MEERUT INSTITUTE OF TECHNOLOGY
(B. PHARM. COURSE OUTCOMES)

S.No.	Subject Code	Subject Name	Outcomes	
1	BP101T	Human Anatomy and Physiology– Theory	CO1	Outline the fundamental of human anatomy and physiology
			CO2	Explain the gross morphology and structural of various organs of human body
			CO3	Summarise the coordinated working pattern of different systems of human body
			CO4	Identify the disorder related to various systems of human body
			CO5	Examine the functions of different systems of the human body
2	BP102T	Pharmaceutical Analysis I– Theory	CO1	Explain basic fundamentals of analytical chemistry.
			CO2	Summarize applications of volumetric, gravimetric and electrochemical analysis.
			CO3	Apply various principles of volumetric, gravimetric and electrochemical methods of analysis.
			CO4	Examine various parameters related to analysis of pharmaceutical compounds.
			CO5	Analyze various principles related to volumetric titrations in analysis.
3	BP103T	Pharmaceutics I – Theory	CO1	Outline the fundamentals of pharmaceutics and guidelines thereof.
			CO2	Explain various dosage forms, and raw materials used in the dosage form design.
			CO3	Identify various challenges, problems and their solutions in dosage form design.
			CO4	Model formulations of various dosage forms and advantages/disadvantages.
			CO5	Examine the applications and utility of various dosage forms.
4	BP104T	Pharmaceutical Inorganic Chemistry– Theory	CO1	Outline basic fundamentals of pharmaceutical inorganic chemistry.
			CO2	Summarize functions of various physiological ions in human body.
			CO3	Explain radio pharmaceuticals and their applications.
			CO4	Identify mode of preparations, properties and applications of various inorganic pharmaceutical compounds.
			CO5	Explain impurities and qualitative, quantitative and semi quantitativelimits of inorganic pharmaceuticals.
5	BP105T	Communication Skills – Theory	CO1	Students will be proficient in English language and in converting into actionable knowledge.
			CO2	Students will be able to appreciate and practice the unique qualities of professional rhetoric and writing style. Developing individual speech delivery and stylization.
			CO3	Students will be confident and develop effective speaking ability for presentations and develop thinking .
			CO4	Writing skills & innovative ideas. Propagating skills for interviews. Students will be able to master the skill of Curriculum-Vitae, Resume, and Bio-Data and communicate effectively with report writing, documentation and giving and receiving clear instructions.
			CO5	Students will be participative and assertive. Students will be able to understand logical issues and value system.

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6	BP106RMT	Remedial Mathematics – Theory	CO1	Understand the theory used in application of Partial Fraction in Chemical Kinetics and Pharmacokinetics, logarithm to solving pharmaceutical problems
			CO2	Understand the concepts of Matrices and determinant used in application to solving Pharmacokinetic equations
			CO3	Understand the concepts of function, limit, continuity, differentiability and Integration used in application of mathematics in Pharmacy
			CO4	Understand the concepts of Coordinate Geometry used in application of mathematics in Pharmacy
			CO5	Understand the concept of Differential equations and Laplace transform used in application to solving chemical kinetics and Pharmacokinetics
7	BP106RBT	Remedial Biology – Theory	CO1	Understand the biology of living organisms.
			CO2	Classify biological systems based on their role and need for living.
			CO3	Explain morphological characters of various biological systems.
			CO4	Outline various products of biological systems and their functions.
8	BP107P	Human Anatomy and Physiology – Practical	CO1	Summarize various physiological processes of biological systems.
			CO2	Demonstrate the principle and working of various instruments used to assess physiology of human body
			CO3	Identify microscopical feature of various types of cells and tissue
			CO4	Identify gross anatomy and physiology of human skeletal system
			CO5	Evaluate the hematological parameter of human body
9	BP108P	Pharmaceutical Analysis I – Practical	CO1	Evaluate physiological parameter of CVS
			CO2	Apply methods of preparation for various Normal and Molar solutions.
			CO3	Demonstrate methods of standardization of a solution by using volumetric analysis
			CO4	Understand methods of standardization of a solution by using electro analytical method.
			CO5	Make use of volumetric analysis for quantitative estimation of a sample
10	BP109P	Pharmaceutics I – Practical	CO1	Summarize the fundamentals of various dosage forms.
			CO2	Outline the raw materials and packaging materials used in the dosage form design.
