Amar Sewa Mandal's
Kamla Nehru College of Pharmacy
Borkhedi (gate), Butibori, Nagpur-441 108 (M.S.)

CRITERION 2

2.6.1.

Programme and course outcomes for all programmes offered by institution are stated and displayed on website and communicated to teacher and students

2.6.1 ***Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.***

Programme outcomes (PO), programme specific outcomes (PSO) and course outcomes (CO) have been designed by IQAC members and faculty members, respectively.

1. Program Outcomes (PO) for the programs of our institute is structured as per National Board of Accreditation (NBA) guidelines. Program specific outcome (PSO)is prepared by the institute to attain the attributes of PO's. PSO's are designed by the inputs from management, faculty, alumni, and employers and then approved by IQAC.

2. CO's are designed after discussion with faculty and Head of Department; it is reviewed and finalized in IQAC meeting.

3. IQAC explains the mapping and attainment of CO and PO.

Programme outcomes (PO), programme specific outcomes (PSO) and course outcomes(CO)are communicated to students through:

- Lecture
- Website: knpharmacycollege.ac.in
- Notice and display boards

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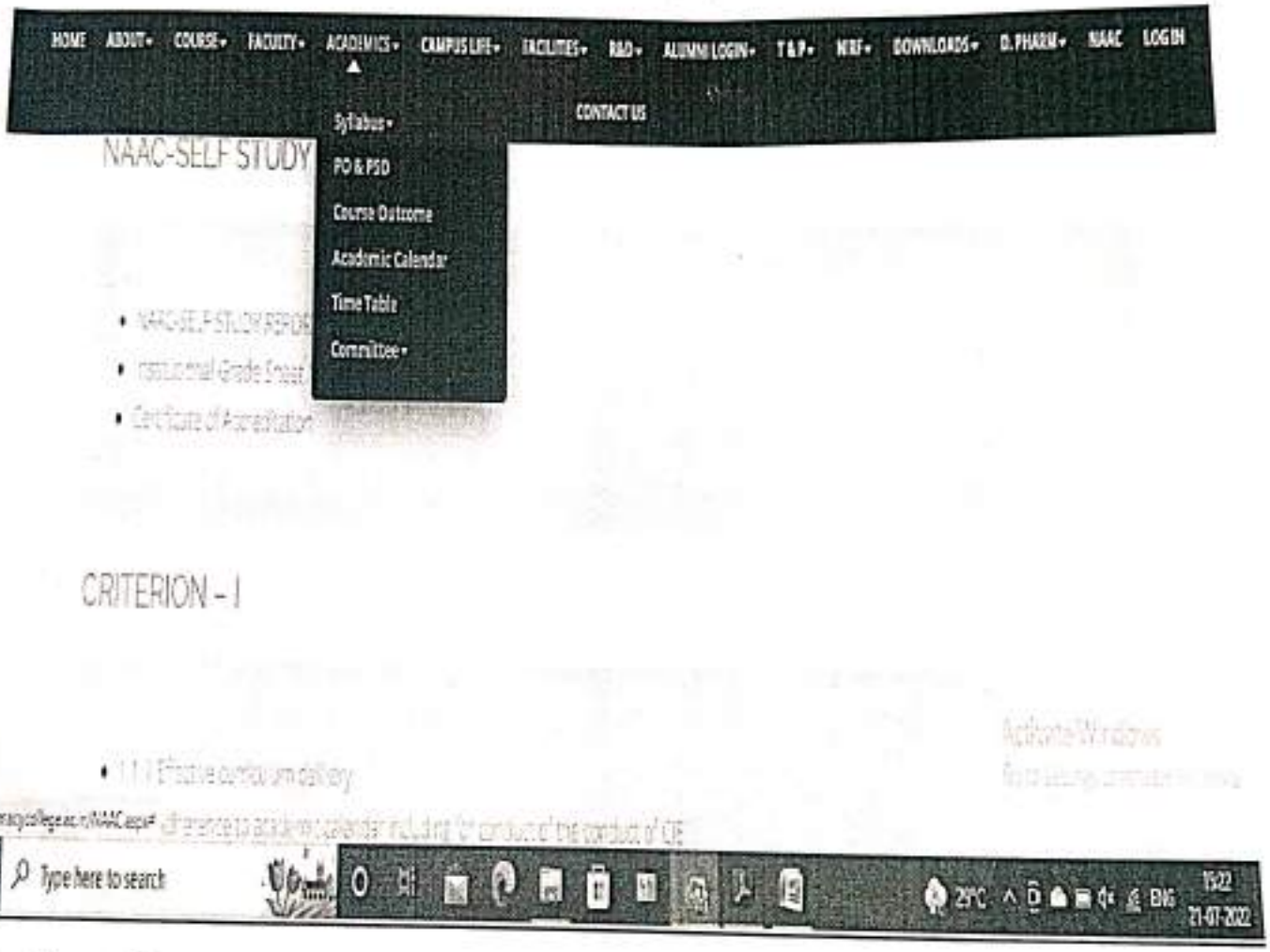
Amar Sewa Mandal's

