties on drug action.	H	H								H		
CO2 Define; explain types and applications of bioisosterism.		H								H		
CO3 Discuss receptor types and forces involved in drug receptor interactions.	H	H								H		
CO4 Explain the influence of the metabolic profile of drugs and their impact on biological system	H	H								H		
CO5 Outline the synthetic route for the selective medicinal compounds of each category and acquire knowledge on the mechanism of action of pharmacodynamics agents.	H	H	H							H		
CO6 Assimilate the therapeutic uses of adrenergic agents, cholinergic Agents and CNS agent's classification, synthesis and therapeutic uses and side effects of drugs.	H									H		
CO7 Discuss the relationship between the structures activity of medicinal compounds and their biological activity.	H	H								H		
CO8 Understand how to improve drug efficiency & effectively with minimum adverse effect & side effects.	H	H		H						H		
CO9 Draw the reaction mechanism involved in the synthesis of compounds.	H	H	H	H						H		
CO10 Perform the procedure of purification and physical characterization of synthesized Compound.	H	H		H	H					H		
CO11 Understand how to improve drug efficiency & effectively with	H	H								H	M	M



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Attainment of Course outcome with program outcome (V semester)


Course Outcome (BP501T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1 Classify medicinal compounds according to their chemical structure.	H	H								H		
CO2 Identify the effect of physicochemical properties on biological action and drug metabolic pathways.	H	H	M							H		
CO3 Explain the mode of action, synthesis and therapeutic uses and side effects of drugs.	H	H								H		
CO4 Discuss the relationship between the structures of medicinal compounds and their biological activity.	H	H								H		
CO5 Discuss the pharmacological actions and adverse effects of medicinal compounds.	H	H								H		
CO6 Apply the principles of synthetic chemistry to predict the synthesis of drug molecules.	H	H		H						H		
CO7 Knowledge & skill to operate Auto-Dock & Molegro software for designing of new drug structure, chemistry & therapeutic value of drugs.	H	H								H		
CO8 Understand how to improve drug efficiency & effectively with minimum adverse effect & side effects.	H	H		H	M					H		
CO9 Knowledge and skills to prepare in organic salts-boric acid, potash alum and ferrous sulphate.	H	H								H		M
CO10 Being a public survey to interact with the medical pharmacist in a better way to understand recent marketed product and complain of people to make them feel healthy.	H	H								H	H	L
CO11 Leadership skills: Performing practical in a group.	H	H								H		M


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Course Outcome (BP502T/BP506P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Know the various pharmaceutical dosage forms and their manufacturing techniques	H		H					M				
CO-02 Know various considerations in development of pharmaceutical dosage forms	H	M	M									
CO-03 Formulate solid, liquid and semisolid dosage forms and evaluate them for their quality	H		H					M				
CO-04 Describe tablets dosage form, physico-chemical principles, different additives used for formulation, manufacturing, evaluation and defect in tableting with remedies.	H	M	M	L				M				L
CO-05 Describe capsule dosage form. Explain the different types, additives, size selection, manufacturing, evaluation, equipment and defect of capsules.	H	L	M	L				M				L
CO-06 Explain pharmacopoeial specification. Explain requirement of coating, techniques & Equipment used in tablet coating.	H			L								
CO-07 Able to perform preformulation studies of tablets and capsule	H							L				L
CO-08 Understand the knowledge to formulate, evaluate and label of tablets and capsules	H		H	M				L		M		L