			CO3	Develop various pharmaceutical dosage forms.
			CO4	Model various labels used for different dosage forms.
11	BP110P	Pharmaceutical Inorganic Chemistry– Practical	CO1	Illustrate the methods of preperation of inorganic compounds.
			CO2	Identification of inorganic compounds with the help of limit tests.
			CO3	Analyze physical and chemical properties of inorganic compunds.
			CO4	Determination of inorganic compounds with the help of identification tests.
			CO5	Evaluate the various parameters to examine the purity of inorganic compounds.

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12	BP111P	Communication Skills – Practical	CO1	Development of conversational skills for seminars/workshops.
			CO2	Propagating skills for interviews under suitable interactive patterns.
			CO3	Initiating public speaking skills based on rhythmic patterns and perfection in delivery.
			CO4	Preparation for technical paper/professional representation based on proper stress intonation mechanics.
			CO5	Developing individual speech delivery and stylization.
13	BP112RBP	Remedial Biology– Practical	CO1	Demonstrate the principle and working of various instruments used to assess physiology of living organisms.
			CO2	Identify the bones in human skeleton system.
			CO3	Identify various microscopic techniques for determination of different morphological characteristics of plants.
			CO4	Evaluate hematological parameters of human body.
14	BP-201T	Human Anatomy & Physiology- II	CO1	Summaries the coordinated working pattern of different system of human body
			CO2	Outline the formation and role of energetic.
			CO3	Identify the disorder related to various system of human body.
			CO4	Examine the functions of different system of human body.
15	BP-202T	Pharmaceutical Organic Chemistry I	CO1	Explain basic concepts of Organic Chemistry.
			CO2	Compare organic compounds based on their structure, uses and qualitative tests.
			CO3	Model the synthesis and mechanism of reactions of organic compounds.
			CO4	Analyze the orientataion, reactivity and stability of organic compounds.
			CO5	Inspect the physical and chemical behaviour of organic compounds.
16	BP-203T	Biochemistry	CO1	Understand the basic concepts of biomolecules such as classification, chemical nature and biological role.
			CO2	Explain metabolic pathways of various biomolecules in physiological condition.
			CO3	Make use of the biosynthesis of various biological substances.
			CO4	Analyze various disorders associated with the metabolism of biomolecules.
			CO5	Examine structure and functions of biomolecules, kinetics of enzyme catalysed reactions and enzyme inhibitions and regulatory process.
17	BP204T	Pathophysiology	CO1	Explain basic pathological terminology involved in the pathogenesis of various diseases.
			CO2	Illustrate gross pathological and physiological changes during cell injury, inflammation and infection
			CO3	Identify the role of various chemicals , neurotransmitter, hormones, enzymes or microorganisms in the development of various diseases in the body
			CO4	Examine the role of histopathology, biochemical parameters and clinical sign for the inference of various diseases
			CO5	Assess the role of various etological factors including genetics and immunity in the pathogenesis of diseases

18	BP205T	Computer Applications in Pharmacy	CO1	Students will be able recall and infer the fundamentals of Computer, its components, structure and types.
			CO2	Students will be able recall and interpret the number systems, its conversion and calculations and the concept of the information systems and software's used in different field and its processes.
			CO3	Students will be able to create a personal HTML webpage, create invoice tables, Generate reports from patients database, and Exporting Tables, Queries, Forms and Reports to web pages and to XML pages.
			CO4	Students will be able recall, infer and use the knowledge of the various types of application of computers in pharmacy.
			CO5	Students will be able identify and apply the knowledge of the Bioinformatics Databases, Concept and Impact of Bioinformatics in Vaccine Discovery and know the Computers as data analysis in Preclinical development like CDS, LIMS, TIMS etc.
19	BP206T	Environmental Sciences	CO1	Explain the awareness about environmental problems among learners.
			CO2	Explain the basic knowledge about the environment and its allied problems.
			CO3	Build an attitude of concern for the environment.
			CO4	Develop skills to help the concerned individuals in identifying and solving environmental problems.
			CO5	Conclude to attain harmony with Nature.
20	BP207P	Human Anatomy and Physiology II	CO1	Explain working pattern of different organs of each system using specimen and models
			CO2	Demonstrate the general neurological examination.
			CO3	Perform the hematological tests.