KNCP Kamla Nehru College of Pharmacy

Accredited by NAAC with (B++) grade (CGPA 2.79)

Approved by PCI & DTE Maharashtra (DTE Code :4206)

Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur



Display of Programme outcome and programme specific outcome on website

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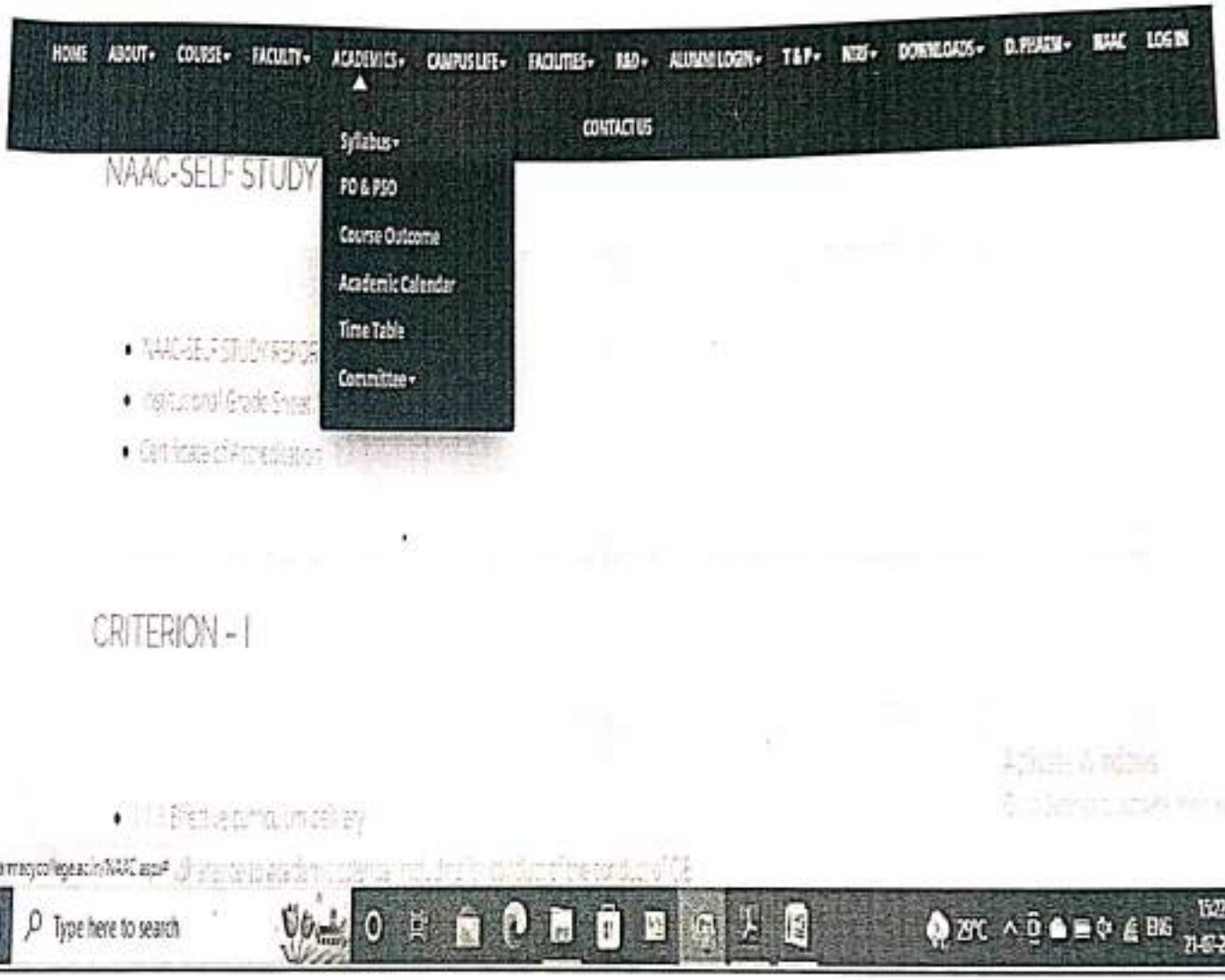