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Course Outcome (BP503& BP507P (T/P))	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
(1) Understand the guidelines for animal experimentations and develop skills of various routes of drug administration, methods for blood collection from experimental animals.	H	H	L	M	L	...	L	...	M	...	M	...
(2) Learn the composition of physiological salt solutions and basic instruments used in experimental pharmacology.	M	H	L	L	M	...	...	...	...	...	...	...
(3) Perform experiments using various isolated preparation and the effects of different drugs on the concentration response curves.	M	H	L	M	L	...	...	...	...	...	L	...
(4) Study the action of various drugs using preclinical models/computer simulations.	H	H	H	L	L	M	...	L	L	L	L	L
(5) To understand the use of isolated tissue preparation for antagonistic bioassay methods.	H	H	M	M	L	...	L	L	L	...	L	L
(6) Demonstrate isolation of different organ/tissue from the laboratory animal by simulated experiments.	H	H	M	H	M	L	L	...	L	...	L	...
(7) Demonstrate the various receptor action using isolated tissue preparation.	H	H	M	M	M	L	L	...	L	...	L	...
(8) appreciate correlation of pharmacology with related medical sciences.	H	H	M	M	M	L	L	L	M	...	M	L

Course Outcome (BP504 T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand and explain how the secondary metabolites are produced in crude drug from biosynthetic pathways and its investigation by radioactive isotopes.	H	M		L		M			M	H	H	H
CO-02 Understand and explain how to isolate, identified and produced various Phytochemical industrially.	H	L	H	H	M		M		M	H	H	M
CO-03 Explain properties, methods of extraction, chemical class, pharmaceutical and industrial applications of cardiac glycosides, alkaloids, volatile oil and Flavonoids and their derived products.	H	L	M		H	M	M		H	M	H	H
CO-04 Understand and explain various physical, chemical, spectroscopical and chromatography methods used in characterization and determination of carbon skeleton of natural	H	H	M	H			M	M	M	M	H	M



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products.													
CO-05 Comprehend & explain underlying principle, various methods of extraction processes and applications.	H	M	M	H						M	H	L	
CO-06 Able to understand morphology, microscopy and powder characteristics of crude drugs.	H	H	H	H	L	M		L	M	H	M		

Course Outcome (BP505 T)	Program Outcome (PO)												
	1	2	3	4	5	6	7	8	9	10	11	12	
CO-01 Illuminate relevance and significance of jurisprudence to pharmaceutical Sciences.	H		M		H	H	H	M	M	H	H	H	H
CO-02 Fundamentals of legislation to regulate import manufacture, distribution and sales of drug and cosmetics	H				H	H	H	M	M	H	H	H	H
CO-03 Brief study of legislation	H				H	H	H	M	M	H	H	H	H
CO-04 Concepts of intellectual property right patent system, drug regulatory affairs etc.	H	H	M		H	H	H	M	M	H	H	H	H


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Attainment of Course outcome with program outcome (VI semester)

Course Outcome (BP601T/BP607P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand the importance of the drug design and different techniques of drug design.	H	H	M	H	M					M		
CO-02 Understand the chemistry of drug with respect to their biological activity.	H	H	M	H	M	M				M	M	
CO-03 Know the metabolism, adverse effects and therapeutic value of drugs.	H	H	M	M	H					M		
CO-04 Know the Importance of SAR	H	H	H	H	M					M		
CO-05 Know the preparation of medicinally important compound.	H	H	M	M	H	M				M	M	
CO-06 Understand the CADD and software for drawing structure, analyze the different properties of drug.	H	H	M	H	M	L				M		

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Course Outcome BP602T & BP608P (T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
1) Describe the pharmacology and pharmacotherapy of various general and local anesthetics.	H	M	M	M	H	M	M	L	L	L	M	L
(2) Illustrate the appropriate drug therapy and management of patients with specific CNS disorders.	M	M	M	M	L	L	L	L	L	L	M	L
(3) Explain the indications, mechanism of action, adverse effects and contraindications for the major classes of drugs used in the treatment of Parkinson's Disease, Migraine and Alzheimer's disease.	H	H	M	M	M	L	L	L	L	L	M	M
(4) Describe Pharmacological features of different classes of NSAIDs and pharmacotherapy of Rheumatoid Arthritis, Osteoarthritis and Gout.	H	H	M	M	M	M	L	L	L	L	L	L
(5) Understand the basic principles of bioassay, types of bioassay along with advantages and disadvantages.	H	H	L	M	L	L	L	L	L	L	L	L