			CO4	To examine the different types of taste
			CO5	The identification, counting of various integral components of the body.
21	BP208P	Pharmaceutical Organic Chemistry I	CO1	Identify the elements from given unknown sample.
			CO2	Identify functional groups from given unknown sample.
			CO3	Examine the pharmaceutical compounds by preparing them from different organic scaffolds.
22	BP209P	Biochemistry	CO1	Apply the methods for the preparation of buffers and measurement of pH.
			CO2	Analyzing carbohydrate and proteins qualitatively and quantitatively.
			CO3	Examine the abnormal constituents of urine qualitatively.
			CO4	Determine various constituents of blood quantitatively.
			CO5	Determine salivary amylase activity and factors affecting it.
23	BP210P	Computer Applications in Pharmacy	CO1	Preparing documents in word processor.
			CO2	Preparing Web page using HTML.
			CO3	Creating tables in Access database.
			CO4	Creating queries in Access data base.
			CO5	Creating Report in Access data base.

24	BP301T	Pharmaceutical Organic Chemistry II– Theory	CO1	Outline the fundamental principles of organic chemistry that include structure and uses of specific organic compounds.
			CO2	Explain the synthesis and chemical reactions of organic compounds along with its mechanism.
			CO3	Make use of fundamental principles of organic chemistry for determining the stability and character of organic compounds.
			CO4	Analyze the evidences in derivation of structure of organic compounds.
			CO5	Compare chemical behavior of organic compounds.
25	BP302T	Physical Pharmaceutics I – Theory	CO1	Explain the physicochemical propertiesof drugs molecules in designing of dosage form.
			CO2	Interpet the physical chemical parameters associated with quality control of dosage form.
			CO3	Make use of physicochemical properties in formulations development and evaluations of dosage form.
			CO4	Examine the principles of physical pharmaceutics to improve the physicochemical properties.
			CO5	Analyze the challenges associated with physicochemical properties in designing of stable,safe,and effective dosage forms.
26	BP303T	Pharmaceutical Microbiology – Theory	CO1	Illustrate the fundamental principles of pharmaceutical microbiology
			CO2	Explain the methods of identification, cultivation and preservation of various microorganisms
			CO3	Select the various microbiological methods used in pharmaceutical microbiology
			CO4	Examine the growth of different microorganisms based on various environmental factors
			CO5	Determine the efficiency of sterilization, disinfectant, antiseptics and standardization of antibiotics
27	BP304T	Pharmaceutical Engineering – Theory	CO1	Outline the fundamentals of various unit operations used in pharmaceutical industry.
			CO2	Explain the principle, construction and working of various equipments used in pharmaceutical industry.
			CO3	Identify the applications of various equipments involved in respective unit operation used in pharmaceutical industry.
			CO4	Analyze the merits and demerits of various equipments used in pharmaceutical industry for better output.
			CO5	Compare the different equipments used in same unit operation for better result in accordance to different types of feeds.
28	BP305P	Pharmaceutical Organic Chemistry II – Practical	CO1	Make use of common laboratory techniques, including reflux, distillation, steam distillation, recrystallization, vacuum filtration, melting point determination etc.
			CO2	Experiment with broad range of traditional organic reactions at the micro scale.
			CO3	Examine the collected data to determine the identity, purity, and percent yield of products and to summarize findings in writing in a clear and concise manner.
			CO4	Estimate oils and fats with the help of various analytical constants.
29	BP306P	Physical Pharmaceutics I – Practical	CO1	Determine pharmaceutical properties like true density, bulk density, porosity and angle of repose.
			CO2	Evaluate the partition coefficient and solubilityof drugs.
			CO3	Determine the surface tension by using different methods.
			CO4	Evaluate the % composition of sodium chloride of the solution and stabilty constant and donar acceptor ratio of copper- glycine complex.
			CO5	Determine the CMC and HLB no. by using different surfactants.

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30	BP307P	Pharmaceutical Microbiology – Practical	CO1	Interpret the fundamental principles of pharmaceutical microbiology
			CO2	Demonstrate the methods of identification, cultivation and preservation of various microorganisms
			CO3	Experiment the various microbiological methods used in pharmaceutical industry
			CO4	Analyze the growth of different microorganisms based on various environmental factors
			CO5	Determine the efficiency of sterilization, disinfectant, antiseptics and standardization of antibiotics
31	BP 308P	Pharmaceutical Engineering – Practical	CO1	Construct the various curves related with different unit operations.
