Diese Cube M.S., Clinical Research Apply autional and international regulatory saidlines, chief considerations, and chief principle to conduct high quality report POL Apply autional and international regulatory saidlines, chief considerations, and Good Clinical Practice (CGF) and admit in clinical trails and patient POL Declary programs, and analyse chieful research studies using appropriate methodologies, statistical tools, and data interpretation conductions. POL California and analyse chieful research studies using appropriate methodologies, statistical tools, and data interpretation conductions. POL California and analyse chieful research studies using appropriate methodologies, statistical tools, and data interpretation conductions. POL California and the conduction of the con		PROGRAM OUTCOME (POs)
POI Demonstrate comprehensive I now-lodge of clinical research methodologies, study design, Nonstaintics, and exhaul principles to conduct high quality from POI Develop, reprinced, and structured regulatory guidelines, exhaul connectionation, and cond Clinical Protects (ECP) academia in discust traits and patient or possible process. The protect of	Course Code	T
Apply national and international regulatory guideline, efficial crossiderations, and Good Clinical Practice (GCP) standards in discast trials and pointer or product and the product of th	PO1	
POI Devolp, implement, and analyze claimal research statics using appropriate methodologies, statistical tools, and claim interpretation techniques. POI Exhibit leadership, teamwork, and effective communication skills in interdisciplinary childred research entities for uncertailly project management and collisions. **Courter Colle*** **Courter Colle*** **SEMISTER1** **MICHIET INTERPRETATION OF Transforments of Claim Research **Courter Colle*** **SEMISTER1** *		
Schile backening, tearwork, and effective communication skills in interdisciplinary chical escents entings for successful project management and establishments. Course Outcomes (COs) Vision critical limiting, tearwork, and evidence-based approaches to address challenges in drug development, climical trails, and brailshners advanced to the control of the control		
Course Code Code		Exhibit leadership, teamwork, and effective communication skills in interdisciplinary clinical research settings for successful project management and
Course Code SEMESTER I History & Fundamentals of Clinical Research (CO) For plant the Evolution of Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Philad Colleges in Clinical Research (CO) For Section and Evolution of Colleges in Clinical Research (CO) For Section and Evolution Colleges in Clinical Research (CO) For Section and Evolution Colleges in Clinical Research (CO) For Section and Evolution Colleges in Clinical Research (CO) For Section Research problems, design, and proposal. (CO) For Section Research problems, design, and developed proposal. (CO) For Section Research Problems of Evolution Problems of Evolution Research (CO) For Section Research Problems of Evolution Research (CO) For Section Research Methodology and Evolution Research (CO) For Section Research Methodology and Evolution Research design, data collection, and anabota. (CO) For Section Research Methodology and Evolution Research design, data collection, and anabota. (CO) For Section Research Methodology and Evolution Research design, data collection, and anabota. (CO) For		
MCR 101 I History & Fundamentals of Clinical Research CO1 Explain the Evolution of Clinical Research CO2 Demonstrate Universal and professional and Regulatory Françous Ves. CO3 Evolution to Evolution of Clinical Frances of Co2 Demonstrate Universal and Regulatory Françous Ves. CO3 Evolution to Evolution of Clinical Frances of Co2 Demonstrate of Co2 Clinical Frances of Co2 Clinical France	100	
MCR 107 History & Fundamentals of Clinical Research CO2 Demonstrate Understanding of Ethical and Regulatory Princeworks CO3 Position the Understanding of Ethical and Regulatory Princeworks CO3 Position the Understanding of Ethical and Regulatory Princeworks CO3 Position the University of Coal Clinical Processor CO4 Apply Princegles of Good Clinical Processor CO5 Apply Princegles of Good Clinical Processor CO5 Apply Princegles of Good Clinical Processor CO6 Assess Societial and Ethical Chillenges in Clinical Research CO7 Understand Parameovigalines and Society Monteoring CO6 Clinical Research Methodologies CO1 Understand Parameovigalines and Society Monteoring CO2 Clinical Research Methodologies CO2 Clinical Research Methodologies CO3 Deserbe and explain the eggls stap research process. CO3 Deserbe and explain the eggls stap research process. CO3 Clinical Research Methodologies CO3 Deserbe and explain the eggls stap research process. CO4 Clinical Research Methodologies CO5 Clinical Research Methodologies CO5 Clinical Research Methodologies CO6 Clinical Research Methodologies CO7 Develop skills for structuring and writing research genome. CO7 Develop skills for structuring and writing research genomes. CO7 Develop skills for structuring and writing research genomes. CO7 Develop skills for structuring and writing research genomes control to floridate and the process of the parameologies of diagnos. CO8 Develop skills for structuring and writing research genomes control to floridate and the parameologies of diagnos. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and writing research particles. CO9 Develop skills for structuring and	Course Code	