Display of Programme outcome

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PROGRAM OUTCOMES

Program Outcomes (PO's) for the programs of our institute is structured as per National Board of Accreditation (NBA) guidelines. It is as follows:

PO1: Pharmacy Knowledge

PO2: Planning Abilities

PO3: Problem Analysis

PO4: Modern tool usage

PO5: Leadership skills

PO6: Professional Identity

PO7: Pharmaceutical Ethics

PO8: Communication

PO9: The Pharmacist and society

PO10: Environment and sustainability

PO11:Life-long learning

PROGRAM SPECIFIC OUTCOME

Program specific outcome (PSO's) is prepared by the institute to attain the attributes of PO's.

It is as follows:

PSO1: The graduate of this program will be competent enough to effectively and successfully participate in all facets of manufacturing process of pharmaceuticals.

PSO2: The graduate of this program will be enriched with adequate therapeutic knowledge of the drug molecule to effectively participate in the healthcare system.

PSO3: The graduate of this program will have innovative mind set and knowledgably enriched to efficiently contribute to the research.

PSO4: The graduate of this program will have ethical, societal and environmentally conscious behavior.

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Course outcomes (CO's) for all Programmes (UG and PG) offered by the institution (2021-2022)

Program Name	Course code	Course Name	Year of introduction	Course Outcomes
B. Pharm Semester I	BP101T	Human Anatomy and Physiology I - Theory	2017-18	Upon completion of this course the student should be able to 1. Explain the gross morphology, structure and functions of various organs of the human body 2. Describe the various homeostatic mechanisms and their imbalances 3. Identify the various tissues and organs of different systems of human body. 4. Perform the various experiments related to special senses and nervous system 5. Appreciate coordinated working patteen of different organs of each system
	BP102T	Pharmaceutical Analysis I – Theory	2017-18	Upon completion of the course student shall be able to · understand the principles of volumetric and electro chemical analysis · carryout various volumetric and electrochemical titrations · develop analytical skills
	BP103T	Pharmaceutics I – Theory	2017-18	Upon completion of this course the student should be able to: · Know the history of profession of pharmacy · Understand the basics of different dosage forms, pharmaceutical incompatibilities and pharmaceutical calculations · Understand the professional way of handling the prescription · Preparation of various conventional dosage forms
	BP104T	Pharmaceutical Inorganic Chemistry –Theory	2017-18	Upon completion of course student shall be able to · know the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals · understand the medicinal and pharmaceutical importance of inorganic compounds.
	BP105T	Communication skills – Theory *	2017-18	Upon completion of the course the student shall be able to 1. Understand the behavioral needs for a Pharmacist t function effectively in the areas of pharmaceutical operation 2. Communicate effectively (Verbal and Non Verbal) 3. Effectively manage the team as a team player 4. Develop interview skills 5. Develop Leadership qualities and essentials
	BP106RBT	Remedial Biology	2017-18	Upon completion of the course, the student shall be able to · know the classification and salient features of five kingdoms of life · understand the basic components of anatomy & physiology of plant

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				know understand the basic components of anatomy & physiology animal with special reference to human
	BP106RMT	Remedial Mathematics – Theory*	2017-18	Upon completion of the course the student shall be able to:- 1. Know the theory and their application in Pharmacy 2. Solve the different types of problems by applying theory 3. Appreciate the important application of mathematics in Pharmacy
	BP107P	HUMAN ANATOMY AND PHYSIOLOGY (Practical)		Upon completion of the course the student shall be able to 1. Explain the gross morphology, structure and functions of various organs of the human body. 2. Describe the various homeostatic mechanisms and their imbalances. 3. Identify the various tissues and organs of different systems of human body. 4. Perform the various experiments related to special senses and nervous system. 5. Appreciate coordinated working pattern of different organs of each system.
B. Pharm Semester II	BP201T	Human Anatomy and Physiology II – Theory	2017-18	Upon completion of this course the student should be able to: 1. Explain the gross morphology, structure and functions of various organs of the human body. 2. Describe the various homeostatic mechanisms and their imbalances. 3. Identify the various tissues and organs of different systems of human body. 4. Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume. 5. Appreciate coordinated working pattern of different organs of each system 6. Appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.
	BP202T	Pharmaceutical Organic Chemistry I – Theory	2017-18	Upon completion of the course the student shall be able to 1. write the structure, name and the type of isomeris of the organic compound 2. write the reaction, name the reaction and orientati of reactions 3. account for reactivity/stability of compounds, 4. identify/confirm the identification of organic compound
	BP203T	Biochemistry – Theory	2017-18	Upon completion of course student shell able to 1. Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes. 2. Understand the metabolism of nutrient molecule