			CO2	Make use of working of various unit operations.
			CO3	Identify the effects of different pharmaceutical aids and conditions on the process of various unit operations.
			CO4	Compare various parameters in different unit operations used in pharmaceutical industries.
32	KVE301	Human Values & Professional Ethics	CO1	Understand the need, concept and content of value-education in individual's life and modifies their aspirations for happiness & prosperity.
			CO2	Apply the holistic perception of harmony at all four levels of living (self, family, society and nature).
			CO3	Analyze the essential complementarily between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity.
			CO4	Examine the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society.
			CO5	Justify Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.
33	BP401T	Pharmaceutical Organic Chemistry III – Theory	CO1	Illustrate the basic concept of Stereoisomerism in organic compounds.
			CO2	Understand the structure, nomenclature, Chemistry and medicinal uses of heterocyclic compounds.
			CO3	Model the synthetic procedure and reactions of heterocyclic compounds.
			CO4	Analyze stereo chemical features for determination of configuration of organic compounds.
			CO5	Analyze the reactions of synthetic importance.
34	BP402T	Medicinal Chemistry I – Theory	CO1	Explain basic concepts and properties of medicinal compounds.
			CO2	Model synthetic protocol of medicinal agents/drugs.
			CO3	Analyze medicinal compounds/drugs on the basis of their structural modification.
			CO4	Analyze mode of action and uses of medicinal compounds.
			CO5	Evaluate the structure activity relationship (SAR) of medicinal agents/drugs.
35	BP403T	Physical Pharmaceutics II – Theory	CO1	Understand the physical and physicochemical properties of drug molecules for designing of dosage form.
			CO2	Make use of physicochemical properties of dosage form.
			CO3	Analyze the role of colloidal, coarse dispersion, micrometrics, rheology, and drug stability.
			CO4	Examine the reaction kinetics and expiry date of the formulations.
			CO5	Evaluate the physicochemical properties of dosage form.

36	BP404T	Pharmacology I – Theory	CO1	Interpret general pharmacological concepts for understanding the effects of drug
			CO2	Explain the mechanism of drug action at organ system or sub cellular or macromolecular levels.
			CO3	Make use of basic pharmacodynamics concepts in the prevention and treatment of various diseases.
			CO4	Analyse the basis of classification of drugs, adverse effects, clinical indications, drug interactions, dosage, contraindications and routes of administration of different classes of drugs.
			CO5	Evaluate the pharmacokinetics parameters of drugs such as absorption, distribution, metabolism and excretion.
37	BP405T	Pharmacognosy and Phytochemistry I – Theory	CO1	Classify the various categories of herbal drugs in alternative system of medicines.
			CO2	Illustrate the cultivation , collection, processing, storage and conservation of medicinal plants.
			CO3	Interpret the primary and secondary metabolites of selected crude drugs.
			CO4	Apply the plant tissue culture in pharmacognosy.
			CO5	Evaluate the qualitative and quantitative analysis of crude drugs.
38	BP406P	Medicinal Chemistry I – Practical	CO1	Apply the synthetic procedures for the synthesis of drugs mentioned in syllabus.
			CO2	Examine the quantitative assay of drugs by titrimetric method.
39	BP407P	Physical Pharmaceutics II – Practical	CO1	To experiment with Drug stability studies.
			CO2	To experiment with the micromeritics properties of powders.
			CO3	To determine the rheological property of solids and liquids.
			CO4	To determine the Sedimentation volume of coarse dispersions.
40	BP408P	Pharmacology I – Practical	CO1	Understand commonly used instruments, different routes of drug administration in mice or rats and correlation of pharmacology with other biomedical sciences.
			CO2	Demonstrate the working of different instruments used in pharmacology lab for muscle relaxant, locomotor and convulsant activity. Maintenance and handling techniques of commonly used laboratory animals.
			CO3	Explain common and standard techniques used in experimental pharmacology- Blood withdrawal, serum and plasma separation, anesthetics and euthanasia used for animal studies.
			CO4	Develop rational behind how effect of drug is potentiated or inhibited in physiological systems or pathological states.