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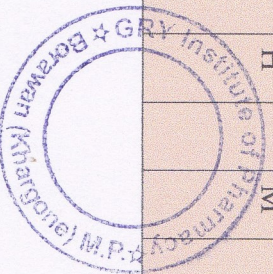
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(6) Perform isolated experiments using various isolated preparation and the effect of different drugs on the concentration response curves.	H	H	H	H	M	M	M	L	L	L	L	M	L	M
(7) Study the preclinical screening of various drugs.	H	H	H	H	M	L	L	L	L	L	L	M	L	L

Course Outcome (BP603 T/P)	Program Outcome (PO)													
	1	2	3	4	5	6	7	8	9	10	11	12		
CO-01 Understand and explain concept of health & pathogenesis, philosophical basis, diagnosis and treatment aspects of Ayurveda, Unani, Siddha and Homoeopathic system of medicine.	H	L	L	H	H	M	M	M	M	M	L	H	H	
CO-02 Understand & explain method of preparation of Ayurvedic dosage forms; significance of novel drug delivery of natural products; herbs used in cosmetic preparation & methods of their formulations.	H		H	H	H	M	M		L	H	H			
CO-03 Compare and contrast nutraceuticals and functional foods and understand their significance.	H	L	L	H	H	M	M		M	H	H			
CO-04 Understand and explain methods of herbal drug analysis, Quality control parameter as per WHO guidelines.	H	M	L	H	H	L	H		H	H	M	M	M	
CO-05 Understand and realize the significance of natural products in daily life and be able to classify different segments in market, demand and supply position; export and import potential and position of Indian herbal drug industry in global context.	M		M	L	M		M	M	M	H	M		H	
CO-06 Comprehend and explain government organizations and policies for promotion, their regulation in India & other countries, various regulatory guidelines, patenting and ethical issues etc.	M	H		M	H		H	L	H	H			M	
CO-07 Understand and explain safe use of natural products, possible toxicities & interaction, toxicities in most venerable group (elderly patients) and significance of pharmacovigilance systems.	H	L	M		H		M		H	H	H		H	



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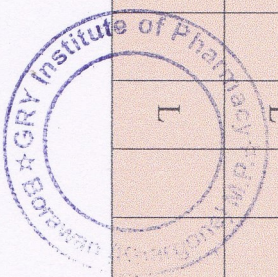
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Course Outcome (BP603 T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand and explain concept of health & pathogenesis, philosophical basis, diagnosis and treatment aspects of Ayurveda, Unani, Siddha and Homoeopathic system of medicine.	H		L		H	M	M		M	H	H	
CO-02 Understand & explain method of preparation of Ayurvedic dosage forms; significance of novel drug delivery of natural products; herbs used in cosmetic preparation & methods of their formulations.	H		H	H	H	M	M		L	H	H	
CO-03 Compare and contrast nutraceuticals and functional foods and understand their significance.	H		L		H	M	M		M	H	H	
CO-04 Understand and explain methods of herbal drug analysis, Quality control parameter as per WHO guidelines.	H	M	L	H	H	L	H			H	M	M
CO-05 Understand and realize the significance of natural products in daily life and be able to classify different segments in market, demand and supply position; export and import potential and position of Indian herbal drug industry in global context.	M		M	L	M		M	M	M	H	M	H
CO-06 Comprehend and explain government organizations and policies for promotion, their regulation in India & other countries, various regulatory guidelines, patenting and ethical issues etc.	M	H		M	H		H	L	H	H		M
CO-07 Understand and explain safe use of natural products, possible toxicities & interaction, toxicities in most venerable group (elderly patients) and significance of pharmacovigilance systems.	H	L	M		H		M		H	H	H	