CO2 December of Lendson of Citacian Research CO3 CO3 Evaluate the Impere of Landmark Climael Traisb CO3 CO4 Landmark Climael Traisb CO5 CO5 Landmark Climael Traisb CO6 Across Secretal and Elskaal Challenges in Citacial Research CO7 Linderication Traisbase and Salety Members CO7 Linderication Traisbase and Salety Members CO7 Climatic Research Methodologies CO5 Co5 Cobenosistine data collection methods, unumping teclnitumes construction. According to the Cofficial Coff	MCR 101 T	
Population Proceedings Proceedings Procedings P	CO1	Explain the Evolution of Clinical Research
COS depth (Frei pipes of Groot Clinical Presench COS destify Key Figures or Exicined Research COP Individual Plannicoslipus and Safety Monitoring MCR 1021 Clinical Research Methodologies COT Individual Plannicoslipus and Safety Monitoring MCR 1021 Clinical Research Methodologies COT Individual Plannicoslipus and Safety Monitoring COT Individual Plannicoslipus and Safety Monitoring COT Individual Plannicoslipus and Safety Monitoring COT Consult in present hype based on pipilashinos, objectives and principles COT Consultina COT Consu		
COD		
CO7 Local Language and Safety Montrology MCR 1027 Clinical Research Methodologies CO1 Esphain the fandamental concepts, definitions, and applications of research. CO2 Co2 Classify research types based on applications, objectives and paradigms. CO3 Describe und equilatin the eight-step research process. CO4 CO5 CO5 Describe and equilatin the eight-step research process. CO5 CO5 CO5 Describe and equilatin the eight-step research process. CO5 CO5 Describe and equilatin the eight-step research appost and paradigms. CO6 CO6 Apply Barnarology - I CO7 Description of the structuring and writing research reports effectively. CO7 Describe different rostes of dring administration and the pharmocology. CO7 Describe different rostes of dring administration and the pharmocologies. CO8 CO8 Describe different rostes of dring administration and the pharmocologies. CO9 Describe different rostes of dring administration of action, and adverse dring research reports of drings. CO8 CO9 Describe different rostes of dring administration of action, and adverse dring research for and administration of action, and adverse dring research for and administration of action, and adverse dring research for administration of action, and adverse dring research for and administration of action. CO8 CO9 Describe different rostes of dring administration of action, and adverse dring research for administration of action, and adverse dring research for administration of action and adverse dring adverse administration		
MCR 127 Clinical Research Methodologies COI Expitu the fundamental coxpets, definitions, and applications of research. COI Expitu the fundamental coxpets, deciding the competitions, objectives, and prandigms. COI Desire the adoption the coxpets step research process. COI Desire the adoption of copies the presental process. COI Desire the adoption of copies the presental process. COI Desire the adoption of copies of copies and prandigms. COI Desire the adoption of the copies		Assess Societal and Ethical Challenges in Clinical Research
Explain the fundamental concepts, definitions, and applications of research;		
CO3 Desire and copalita in eight eathy research process. CO4 Formalitica is research problem, design, and proposal CO5 Desirem and copalita in eight estyre research process. CO5 Desirem and copalita in eight estyre research process. CO6 Analyze listerate to stendify research page and syndrosoic indusps. CO7 Desirements and virtual research page and syndrosoic indusps. CO8 Desirements and virtual research page and syndrosoic indusps. CO8 Desirements and virtual research reports effectively. CO9 Desirements and virtual research reports effectively. CO9 Desirements and virtual research reports effectively. CO1 Explain the language and virtual research reports effectively. CO2 Desire different routes of drug administration and the planmacology. CO3 Explain the gain interactions, mechanisms of action, and adverse drug reactions (ADRs). CO4 Chasiy and explain