			CO5	Examine the effect of drugs on animals by computer simulation (CDs or Videos and softwares)
41	BP409P	Pharmacognosy and Phytochemistry I – Practical	CO1	Understand commonly used instruments, section cutting and adjustment of microscope.
			CO2	To determine the leaf constants and cell contents with the help of microscope.
			CO3	To evaluate the crude drugs on the basis of qualitative and quantitative tests.
			CO4	To experiment the chemical tests of organized crude drugs with the help of various chemicals.

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42	BP501T	Medicinal Chemistry II – Theory	CO1	Understand the basic concepts and classification of medicinal compounds.
			CO2	Understand the mechanism of action of various classes of medicinal compounds
			CO3	Identify the structure and applications of medicinal compounds.
			CO4	Model the synthetic protocols of medicinal compounds.
			CO5	Analyze medicinal compounds based on SAR.
43	BP502T	Industrial Pharmacy I – Theory	CO1	Explain the concept and utility of preformulation studies, pharmacopoeial specifications, techniques, and equipment used in the formulation of various dosage forms.
			CO2	Extend the fundamentals, nature and characteristics of excipients, cosmeceuticals, dosage forms, and packaging materials.
			CO3	Utilize the established procedures and technology to formulate and prepare cosmeceuticals, and various dosage forms.
			CO4	Analyze the selection of packaging materials, complexities and challenges related to the formulation of dosage forms and cosmetics.
			CO5	Evaluate the pharmaceutical dosage form and packaging materials for quality and stability, and compare them with standards prescribed in the pharmacopoeia.
44	BP503T	Pharmacology II – Theory	CO1	Interpret physiological alterations and normal physiology with drug intervention from different classes of drugs.
			CO2	Summarize the bioassay, biosynthesis, storage, release, Classification, mechanism of action, biotransformation, commercial preparations, indications of the drugs
			CO3	Construct a suitable model drug therapy for multiple complications and comorbid conditions.
			CO4	Analyze the pharmacological actions of the available drugs to rationalise drug therapy for the indicated disease.
			CO5	Assess the drug interaction, adverse effects and contraindications of different drugs for safe and effective pharmacological therapy.
45	BP504T	Pharmacognosy and Phytochemistry	CO1	To understand the metabolic pathways in formation of secondary metabolites and application of biogenetic studies. (Understanding)
			CO2	To understand the modern extraction techniques, composition, chemistry and uses of herbal drugs and phytoconstituents. (Understanding)
			CO3	Make use of chemical tests and latest techniques like chromatography, spectroscopy and electrophoresis in the isolation & purification of crude drugs. (Applying)
			CO4	To analyze the crude drugs and phytoconstituents. (Analyzing)
			CO5	To explain the isolation, production, and estimation of phytoconstituents. (Evaluating)
46	BP505T	Pharmaceutical Jurisprudence – Theory	CO1	Explain basic concepts of various schedules, act and rules related to pharmacy profession in India.
			CO2	Summarize various regulations for manufacture licensing, import, export, sale and distribution of drugs in India.
			CO3	Outline phamaceutical legislations, pharmaceutical ethics and pricing of formulations.
			CO4	Interpret offences and penalties of various acts governing pharmacy profession in India.
			CO5	Identify the requirement on labeling and packaging of drugs.

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47	BP506P	Industrial Pharmacy I– Practical	CO1	Demonstrate the preformulation studies of tablets and capsule
			CO2	Make use of manufacturing techniques and knowledge of excipients; formulate the tablet, capsule, injection and eye drop/ eye ointment.
			CO3	Analyze the tablets, capsules, glass containers for their quality, and regulatory requirements to prepare labels.
			CO4	Interpret the finding of observations.
			CO5	Formulate the topical preparation.
48	BP507P	Pharmacology II – Practical	CO1	Outline the concepts of experimental pharmacology and understanding in vitro and in vivo experiments.
			CO2	Explain the theoretical concepts of drug effects on various isolated organs/tissues/whole animal.
			CO3	Examine the dose response curve of various drugs at different doses by performing bioassay.
			CO4	Evaluate various pharmacological activity of drugs using animal models.
			CO5	Estimate different parameters like PA2 and PD2 value of drugs.