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Course Outcome (BP604T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand the concept of biopharmaceutics and its applications in product development. Understand the concept of ADME of drug in human body	H	H		M								
CO-02 Learning the concepts of bioavailability and bioequivalence studies. Determine the various pharmacokinetic parameters from either plasma concentration or urinary excretion data for drug.	H	H		M								
CO-03 Study the pharmacokinetic processes and their relevance in efficacy of dosage form.	H	H		M								
CO-04 Learning various compartmental models.	H	H		M								
CO-05 Understand the concept and mechanisms of dissolution and correlation.	H	H		M								
Course Outcome (BP606T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 The students understand the importance of quality in pharmaceutical products and importance of Good practices of GMP.	H	H					L		H			L
CO-02 The process involved in manufacturing of pharmaceuticals different section/department and activity is learnt.	H	H					L		H			L
CO-03 The students is explored the quality control environment and understand the good laboratory practices.	H	H		M			L		H			L
CO-04 The various documentation processes is highlighted to the student.	H	H					L		H			L
CO-05 The student understand the concept and implementation validation.	H	H		M			L		H			L



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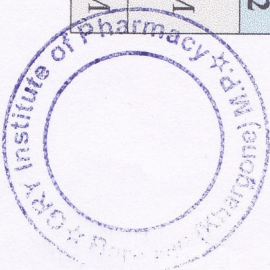
Attainment of Course outcome with program outcome (VII semester)

Course Outcome (BP701T/P)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Understand the interaction of matter with electromagnetic radiation and its applications in drug analysis	H	H								M		
CO-02 Understand the chromatographic separation and analysis of drug.	H	M		H						M		
CO-03 Perform the quantitative & qualitative analysis of drugs using various analytical instruments	H	M		H						H		
CO-04 Demonstrate knowledge of sampling methods for all states of matter.	H		M	H						M		
CO-05 Give the knowledge of sophisticated instruments used for the testing of biological like: Blood serum, Urine.	M	M								H		
CO-05 Emphasis the validation and calibration of Pharma analytical instruments used in Quality control of drugs.	H	H		M						H		
CO-06 Understanding principle, instrumentation and applications of IR, UV, HPLC and concept of automated method of analysis	H	H		H						H		M
CO-07 Assess sources of errors including impurities in chemical analysis and account for errors in data analysis	H	H		M	L					H		
CO-08 Optimize the method for the development of analytical method for the determination of API.	H	H		M	H					H		M
CO-09 Understand and able to apply the theory and operational principles of analytical instruments	H	H		H						H		M

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Course Outcome (BP702T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 Discuss the process of pilot plant scale up of pharmaceutical dosage forms.	H	H	H	H								M
CO-02 Demonstrate the practice and the process of technology	H	H	H	H								M



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transfer from lab scale to commercial.																				
CO-03 Explain the different laws and acts that regulate pharmaceutical industry.	H		H																	
CO-04 Describe the approval process and regulatory requirements of drug products.	H		H		H															
CO-05 Describe the common measure use in quality.	H		H		H															L
CO-06 Describe the role and responsibility of regulatory agencies in the approval of drugs.	H																			
CO-07 Describe the organization and responsibilities of national and state licensing authority.	H																			M

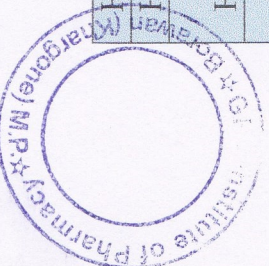
Course Outcome (BP703T)	Program Outcome (PO)																					
	1	2	3	4	5	6	7	8	9	10	11	12										
CO-01 To understand various drug distribution methods in a hospital	H				H							M									M	
CO-02 To understand the Pharmacy stores management and inventory control.	H			L	H							M										M
CO-03 To know how to monitor drug therapy of patient through medication chart review and clinical review.	H				M							M										
CO-04 To understand how to counsel the patients.	H				H							H										H
CO-05 Detect and assess the adverse drug reactions and how to report them.	H				H							L										
CO-06 Learn to interpret selected laboratory results.	H																					H
CO-07 Role and duty of Pharmacist in health sector and public sector	H				H							H										M
CO-08 Learn to take active participation in PTC meetings and Hospital formulary system	H											H										M