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				physiological and pathological conditions. 3. Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.
	BP204T	Pathophysiology – Theory	2017-18	Upon completion of the subject student shall be able to – 1. Describe the etiology and pathogenesis of the selected disease states; 2. Name the signs and symptoms of the diseases; and 3. Mention the complications of the diseases.
	BP205T	Computer Applications in Pharmacy – Theory	2017-18	Upon completion of the course the student shall be able to 1. know the various types of application of computers in pharmacy 2. know the various types of databases 3. know the various applications of databases in pharmacy 1. know the various types of application of computers in pharmacy 2. know the various types of databases 3. know the various applications of databases in pharmacy
	BP206T	Environmental sciences – Theory *	2017-18	Upon completion of the course the student shall be able to: 1. Create the awareness about environmental problems among learners. 2. Impart basic knowledge about the environment and its allied problems. 3. Develop an attitude of concern for the environment 4. Motivate learner to participate in environment protection and environment improvement. 5. Acquire skills to help the concerned individuals in identifying and solving environmental problems. 6. Strive to attain harmony with Nature.
harm ester II	BP301T	Pharmaceutical Organic Chemistry II – Theory	2017-18	Upon completion of the course the student shall be able to 1. write the structure, name and the type of isomeris of the organic compound 2. write the reaction, name the reaction and orientati of reactions 3. account for reactivity/stability of compounds, 4. prepare organic compounds
	BP302T	Physical Pharmaceutics I – Theory	2017-18	Upon the completion of the course student shall be able to 1. Understand various physicochemical properties drug molecules in the designing the dosage forms 2. Know the principles of chemical kinetics & to u them for stability testing nad determination of expiry date of formulations 3. Demonstrate use of physicochemical properties the formulation development and evaluation of dosage forms.

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	BP303T	Pharmaceutical Microbiology – Theory	2017-18	Upon completion of the subject student shall be able to; 1. Understand methods of identification, cultivation and preservation of various microorganisms 2. To understand the importance and implementation of sterilization in pharmaceutical processing and industry 3. Learn sterility testing of pharmaceutical products 4. Carried out microbiological standardization of Pharmaceuticals. 5. Understand the cell culture technology and its applications in pharmaceutical industries.
	BP304T	Pharmaceutical Engineering – Theory	2017-18	Upon completion of the course student shall be able: 1. To know various unit operations used in Pharmaceutical industries. 2. To understand the material handling techniques. 3. To perform various processes involved in pharmaceutical manufacturing process. 4. To carry out various test to prevent environmental pollution. 5. To appreciate and comprehend significance of plant lay out design for optimum use of resources. 6. To appreciate the various preventive methods used for corrosion control in Pharmaceutical industries.
B. Pharm Semester IV	BP401T	Pharmaceutical Organic Chemistry III– Theory	2017-18	At the end of the course, the student shall be able to 1. understand the methods of preparation and properties of organic compounds 2. explain the stereo chemical aspects of organic compounds and stereo chemical reactions 3. know the medicinal uses and other applications of organic compounds
	BP402T	Medicinal Chemistry I – Theory	2017-18	Upon completion of the course the student shall be able to 1. understand the chemistry of drugs with respect to their pharmacological activity 2. understand the drug metabolic pathways, adverse effect and therapeutic value of drugs 3. know the Structural Activity Relationship (SAR) o different class of drugs 4. write the chemical synthesis of some drugs
	BP403T	Physical Pharmaceutics II – Theory	2017-18	Upon the completion of the course student shall be able to 1. Understand various physicochemical properties o drug molecules in the designing the dosage forms 2. Know the principles of chemical kinetics & to us them for stability testing nad determination of expiry date of formulations 3. Demonstrate use of physicochemical properties the formulation development and evaluation of dosage forms.