49	BP508P	Pharmacognosy and Phytochemistry II – Practical	CO1	To demonstrate distillation of volatile oil from crude drugs. (Understanding)
			CO2	Make a use of extraction techniques to get the extract from crude drugs. (Applying)
			CO3	To identify crude drugs by performing chemical tests. (Applying)
			CO4	To examine morphology, histology and powder characteristics of crude drugs. (Analyzing)
			CO5	To isolate & detection of active principles by chromatographic analysis of crude drugs. (Analyzing)
50	BP601T	Medicinal Chemistry III – Theory	CO1	Explain basic concepts and properties of medicinal compounds.
			CO2	Model synthetic protocol of medicinal agents/drugs.
			CO3	Analyze medicinal compounds/drugs on the basis of their structural modification.
			CO4	Analyze mode of action and uses of medicinal compounds.
			CO5	Evaluate the structure activity relationship (SAR) of medicinal agents/drugs.
51	BP602T	Pharmacology III – Theory	CO1	Explain the basic concepts, general principals, terminologies, causes, signs and symptoms, risk factors, management of various disease and
			CO2	Outline the pharmacokinetics, pharmacodynamics along with the adverse effects, interactions, clinical functions and various types of diseases.
			CO3	Examine the principal of toxicology treatment of several poisoning and the chronopharmacology.
			CO4	Analyze the classification and mechanism of action of drug in the treatment of infectious diseases.
			CO5	Explain the correlation with chemotherapy and immunopharmacology with related medical science.
52	BP603T	Herbal Drug Technology – Theory	CO1	Outline the fundamental principles and aspects of herbal drug technology (Understanding).
			CO2	Utilize various concepts and methods in herbal drugs technology (Applying)
			CO3	Analyze the challenges and complexities associated with the formulation and evaluation of herbal products (Analyzing).
			CO4	Explain the role of excipients, characterization, and regulatory requirements for herbal medicines (Evaluating)
			CO5	Formulate various herbal products (Creating).

53	BP604T	Biopharmaceutics and Pharmacokinetics – Theory	CO1	Outline the concept of biopharmaceutics and pharmacokinetics in Pharmacy.
			CO2	Apply various pharmacokinetics principles in drug and product development.
			CO3	Utilize various pharmacokinetic parameters in bioavailability and bioequivalence studies.
			CO4	Solve various pharmacokinetic mathematical problems.
			CO5	Analyze the role of pharmacokinetic modelling in the prediction of the movement of drugs in the body.
54	BP605T	Pharmaceutical Biotechnology– Theory	CO1	Explain the various equipment, techniques, and tools used in the pharmaceutical biotechnology.
			CO2	Outline the basics of immunity, genetic organization of microbes, collection, processing and storage of blood product, storage condition and
			CO3	Make use of various technologies, i.e., immobilization, rDNA, hybridoma, fermentation, etc., to produce biotechnological products.
			CO4	Analyze the advances and application of various biotechnological techniques and products in the different areas.
			CO5	Examine the operational requirements and optimum conditions for the production of top notch biotechnology products.
55	BP606T	Quality Assurance– Theory	CO1	Understand the quality parameters and quality attributes in pharmaceutical industry
			CO2	Outline the scope of quality certifications applicable to pharmaceutical industries
			CO3	Utilize the various tools for quality improvement.
			CO4	Analyze the importance of documentation in pharmaceutical industry
			CO5	Determine the responsibilities of QA & QC departments
56	BP607P	Medicinal Chemistry III – Practical	CO1	Imaprt knowledge in preparation of drugs and intermediates
			CO2	Learning preparation of Drawing structures and reactions using different softwares
			CO3	Applying Microwave irradiation techinque in Preparation of nedicinally important compounds or intermediate.
			CO4	Perform volumetric analysis of Assay of drugs
57	BP608P	Pharmacology III – Practical	CO1	Solve the dose calculation in pharmacological experiments.
			CO2	Apply various Biostatistics methods (student's t-test, ANOVA, Chi-square test, Wilcoxon Signed Rank test) in experimental pharmacology
			CO3	Examine pharmacological effects of drugs like antiallergic, hypoglycemic, and anti-ulcer in animal models.
			CO4	Examine the effect of drugs on various isolated organs or tissues.