the planmacology of cholorings, articulorings, administrating, admeragin, admeragin, administration (ADRs). CO5 Explain the action and uses of alketelat muscle relaxants and local ametaletics. CO6 Apply planmacological concepts in clinical settings and drug thereup decision-making. CC001 Explain the findamental of research metodology, including research design, data collection, and analysis. CO6 Develop alkin in presenting and oritically analyzing research articles. CO7 Develop alkin in presenting and oritically analyzing research articles. CO8 Leptin bropothesis resting concepts, achieving subset, grapts, and charts. CO8 Leptin bropothesis resting concepts, achieving chieving but and control and contro	MCR 102 T	
CO3 Describe and explain the eight-step research process. CO4 Formular a research problem, design, and proposal. CO5 Abpose Benefiture (order) freestering past on synthesis findings. CO7 Develop ability for structuring and writing research past of synthesis findings. CO7 Develop ability for structuring and writing research past of synthesis findings. CO8 Explain the laborary, sources, drug development process, and principles of pharmacology. CO9 Explain the laborary, sources, drug development process, and principles of pharmacology. CO9 Explain the laborary, sources, drug development process, and principles of pharmacology. CO9 Explain the laborary, sources, drug development process, and principles of pharmacology. CO9 Explain the action and use of rideral turnous and the pharmacology. CO1 Classify and explain the pharmacology of chollengrie, anti-tollengrie, anti-tollengrie, and research, and anti-tollengrie, anti-tollengrie, anti-tollengrie, and anti-tolleng		
COS Demonstrate data collection methods, sampling techniques, and instrument construction. CO6 Analyze literature to identify research gaps and synthesics findings. CO7 Develop shills for structuring and writing research reports effectively. MICR 1837 Pharmacology-1 CO1 Epshate the Interry, sources, drug development process, and principles of pharmacology. CO2 Describe different routes of drug administration and the pharmacology. CO3 Epshate drug territors, includination of action, and adversed origin reactions (ADRA). CO4 Co4 Co4 Co5		
CO6 August Interature to industry research gaps and synthesize foliaging. CO7 Develop skills for structuring and varing research reports effectively. MCR 1837 CO2 Develop skills for structuring and varing research reports effectively. MCR 1847 CO3 Explain the listory, sources, drug development process, and principles of planmacology. CO4 CO5 Develop skills for structuring and varing research reports effectively. MCR 1857 CO5 Develop skills for structuring and varing research reports effectively. MCR 1867 CO5 Develop skills in the structure of varing and structuring and varing research (ADRs). CO5 Develop skills in the structure of research methodology, and principles of planmacology. CC601 Explain the structure of research methodology, and before research and local metabetics. CC601 Explain the structure of research methodology, and before research articles. CC601 Explain the fundamental of research methodology, and before research articles. CC601 Explain the fundamental of research methodology, and before research articles. CC602 Develop skills in presenting and critically unarbying research articles. CC603 Demonstrate methods for presenting and structurely using subdes, grapts, and charts. CC604 CC604 CC605 CC605 CC605 CC605 CC606		
CO7 Debog shills for structuring and writing research reports efficiency. MICR 1837 Plarmacology-1 CO1 Esphain the history, sources, drug development process, and principles of pharmacology. CO2 Describe different routes of drug administration and the pharmacology. CO3 Esphain the history, sources, drug development process, and principles of pharmacology. CO4 CO5 Esphain the decision and sees of decident maces of relationship and the pharmacology. CO5 Esphain the action and uses of decident maces of relationship and the pharmacology of cholieneries, aristholinergits, adveneupis, and antishrenergic drugs. CO6 Esphain the action and uses of decident maces of relaxants and local macestrics. CO6 Apply pharmacological concepts in clinical settings and drug therapy decision-making. CC001 Esphain the findamentals of research methodology, rededing research design, data collection, and analysis. CO2 Develop shills in presenting and critically sundaying research activates. CO3 Demonstrate methods for presenting data effectively using tables, gruphs, and charts. CO4 CO5 Esphain hypothesis testing concepts, including Che-square tests, ANOVA, and non-parametric tests. CO6 CO6 CO7 CO7 CO7 CO7 CO8		
MICR 103 T Plantmacology-1 CO	CO6	Analyze literature to identify research gaps and synthesize findings.