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	BP404T	Pharmacology I – Theory	2017-18	Upon completion of this course the student should be able to 1. Understand the pharmacological actions of differen categories of drugs 2. Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels. 3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases. 4. Observe the effect of drugs on animals by simulate experiments 5. Appreciate correlation of pharmacology with othe bio medical sciences
	BP405T	Pharmacognosy and Phytochemistry I– Theory	2017-18	Upon completion of the course, the student shall be able 1. to know the techniques in the cultivation and production of crude drugs 2. to know the crude drugs, their uses and chemical nature 3. know the evaluation techniques for the herbal dr 4. to carry out the microscopic and morphological evaluation of crude drugs
B. Pharm Semester V	5T1	Pharmaceutics-V (Physical Pharmacy)	2013	Upon the completion of the course student shall be able to: CO1. Describe the importance of particle size ana and their applications in pharmaceutical sciences. CO2. Demonstrate the importance and significan surface and interfacial phenomenon in stabilizatio dosage forms. CO3. Explain surfactants and its pharmaceutical significance. CO4. Apply the knowledge of theoretical and thermodynamic considerations in formulation an manufacturing of Pharmaceutical dispersions. CO5. Enumerate properties of colloids and their applications in determination of molecular weig polymers.
	5T2	Pharmaceutical Medicinal Chemistry-I	2013	Upon the completion of the course students wil able to: CO1. Describe the importance of basic princip medicinal chemistry. CO2. Explain the importance and significance absorption, distribution, metabolism pathways elimination. CO3. Relate the knowledge of chemistry of a some specified categories as listed in syllabus respect to their pharmacological activity, mod action & adverse effect. CO4. Explain the Structural Activity Relatio (SAR) of various classes of drug. CO5. Write the chemical synthesis of some CO6. Narrate the principles of prodrug desig application.
	5T3	Pharmacol	2013	Upon the completion of the course student v to: CO1. Describe pharmacology of drugs actin

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				Central nervous system CO2. Describe pharmacology of local anaesthetics and explain techniques for local anaesthesia. CO3. Discuss pharmacology of drugs acting on respiratory system. CO4. Explain MOA of drugs acting on gastrointestinal tract. CO5. Define terminologies of clinical research. Describe various phases, forms and ethical issues.
	5T4	Pharmacognosy and Phytochemistry-III (Chemistry of Natural Products)	2013	Upon the completion of the course student shall be able to: CO1. Describe the various methods of extraction isolation & purification of phyto-pharmaceuticals. CO2. To know chemical nature uses and medicinal importance of crude drugs. CO3. Demonstrates general methods of extraction of Volatile oils, Terpenoids& Resins etc. CO4. Apply the knowledge of chromatographic profile/techniques of crude drugs. CO5. Explain n understand biogenetic pathways of Primary & secondary metabolites.
	5T5	Clinical Pharmacy	2013	Upon the completion of the course students will be able to: CO1. Explain in detail about clinical pharmacy practice and the role of pharmacist towards the pharmacy profession, institutional short and long term care. CO2. Enumerate the mechanism of drug interaction and also the various factors affecting drug interaction CO3. Monitor, detect and report A.D.R as well as various factors affecting A.D.R CO4. Describe the significance and interference of various clinical laboratory tests. CO5. Enumerate the utility of computer in clinical pharmacy practices. CO6.Explain the meaning, method, and significance of therapeutic drug monitoring. CO7. Analyzed all parameters related to pharmacoeconomic study. CO8. Describe in detail about toxicology containing poisons their general treatment and classification, various types of poisoning, toxicity study, drugs and poison information centre etc.
	5T6	Regulatory Affairs and Intellectual Property Right	2013	Upon the completion of the course student shall be able to: CO1. Understand the process of drug discovery and development CO2. Know regulatory authorities & agencies governing the manufacturing & Sales of pharmaceuticals CO3. Understand regulatory approval process & their registration in Indian & international market CO4. Describe various application for approval of new drug (INDA, NDA, ANDA, DMF). CO5. Explain patent related issues, patent infridgment, freedom to operate. CO6. Understand IPR & IPR related regime (Copy