Course Outcome (BP704T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-01 To understand various approaches for development of novel drug delivery systems.	H	H		H						H		
CO-02 To understand the criteria for selection of drugs and polymers for the development of Novel drug delivery systems.	H	H		M						H		M
CO-03 Study of Microencapsulation, its Techniques & Applications.	H			H						H		
CO-04 Study of Gastroretentive formulations.	H		M	H						H		
CO-05 Evaluation Study of Modified Drug Release Systems	H			M						H		L
CO-06 Study of formulation and processing of therapeutic aerosols	H		M							H		
CO-07 Study of Targeted, Nasopulmonary & Transdermal drug delivery system.	H		M	H						H		
CO-08 Study of evaluation of marketed preparations.	H			M						H		L

**Attainment of Course outcome with program outcome
(VIII semester)**

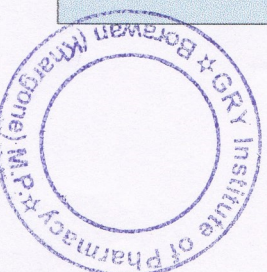
Course Outcome (BP801T)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
CO-1 To understand the applications of Biostatistics in Pharmacy	H	H	M					M				
CO-2 Know the operation of M. S. Excel, SPSS, R and MINITAB®, DoE (Design of Experiment)	H	H	M					M				H
CO-3 Know the various statistical techniques to solve statistical problems	H	H	M	H				M				H
CO-4 Appreciate statistical techniques in solving the problems.	H	H	M	H				M				H
CO-5 Hypothesis testing for research	H	H	M	H	H			M				H


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Course Outcome	Program Outcome (PO)												
	1	2	3	4	5	6	7	8	9	10	11	12	
(BP802)													
CO-01 Acquire high consciousness/realization of current issues related to health and pharmaceutical problems within the country and worldwide.	H	H			M	M	M			H		M	
CO-02 Have a critical way of thinking based on current healthcare development.	H	M			H	M	M	M		H		M	
CO-03 Evaluate alternative ways of solving problems related to health and pharmaceutical issues.	H	H			M					H		H	
CO-04 To understand different preventive medicines and national health programs.	H				H			M		H		M	
Course Outcome	Program Outcome (PO)												
(BP803)													
CO-01 Classify and define Cosmetics and Cosmeceuticals as per Indian and EU regulations, and describe the role of cosmetic excipients and building blocks in the formulation of cosmetics.	H		H							H			
CO-02 Describe the fundamentals of the formulation of cosmetic products. Formulate cosmetics for skin care and hair care as well as dental and oral care.	H		H							H			
CO-03 Design herbal cosmetics for skin care, hair care and oral care.	H		H							H			
CO-04 Evaluate cosmetics for various physico-chemical properties.	H			H						H			
CO-05 Design cosmetics and cosmeceuticals that address the problems of dry skin, acne, dermatitis, prickly heat, wrinkles, blemishes, hair fall, Dandruff, body odour, bleeding gums, mouth odour, teeth discoloration and sensitive teeth.	H									H		L	