CO2 Described ifferent routes of drug administration and the pharmacology. CO3 Explain the instory, sources, drug development process, and principles of pharmacology. CO4 Classify and explain the pharmacology of cololisanges, antichangenge, and entraindrenenge drugs. CO5 Explain the action and uses of skeletal muscle relaxants and local answheties. CO6 Apply pharmacological concepts in clinical settings and drug therapy decision-making. CC 001 Explain the fundamentals of research methodology, melding research design, data collection, and analysis. CO3 Develop skills in presenting and critically analyzing research articles. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain bypothesis testing concepts, inclining Christopy and spills, graphs, and charts. CO6 Utilizes SPSS and other statistical tools for bostatistical analysis. CO7 Interpret and interpret mean, median, mode, variance, and standard deviation. CO8 Explain bypothesis testing concepts, inclining Christopy using tables, and both and analysis. CO8 Interpret and interpret mean, median, mode, variance, and standard deviation. CO9 Explain bypothesis testing concepts, inclining Christopy and produce and analysis. CO9 Interpret and interpret mean, median, mode, variance, and standard deviation. CO9 Explain bypothesis testing concepts, inclining Christopy and produces, and many analysis. CO9 Interpret and the produces of t		
CO2 Epsin drug interaction, mechanisms of action, and adverse dury practions (ADRs). CO3 Epsin drug interaction, mechanisms of scion, and adverse dury practions (ADRs). CO5 Epsin the action and uses of skeletal masker elevators and local mesthetics. CO6 Apply pharmacological concepts in elinical settings and drug therapy decision-making. CC001 Tesphin the action and uses of skeletal masker elevators and local mesthetics. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Develop skills in presenting and critically analyzing research articles. CO4 Compute and interpret mean, medium, node, variance, and standard deviation. CO5 Epsphin hypothesis testing concepts, including Chisaquare tests, ANOVA, and non-parametric tests. CO6 Utiles: SPSs and other statistical tools for broastristical analysis. CO7 Compute and interpret mean, medium, node, variance, and standard deviation. CO8 Epsphin hypothesis testing concepts, including Chisaquare tests, ANOVA, and non-parametric tests. CO8 Utiles: SPSs and other statistical tools for broastristical analysis. CO8 Utiles: SPSs and other statistical tools for broastristical analysis. CO9 Utiles: SPSs and other statistical tools for broastristical analysis and analysis. CO9 Epsin hypothesis testing concepts, including Chisaquare tests, ANOVA, and non-parametric tests. CO1 Epsin hypothesis testing concepts, including Chisaquare tests, ANOVA, and non-parametric tests. CO2 Epsin hypothesis testing concepts, including the statistical colos from constitution of the statistical tools for including the statistical tools for incursing chisage statistical tools for incursing chisage statistical tools for incursing chisage statistical tools for consorting and trailing chisage statistical colos for consorting data effectively using tables, graphs, and charts. CO2 Epsphin the instortion and significance of Apurture, establicing design, data collection, and analysis. CO3 Epsphin the incursion and significance of Apurtured, Siddhi, Unani, Yopa,		87
CO3 Esplain drug interactions, mechanisms of action, and adverse drug reactions (ADRs.) CO4 Esplain the action and uses of skeltal muscle relaxants and local ansethetics. CO6 Apply pharmacological concepts in clinical setting and drug therapy decision-making. CC 001 Esplain the fundamentals of research methodology, activating research design, data collection, and analysis. CC 01 Esplain the fundamentals of research methodology, activating research design, data collection, and analysis. CO3 Develop skills in presenting and critically analyzing research articles. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Esplain hypothesis testing concepts, including Chi-square testiles, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for hostatistical analysis. CO7 Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice concepts with the procedure of the procedures, diagnostic techniques, and the use of advanced medical equipment. This practice concepts with the procedure of the procedures, diagnostic techniques, and the use of advanced medical equipment. This practice concepts with the procedure with register teams. CO 3 collaboration in interdept ensures. CC 601 PR Research Methodology & Biotatistics (Core Course) EC 602 Develop skills in presenting and critically analyzing research design, data collection, and analysis. CO3 Develop skills in presenting and eritically analyzing research design, data collection, and analysis. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. Explain the function and for presenting data effectively using lastine, graphs, and charts. CO5 Leybin by		