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				rights, IRS, etc.) Upon the completion of the course student shall be able to: CO1. Describe applications of solubility and distribution phenomena in pharmacy CO2. Demonstrate the diffusion and dissolution process and their applications in pharmaceutical sciences CO3. Describe various rheological properties of pharmaceutical dispersed systems CO4. Enumerate principles of chemical kinetics and to use them for stability testing of pharmaceutical formulations CO5. Discuss physicochemical and mechanical properties of polymers and their applications in development of pharmaceutical formulations
B. Pharm Semester VI	6T1	Pharmaceutics-VI (Physical Pharmacy)	2013	
	6T2	Pharmaceutical Medicinal Chemistry-II	2013	Upon the completion of the course student will be able to: CO1. Relate the knowledge of the chemistry of drugs with respect to their pharmacological activity, mode of action &adverse effect. CO2. Explain the Structural Activity Relationship (SAR) of different class of drugs CO3. Write the chemical synthesis of drugs mentioned in the syllabus. CO4. Describe the importance of drug design and various techniques of drug design like CADD, QSAR & Molecular modeling. CO5. Write the methods of combinatorial chemistry and its application in pharmacy. CO6. Outline the different strategies and application of genetic engineering in pharmacy.
	6T3	Pharmacology-IV	2013	Upon the completion of the course student will be able to: CO1. Describe the various pharmacological aspects of drugs acting on endocrine system. CO2. Describe the various pharmacological aspects of chemotherapy of microbial infections. CO3. Describe the various pharmacological aspects of drugs acting on Immune system. CO4. Explain the designs used in clinical trials, and their advantages and disadvantages. CO5. Describe the role and responsibility of all the stakeholders connected with clinical trial. CO6. Describe the guidelines of clinical research and management of clinical trials.
	6T4	Pharmacognosy and Phytochemistry-IV (Recent Advances in Phytochemistry)	2013	Upon the completion of the course student shall be able to: CO1. Explain and classify the crude drug from Glycosides & Tannins . CO2. To know isolation and purification techniques o glycosides/tannins. CO3. Describe spectral studies of crude drugs along. CO4. Understand the importance of medicinal/therapeutic uses of crude drugs CO5. Understand and explain various advances in phyto-pharmacognosy

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	6T5	Clinical Pharmacotherapeutics-I	2013	Upon the completion of the course students will be able to: CO1. Explain the concept of essential drug and the rational use of drug formulation. CO2. Explain the etiology and pathogenesis of various diseases and disorders. CO3. Describe rational pharmacotherapy of various diseases and disorders of various systems of body. CO4. Enumerate selected diseases related to selected system such as CVS, CNS, Respiratory system, urogenital system, G.I system and musculoskeletal system. CO5. Describe the primary and secondary treatment of various diseases which will disturb the psychological condition of human being. CO6. Manage the disease condition and also about the therapy to be given in various disease condition.
	6T6	Pharmaceutical Validation	2013	Upon the completion of the course student shall be able to: CO1. Determine/understand various pharmaceutical process during manufacturing. CO2. Understand cGMP aspects in Industries. CO3. Appreciate the importance of documentation in industry CO4. Understand the scope of quality certification applicable to Pharmaceutical Industry.. CO5. Understand the responsibility of QA & QC department.
	7T1	Pharmaceutics (DFT-I) (Conventional)	2013	Upon the completion of course student shall be able to: Identify various physicochemical properties of drug to be considered before Preformulation. Express the influence of pharmaceutical additives on formulation and stability of dosage forms. Describe the manufacturing and evaluation techniques of various solid, semisolid and sterile dosage forms. To formulate and evaluate various cosmetic preparations.
Pharm emester VII	7T2	Pharmaceutical Medicinal Chemistry-III	2013	Upon the completion of the course students will be able to: CO1.classify the medicinal agents on the basis of chemical nature of drugs. CO2.draw the structure, write the chemical name an synthetic procedure of drugs. CO3. relate the knowledge of chemistry of a drug o some specified categories as listed in syllabus with respect to their pharmacological activity, mode of action & adverse effect. CO4 explain the Structural Activity Relationship (SAR) of various classes of drug. CO5. describe the physicochemical and steric properties of various classes of drug. CO6. Describe the importance of drug design and various techniques of drug design like CADD, QS & Molecular modeling. CO7. Outline the different strategies and applicat of genetic engineering in pharmacy.

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	7T3	Pharmaceutical Analysis-III (Separation Techniques)	2013	Upon completion of course student shall be able to: CO 1. Able to explain the concept and principle of solvent extraction, liquid-liquid extraction CO 2. Knows classification and important term in chromatography CO 3. Able to explain the about stationary phase and mobile phase used in chromatography. CO 4. Know the techniques of development of paper chromatography and TLC CO 5. Able to handle instrument like HPLC, HPTLC and GC
	7T4	Clinical Pharmacotherapeutics-II	2013	Upon the completion of the course student will be able to: CO1. Describe the general prescribing guidelines for paediatrics, geriatrics and pregnancy and lactation. CO2. Explain etiology and pathogenesis of various endocrine, infectious, ophthalmologic and dermatologic diseases. CO3. Explain etiopathogenesis and pharmacotherapy of diseases and disorders associated with following infectious diseases CO4. Explain etiology and pathogenesis of various oncologic diseases. CO5. Explain the pharmacologic and non-pharmacologic therapy of various diseases.
	7T5	Pharmacognosy and Phytochemistry-V (Phytopharmaceutical /Herbal Technology)	2013	CO1 - Understand the importance of medicinal and aromatic plants. CO2 - Know the methods of extraction and isolation of phytoconstituents. CO3- Understand the standardization of herbal drugs and WHO guidelines for the same. CO4- Appreciate patenting of herbal drugs. CO5- Understand herbal drug interaction.
	7T6	Biopharmaceutics and Pharmacokinetics	2013	Upon completion of the course student shall be able to: 1. Understand the basic concepts in biopharmaceutics and pharmacokinetics and their significance. 2. Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination. 3. To understand the concepts of bioavailability and bioequivalence of drug products and their significance. 4. Understand various pharmacokinetic parameters, their significance & applications.
...rm ...er	8T1	Pharmaceutics (DFT-II) (NDDS)	2013	Upon the completion of the course student shall be able to: CO1.Describe the various approach for development of NDDS. CO2.Find out various factors influencing the design and performance of sustained/controlled drug delivery system and also able to describe the fundamental concepts in controlled release.