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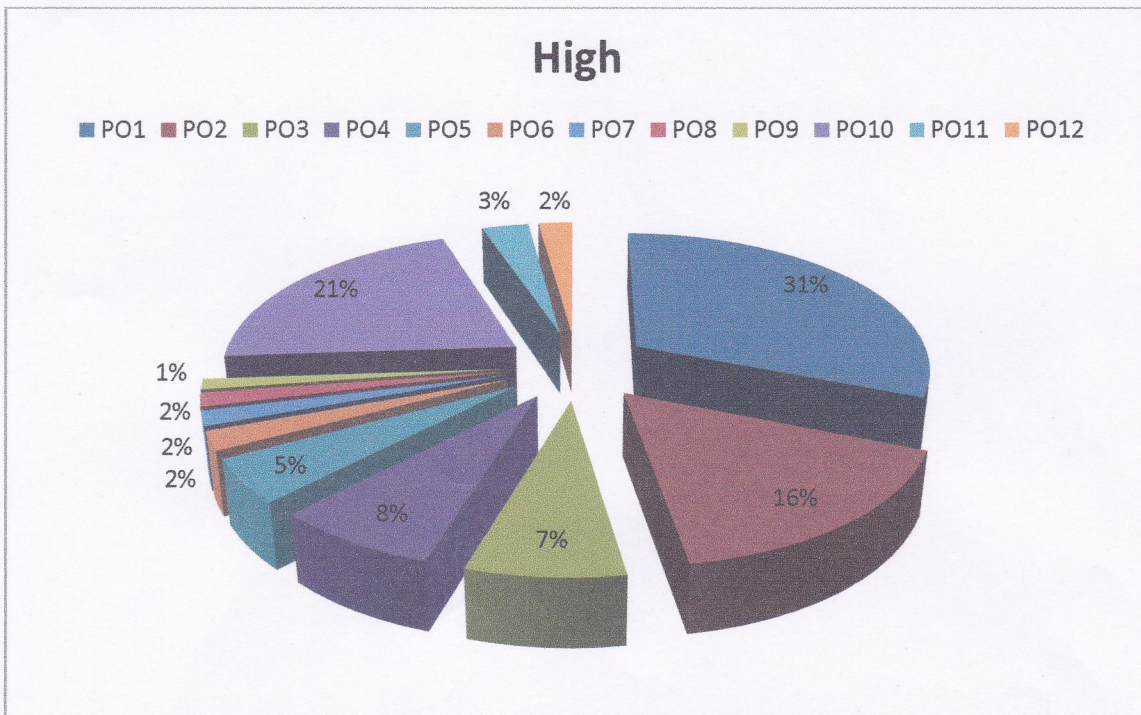
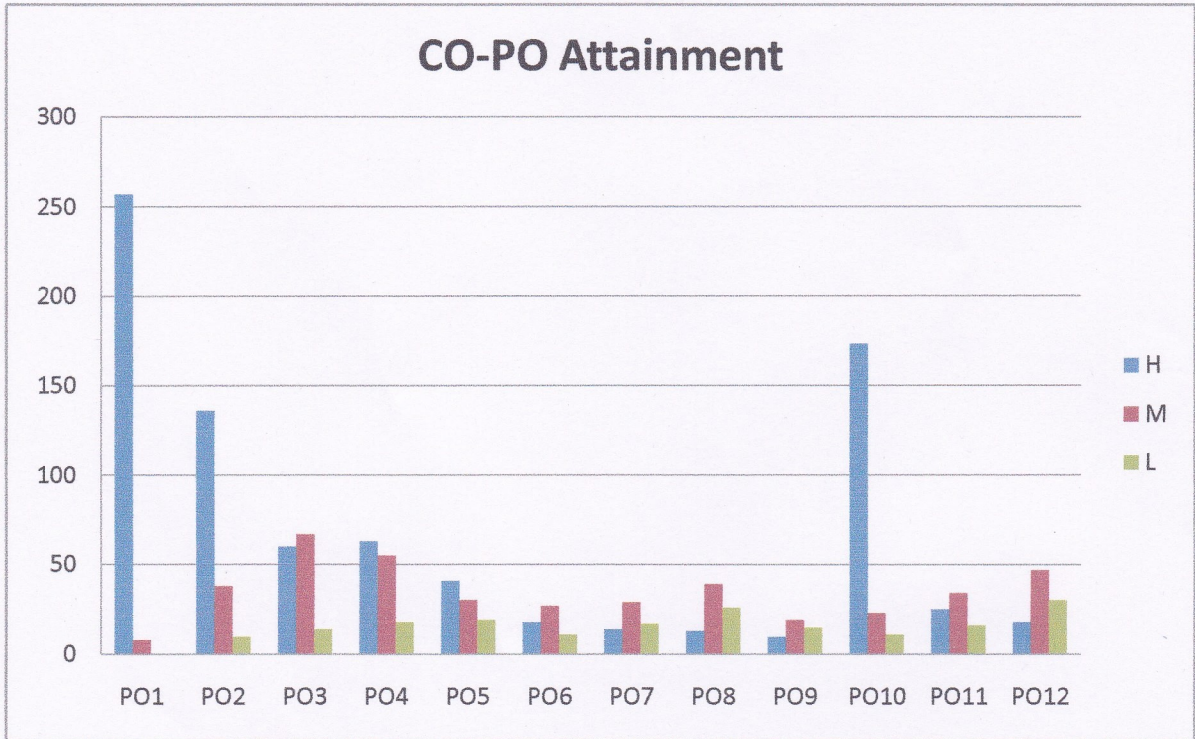
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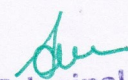
Course Outcome BP804T(F)	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
PHARMACEUTICAL PRODUCT DEVELOPMENT												
CO-01 To study regulations related to preformulation, formulation development, stability assessment	H		M	H						H		
CO-02 knowledge about quality control testing of different types of dosage forms	H		M	H						H		
CO-03 An advanced study of Pharmaceutical Excipients in pharmaceutical product development	H	M	H							H		
CO-04 advanced study of Pharmaceutical Excipients used in different dosage forms in pharmaceutical product development	H		H							H		
CO-05 study of various optimization techniques for pharmaceutical product development	H	H		H						H		
CO-06 knowledge about Selection and quality control testing of packaging materials for pharmaceutical product development	H									H		
CO-07 study of Quality by Design and its application in pharmaceutical product development.	H	M								H		