COS Explain the action and uses of skeletal muses relevants and local answerters. CO6 Apply pharmacological concepts in clinical settings and drug therapy decision-making. CO9 IT Sephain the action and uses of skeletal muses relevants and local answerters. CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skills in presenting and critically analysing research design, data collection, and analysis. CO3 Demonstrate methods for presenting and critically unalysing research design, data collection, and analysis. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utiles SPSs and other statistical tools for biostatistical analysis. CO7 In this computer of the statistical tools for biostatistical analysis. CO8 In this a robust theoretical flouration, cambing students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO2 Individual control of the statistical tools for biostatistical analysis and the tool of advanced medical equipment. This practice, collaboration in interdisciplinary healthcare teams. CO3 Fesca on developing professionalism, ampathy, chilaci conduct, teamwork, and communication skills—key traits for holistic patient care. CO4 Coping and the professionalism, ampathy, chilacio collect, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CO3 Demonstrate methods for presenting admit effective vising tables, graphs, and charts. CO4 Coping and interpret mean, median, mode, variance, and standard deviation. CO5 Explain the finatorical development of clinical research ethics, including key ethical guidelines CO6 Unities SPSs and other statistical tools for hostatistical analysis. CO7 December the role of COMM,		
CC 06		
CC09 IT Research Methodology & Biostatistics (Core Course) CC10 I Explain the fundamentals of reason methodology, including research design, data collection, and analysis. CC2 Develop skills in precenting and critically multipring research design, data collection, and analysis. CC3 Demonstrate methods for presenting and serial may analyzing research design, data collection, and analysis. CC3 Compute and interpret mean, median, mode, variance, and standard deviation. CC5 Explain hypothesis testing concepts, helding Chi-square tests, AKDVA, and non-parametric tests. CC6 Utube 2PSS and other statistical rook for biostatistical analysis. CC7 I Explain hypothesis testing concepts, helding Chi-square tests, AKDVA, and non-parametric tests. CC6 Utube 2PSS and other statistical rook for biostatistical analysis. CC7 I Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CC6 Emplassive hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice exposure will bridge the gap between theory and practice, practices, diagnostic techniques, and the use of advanced medical equipment. This practice of the control of the control of the process of the control of the process of the control of the contr		
CO2 Develop skills in presenting and critically analyzing research design, data collection, and analysis. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and clarits. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-sequare tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical rook for biostatistical analysis. ICR 195 CP MCR Directed Clinical Education-I Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO3 Explain hypothesis testing condition, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO3 Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice of the produce of the processor with Bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. CO30 Processor with Bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. CO40 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO50 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO50 Evelop skills in presenting and critically analyzing research articles. CO61 Explain the historical development of clinical research articles. CO62 Evelop skills in presenting and critically analyzing research articles. CO63 Evelop and interpret mean, median, mode, variance, and standard deviation. DEC 201 Explain the historical development of clinical research articles. CO64 Explain th		
CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tests, and charts. CO5 Explain byophtesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Unital Compute and interpret mean, median, mode, variance, and standard deviation. CO7 Explain byophtesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO8 Explain byophtesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO8 Explain the devices testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO1 Bull a robust theoretical foundation, engaging the desired to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO2 Explain the theoretical foundation or paractice, enhancing students' confidence and competence in delivering quality patient care. CO3 Focus on developing professionalism, engaptaty, chiela conduct, teamwork, and communication skills—key trast for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CO4 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO5 Explain byophtesis testing concepts, including clinical paractic design, data collection, and analysis. CO6 Unities SPSS and other statistical tools for biostatistical analysis. CO6 Unities SPSS and other statistical tools for biostatistical analysis. Disciplline Specific Elective Theory Disciplline Specific Elective Theory Disciplline Specific Elective Theory Disciplline Specific Elective Theory Discipline Specific Elective The	CC 001 T	Research Methodology & Biostatistics (Core Course)
CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and saturand evieution. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical rook for biostatistical analysis. ICR 105 CP MCR Directed Clinical Education-1 Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering the medical equipment of the property of the	CO1	Explain the fundamentals of research methodology, including research design, data collection, and analysis.