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				CO1 Design and fabricate matrix for oral controlled release and membrane matrix for oral controlled release CO2 Enumerate the various controlled ocular delivery systems and the devices used in ocular drug delivery CO3 Explain the parental nonaqueous controlled release dosage forms CO4 Describe targeted parental controlled drug delivery devices with the role of carriers in targeted drug delivery system CO5 Explain the approaches to development of transdermal therapeutic system
	8T2	Pharmaceutical Biotechnology and Molecular Biology	2013	Upon completion of the subject student shall be able to: 1. Understanding the importance of immobilized enzymes in Pharmaceutical Industries 2. Genetic engineering applications in relation to production of pharmaceuticals 3. Importance of Monoclonal antibodies in Industries 4. Appreciate the use of microorganisms in fermentation technology
	8T3	Pharmaceutical Analysis-IV (Spectroscopy)	2013	Upon the completion of the course student will be able to: CO1.explain the principles of different instrumental methods used in spectroscopic technique. CO2.describe the instrumentation and its working used in various spectroscopic technique. CO3.enumerate the applications of each spectroscopic technique mentioned in syllabus. CO4. differentiate the atomic absorption and flame emission spectroscopy CO5. Narrate the various hyphenated techniques.
	8T4	Pharmacognosy and Phytochemistry-VI (Industrial Pharmacognosy)	2013	CO1 - Understand herbal drug regulation in India and Market of medicinal plants. CO2 - Know the formulation and evaluation of herbal formulation and cosmetics. CO3- Understand quality control and GMP for production of phytomedicine. CO4 - Know about neutraceuticals and marine drugs.
	8T5	Pharmacovigilence (Drug safety)	2013	Upon the completion of the course student will be able to: CO1.Brief importance of safety drug monitoring with history and development of pharmacovigilance. CO2. Describe national and international scenario of pharmacovigilance. CO3. Explain different methods for detection of new adverse drug reactions. CO4. Describe adverse drug reaction reporting systems and communication in pharmacovigilance. CO5. Describe drug safety evaluation paediatrics, geriatrics, pregnancy and lactation CO6. Enumerate ICH guidelines ICSR, PUSR. CO7. Explain requirement of Pharmacovigilance programme of India for reporting ADR in India.

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				COR. What is a CIOMS requirement for ADR reporting.
	8T6	Industrial Pharmacy	2013	Upon completion of the course, the student shall be able to: 1. Know the process of pilot plant and scale up of pharmaceutical dosage forms 2. Understand the process of technology transfer from lab scale to commercial batch 3. Know different Laws and Acts that regulate pharmaceutical industry 4. Understand the approval process and regulatory requirements for drug products
	MPH101T	Modern PharmaceuticalAnalytical Techniques	2017-18	After completion of course student is able to know, · Chemicals and Excipients · The analysis of various drugs in single and combination dosage forms · Theoretical and practical skills of the instruments
	MPH102T	Drug Delivery System	2017-18	Upon completion of the course, student shall be able to understand Ø The various approaches for development of novel drug delivery systems. Ø The criteria for selection of drugs and polymers for the development of delivering system Ø The formulation and evaluation of Novel drug delivery systems..
M. Pharm (Pharmaceutics) Semester I	MPH103T	Modern Pharmaceutics	2017-18	Upon completion of the course, student shall be able to understand · The elements of preformulation studies. · The Active Pharmaceutical Ingredients and Generic drug Product development · Industrial Management and GMP Considerations. · Optimization Techniques & Pilot Plant Scale Up Techniques · Stability Testing, sterilization process & packaging of dosage forms.
	MPH104T	Regulatory Affair	2017-18	Upon completion of the course, it is expected that the students will be able to understand · The Concepts of innovator and generic drugs, drug development process · The Regulatory guidance's and guidelines for filing and approval process · Preparation of Dossiers and their submission to regulatory agencies in different countries · Post approval regulatory requirements for active and drug products · Submission of global documents in CTD/ eCTD formats · Clinical trials requirements for approvals for conducting clinical trials · Pharmacovigilance and process of monitoring