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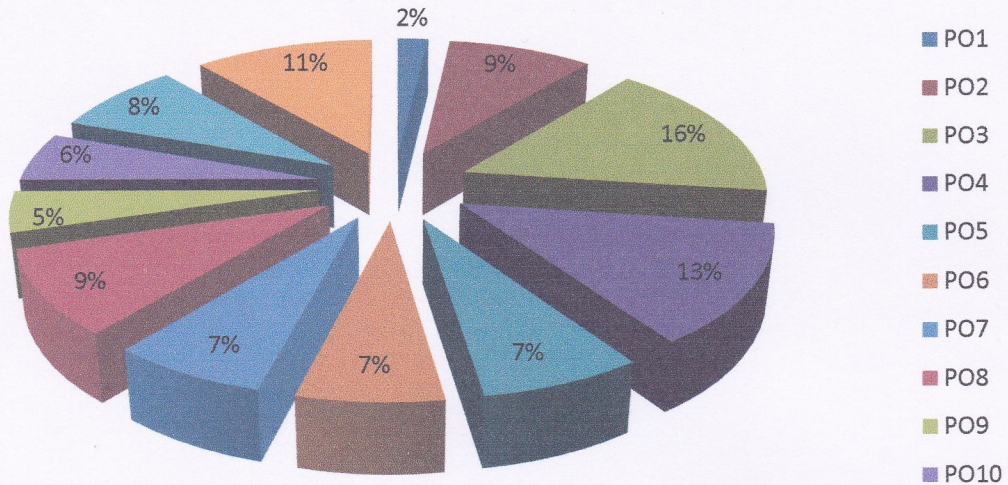
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CO-PO Attainment