COS Explain byopthesis esting concepts, including Chi-square tests, ANOVA, and non-parametric tests. COS Explain byopthesis esting concepts, including Chi-square tests, ANOVA, and non-parametric tests. COI Unitize STSS and other statistical took for hostatistical analysis. COI Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO2 Explain the discisions and adapt to evolving medical technologies. CO3 Foreston developing professionalism, enabling students to understand healthare practices, disease management, and patient care, thereby empowering of make informed decisions and adapt to evolving medical technologies. CO3 Foreston developing professionalism, engathy, chilatic conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in miterdisciplinary healthcare teams. CC00 Pevelop skills in prosenting and eritical statistics (COre Course) CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO3 Demonstrate methods for presenting adea explain analysis and provide the computer of the computer and interpret mean, median, mode, variance, and standard deviation. CO3 Explain hypothesis testing concepts, including clinical research articles. Disciplline Specific Elective Theory Discipline Specific Elective Theory Di		
COS Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. COI Utilize SPS3 and other statistical or too whore medical technologies. COI Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering the make informed decisions and adapt to evolving medical technologies. CO2 Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice spouser will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. CO3 Co2 Possibar the Microbiology & Biostatistics (Core Course) CC 00 P Research Methodology & Biostatistics (Core Course) CC 01 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Develop skills in presenting and critically analyzing research articles. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain bypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPS3 and other statistical tools for biostatistical analysis. Discipline Specific Elective Theory Discipline Specific Elective The		
CO Utilize SPSS and other statistical tools for biostatistical analysis. CO I Bull a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering the make informed decisions and adapt to evolving medical technologies. CO 2 Emphasize hands on training, ensuring proficency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice, esposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. CO 201 P Sevas on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CC 201 P Research Methodology & Bostatistics (Core Course) CO 1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO 2 Develop skills in presenting and critically analyzing research design, data collection, and analysis. CO 3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO 4 Compute and interpret mean, median, mode, variance, and standard deviation. CO 5 Explain bypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO 6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO 1 Explain the historical development of clinical research ethics, including key ethical guidelines I deutify and analyse legal liabilities, mivestigator responsibilities, and compensation-related obligations in clinical research. CO 2 Gentify and analyse legal liabilities, mivestigator responsibilities, and compensation-related obligations in clinical research. CO 3 Explain the function and significance of IRB ITEC ERB in clinical trials. CO 4 Explain the function and significance of IRB ITEC ERB in clinical t		
ICR 105 CP MCR Directed Clinical Education—1 Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering it make informed decisions and adapt to evolving medical technologies. Emphasize hands- on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice of the processor with bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. CO 31 CO 32 CO 34 CO 34 CO 34 CO 35 CO 34 CO 35 CO 34 CO 36 CO 36 CO 37 CO 37 CO 37 CO 37 CO 37 CO 37 CO 38 CO 39 CO 39 CO 30 CO 3		
Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering the make informed decisions and adapt to evolving medical technologies. CO 2 Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practices, continuous control of the control of the process of the cologing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CO 01 P Research Methodology & Biostatistics (Core Course) CO1 Explain the fundamentals of research methodology, including research decision, data collection, and analysis. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, medically analyzing research activates. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipline Specific Elective Theory Describe the role of CLOMS, NIH, and ICMR guidelines in oftenad epical guidelines CO4 Explain the historical development of clinical research ethics, including key ethical guidelines CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethican and significance of RMSTEC-Elective In clinical trials. CO7 Evaluate the control and significance of RMSTEC-Elective In clinical trials in Clinical trials. CO6 Evaluate the ethican and legal aspects of informed consent and patient information documentation. Discussive the role or representation and treatment in different		
make informed decisions and adapt to evolving medical technologies. CO 2 Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practice aposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CO 1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO 2 Develop skills in presenting and critically analyzing research articles. CO 3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO 4 Compute and interpret mean, median, mode, variance, and standard deviation. CO 5 Explain thoptobics its sting concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO 6 Utilize SPSS and other statistical tools for biostatistical analysis. Disciplifica Specific Elective Theory DSE 001 T Ethics in Clinical Research CO 1 Explain the historical development of clinical research ethics, including key ethical guidelines CO 2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO 4 Explain the function and significance of IRB/IEC/ERB in clinical trisals. CO 6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DESE 002 T Different Systems of Medicine CO 1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO 2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. Explain the origins, evolution and significance of new transparence of informed consent in clinical trials. CO 4 Explain the principles and types of an		Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering the
co exposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care. Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CO 01 P Research Methodology & Biostatistics (Core Course) CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the function and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in clinical trials. CO3 Examine how traditional practices align with or differ from modern medicial approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent and vances in validating traditional medicine and US botanical d	COI	
Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams. CC 001 P Research Methodology & Biostatistics (Core Course) CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skils in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utiluze SPSS and other statistical otols for biostatistical analysis. Discipline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRME/CER in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Evaluate the	CO 2	
CC 001 P Research Methodology & Biostatistics (Core Course) CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipiline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in clinical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO3 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO4 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO5 Explain the origins, evolution, and significance and US botanical drug development. CO6 Explain the principles and types of analytical methods used in drug analysis. CO7 Discuss recent advances in validating traditional medicine and US botanical drug development. CO8 Explain the principles and types of analytical methods used in drug analysis. CO9 Explain the principles and types of analytical methods used in drug analysis. CO9 Explain the theory, mathematical concepts, and princ	CO 3	Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective
CO1 Explain the fundamentals of research methodology, including research design, data collection, and analysis. CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipiline Specific Elective Theory DEC 001 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, MII, and ICMR guidelines in clinical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DEC 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Explain the principles and types of analytical methods used in drug analysis. CO7 Explain the principles and types of analytical methods used in drug analysis. CO8 Explain the principles and types of analytical methods used in drug analysis. CO9 Explain the theory, mathematical concepts, and p		
CO2 Develop skills in presenting and critically analyzing research articles. CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipiline Specific Elective Theory DE6 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRBICC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DE6 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of IRBIC Agraphical		
CO3 Demonstrate methods for presenting data effectively using tables, graphs, and charts. CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipiline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics are view process and the importance of informed consent in clinical trials. CO6 Evaluate the chical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO3 Explain the hency, mathematical concepts, and principles befined in drug development. CO6 Explain the principles and types of analytical methods used in drug analysis. CO7 Evaluate the applications of IRB Agent Eventory on the qualitative and qu		
CO4 Compute and interpret mean, median, mode, variance, and standard deviation. CO5 Explain hypothesis testing concepts, including Chi-square tests, ANOVA, and non-parametric tests. CO6 Utilize SPSS and other statistical tools for biostatistical analysis. Discipiline Specific Elective Theory DSE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ryurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medicial approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO3 Explain the principles and types of analytical methods used in drug analysis. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative and quantitative and quantitative and particitive and quantitative and quantitative and quantitat		
Discipiline Specific Elective Theory Discipiline Specific Elective Theory Discipiline Specific Elective Theory DEE 001 T Ethics in Clinical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DEF 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO3 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. CNAC Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles		
Discipiline Specific Elective Theory Discipiline Specific Elective Theory Ethics in Clinical Research COI Explain the historical development of clinical research ethics, including key ethical guidelines (CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their thraspetuic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T C	CO5	
DES 001 T Explain the historical Research CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIONS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. CNACH 107 T Clinical Research Guidelines I CNACH 107 Clinical Research Guidelines I of the principles fro	CO6	
CO1 Explain the historical development of clinical research ethics, including key ethical guidelines CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their sig		
CO2 Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research. CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies		
CO3 Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research. CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principl		
CO4 Explain the function and significance of IRB/IEC/ERB in clinical trials. CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DEE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Scheduley.		