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				clinical trials.
	MPH201T	Molecular Pharmaceutics (Nano Tech and Targeted DDS)	2017-18	Upon completion of the course student shall be able to understand · The various approaches for development of novel drug delivery systems. · The criteria for selection of drugs and polymers for the development of NTDS · The formulation and evaluation of novel drug delivery systems.
	MPH202T	Advanced Biopharmaceutics& Pharmacokinetics	2017-18	Upon completion of this course it is expected that students will be able understand, · The basic concepts in biopharmaceutics and pharmacokinetics. · The use raw data and derive the pharmacokinetic models and parameters the best describe the process of drug absorption, distribution, metabolism and elimination. · The critical evaluation of biopharmaceutic studies involving drug product equivalency. · The design and evaluation of dosage regimens of the drugs using pharmacokinetic and biopharmaceutic parameters. · The potential clinical pharmacokinetic problems and application of basics of pharmacokinetic
M. Pharm (Pharmaceutics) Semester II	MPH203T	Computer Aided Drug Delivery System	2017-18	Upon completion of this course it is expected that students will be able to understand, · History of Computers in Pharmaceutical Research and Development · Computational Modeling of Drug Disposition · Computers in Preclinical Development · Optimization Techniques in Pharmaceutical Formulation · Computers in Market Analysis · Computers in Clinical Development · Artificial Intelligence (AI) and Robotics · Computational fluid dynamics(CFD)
	MPH204T	Cosmetic and Cosmeceuticals	2017-18	Upon completion of the course, the students shall be able to understand · Key ingredients used in cosmetics and cosmeceuticals. · Key building blocks for various formulations. · Current technologies in the market · Various key ingredients and basic science to deve[lop] cosmetics and cosmeceuticals · Scientific knowledge to develop cosmetics and cosmeceuticals with desired Safety, stability, and efficacy.
...n	MPC101T	Modern Pharmaceutical...	2017-18	After completion of course student is able to know about chemicals and...

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Chemistry) Semester I		Analytical Techniques		excipients · The analysis of various drugs in single and combination dosage forms · Theoretical and practical skills of the instruments
	MPC1012 T	Advanced Organic Chemistry -I	2017-18	Upon completion of course, the student shall be to understand · The principles and applications of reterosynthesis · The mechanism & applications of various named reactions · The concept of disconnection to develop synthetic routes for small target molecule. · The various catalysts used in organic reactions · The chemistry of heterocyclic compounds
	MPC103T	Advanced Medicinal chemistry	2017-18	At completion of this course it is expected that students will be able to understand · Different stages of drug discovery · Role of medicinal chemistry in drug research · Different techniques for drug discovery · Various strategies to design and develop new drug like molecules for biological targets · Peptidomimetics
	MPC104T	Chemistry of Natural Products	2017-18	At completion of this course it is expected that students will be able to understand- · Different types of natural compounds and their chemistry and medicinal importance · The importance of natural compounds as lead molecules for new drug discovery · The concept of rDNA technology tool for new drug discovery · General methods of structural elucidation of compounds of natural origin · Isolation, purification and characterization of simple chemical constituents from natural source
M. Pharm Pharma hemistry) nester II	MPC201T	Advanced Spectral Analysis	2017-18	At completion of this course it is expected that students will be able to understand- · Interpretation of the NMR, Mass and IR spectra of various organic compounds · Theoretical and practical skills of the hyphenated instruments · Identification of organic compounds
	MPC202T	Advanced Organic Chemistry -II	2017-18	Upon completion of course, the student shall able t understand · The principles and applications of Green chemist · The concept of peptide chemistry. · The various catalysts used in organic reactions · The concept of stereochemistry and asymmetric synthesis.

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	MPC203T	Computer Aided Drug Design	2017-18	At completion of this course it is expected that students will be able to understand · Role of CADD in drug discovery · Different CADD techniques and their applications · Various strategies to design and develop new drug like molecules. · Working with molecular modeling softwares to design new drug molecules · The in silico virtual screening protocols
	MPC204T	Pharmaceutical Process Chemistry	2017-18	At completion of this course it is expected that students will be able to understand · The strategies of scale up process of apis and intermediates · The various unit operations and various reactions in process chemistry

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