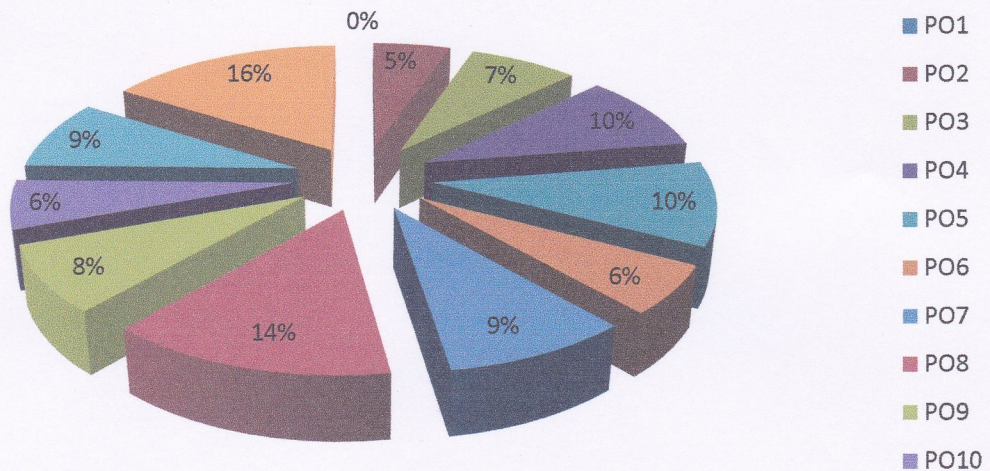

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CO-PO Attainment

Medium

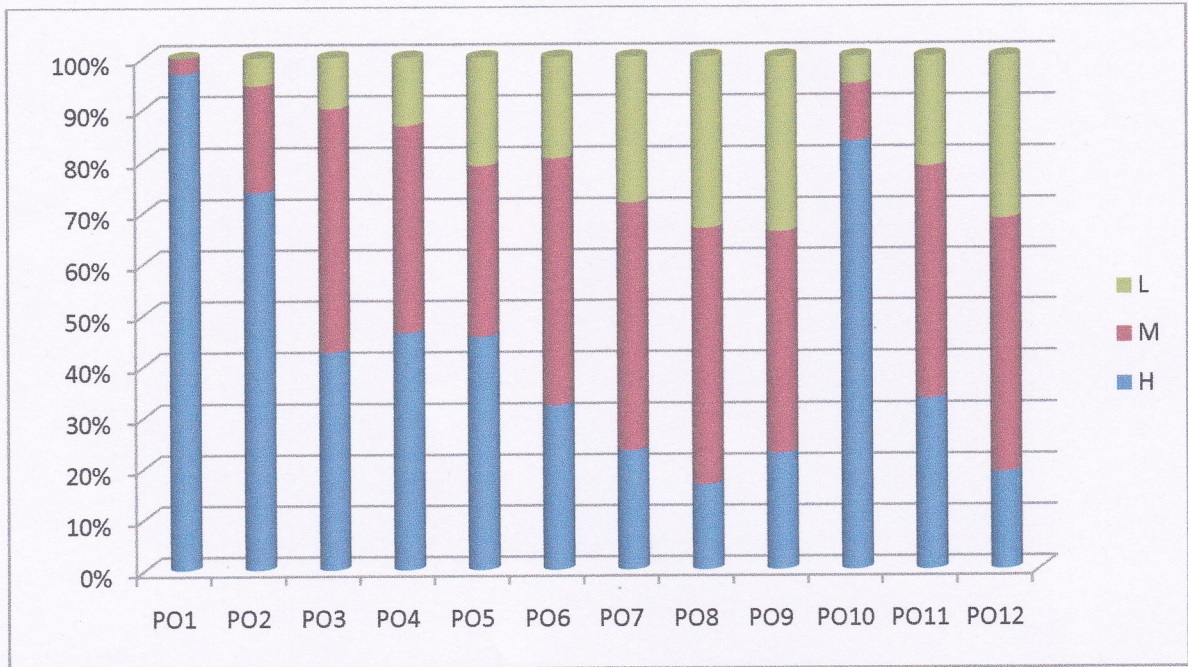



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