			CO5	Estimate and interpretation of pharmacokinetic and biochemical parameters
58	BP609P	Herbal Drug Technology – Practical	CO1	Make use of Phytochemical screening of crude drugs (Applying)
			CO2	To determine the physical and chemical properties of crude drugs and formulations. (Evaluating)
			CO3	To summarize the characteristics of excipients of natural origin. (Understanding)
			CO4	Make use of standardized extract in cosmetic formulations like creams, lotions and shampoos. (Applying)
			CO5	Make use of standardized extract in formulations like syrups, mixtures and tablets as per Pharmacopoeial requirements.(Applying)
59	BP701T	Instrumental Methods of Analysis – Theory	CO1	To understand the basic concepts of analytical/spectroscopic techniques.
			CO2	To understand the Principle and working of various analytical techniques.
			CO3	Model the instrumentation of spectroscopic tools.
			CO4	Examine the Pharmaceutical applications of Analytical/ Spectroscopic techniques.
			CO5	Examine the physical and chemical parameters of various spectroscopic methods.

60	BP702T	Industrial Pharmacy II – Theory	CO1	Illustrate the fundamental principles of different techniques used in the pharmaceutical industry
			CO2	Explain the regulatory guidelines of pharmaceutical industry
			CO3	Identify the process of technology development and quality management in the industrial pharmacy
			CO4	Examine the scientific data and conclusion intended for regulatory review
			CO5	Assess the implementation of good regulatory practices
61	BP703T	Pharmacy Practice – Theory	CO1	Explain organization of Hospital & community pharmacy & their management.
			CO2	Outline general & legal requirements for hospital & community pharmacy.
			CO3	Summarize roles & responsibilities of pharmacist in hospital & community pharmacy.
			CO4	Relate drug distribution, information and safe use of drug.
			CO5	Interpret the documentation information related to hospital & community pharmacy.
62	BP704T	Novel Drug Delivery System (NDDS) – Theory	CO1	Outline the fundamentals of Novel Drug Delivery Systems (NDDS).
			CO2	Identify the applications, complexities and challenges related to the formulation and production of NDDS.
			CO3	Examine various NDDSs based on the dosage form and their route of administration.
			CO4	Analyze the designing of various NDDSs in therapeutic systems.
			CO5	Evaluate the formulation development and characterization of various NDDSs
63	BP705P	Instrumental Methods of Analysis/NDDS – Practical	CO1	Demonstrate the construction, working principles, and applications of various analytical instruments.
			CO2	Utilize the effects of various variables on the estimation of pharmaceutical products
			CO3	Analyze the designing of various NDDSs in therapeutic systems.
			CO4	Estimate various chemical species using different analytical methods.
			CO5	Formulate and evaluate various pharmaceutical formulations
64	BP801T	Biostatistics and Research Methodology	CO1	Outline the fundamentals of biostatistics and research methodology.
			CO2	Identify various statistical methods employed in the pharmacy and pharmaceutical industry.
			CO3	Solve various pharmaceutical statistical problems using biostatistics.
			CO4	Analyze the methods involved in the design of the research methodology.
			CO5	Evaluate various statistical methods implicated in the design of experiments.
65	BP802T	Social and Preventive Pharmacy	CO1	Explain the concepts of public health and Relate food to nutrition health, deficiencies and its prevention.
			CO2	Illustrate socio-cultural factors and its relation with health.
			CO3	Identify avoidable habits for personal hygiene and health and explain the principles on the prevention and control of communicable and non-communicable diseases.
			CO4	Identify National health programs its objectives and recognize the community services in rural, urban and school health.
			CO5	Explain the general measures and strategies to be followed in social and preventive pharmacy.

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66	BP803ET	Pharma Marketing Management	CO1	Explain the different concepts and scopes of marketing at various levels in pharmaceutical industry.
			CO2	Summarize the various parameters involves to check for managing the pharmaceutical marketing.
			CO3	Identify different types of sales promotion and marketing mix for pharmaceutical products.
			CO4	Make use of various marketing channels and emerging concepts of pharmaceutical marketing.
			CO5	Compare the strategies and pricing of the pharmaceutical industry.
67	BP813ET	Pharmaceutical Product Development	CO1	Explain the concept of pharmaceutical product development, packaging materials, regulations, and excipients for different types of dosage form.
			CO2	Extend the optimization techniques and quality control testing in the development of pharmaceutical product.
			CO3	Select the excipients and packaging material for pharmaceutical formulations.
			CO4	Inference to the utility of excipients and optimization techniques in pharmaceutical product development.