CO5 Analyze the ethics review process and the importance of informed consent in clinical trials. CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO6 Evaluate the ethical and legal aspects of informed consent and patient information documentation. DSE 002 T Different Systems of Medicine CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO1 Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy. CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO2 Describe the fundamental principles of disease prevention and treatment in different systems of medicine. CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.	DSE 002 T	Different Systems of Medicine
CO3 Examine how traditional practices align with or differ from modern medical approaches. CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.	CO1	
CO4 Identify key medicinal plants used in different systems and their therapeutic applications. CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO5 Discuss recent advances in validating traditional medicine and US botanical drug development. CO6 Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
Assess how globalization has influenced Ayurveda and other traditional systems. SEMESTER II MCR 106 T Drug Analysis CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		Assess how globalization has influenced Ayurveda and other traditional systems.
CO1 Explain the principles and types of analytical methods used in drug analysis. CO2 Identify and describe various laboratory apparatus used in drug analysis. CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.	MCR 106 T	
CO3 Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy. CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		Explain the principles and types of analytical methods used in drug analysis.
CO4 Analyze and interpret IR spectra for organic and inorganic compounds. CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO5 Explain the working of Single Beam and Double Beam spectrometers and their applications. CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO6 Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs. CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO7 Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy. MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
MCR 107 T Clinical Research Guidelines I CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO1 Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research. CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		T in the second of the second
CO2 Analyze the ethical principles from the World Medical Association's Declaration of Helsinki. CO3 Interpret regulatory requirements for clinical trials in India as per Schedule Y. CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.		
CO4 Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials.	CO2	Analyze the ethical principles from the World Medical Association's Declaration of Helsinki.
CO5 Compare international regulatory guidelines for BA/BE studies in veterinary and human medicine.		Describe the principles of GCP and their role in ensuring ethical and high-quality clinical trials. Compare international regulatory guidelines for BA/BE studies in veterinary and human medicine.

Knowledge

Knowledge & skill, decision making
Methodology & Analytical Skills
Professional & Interpersonal Skills
Critical Thinking & Problem-Solving

CO1	Explain the mechanism of action, uses, and side effects of diuretics and antidiuretics.
CO2	Describe the pharmacology of drugs used for peptic ulcers, emetics, antiemetics, constipation, and diarrhea.
CO3	Classify and explain the mechanisms of action of beta-lactam antibiotics, tetracyclines, aminoglycosides, and chloramphenicol.
CO4	Understand the pharmacokinetics, pharmacodynamics, and clinical applications of anti-TB and antileprotic drugs.
CO5	Identify different antifungal and antiviral drugs and their applications in treating infections.
CO6	Explain the mode of action, resistance mechanisms, and therapeutic uses of drugs for malaria and urinary tract infections.
MCR 110 CP	MCR Directed Clinical Education-II
CO1	Build a robust theoretical foundation, enabling students to understand healthcare practices, disease management, and patient care, thereby empowering them to make informed decisions and adapt to evolving medical technologies.
CO 2	Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practical
	exposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care.
CO 3	Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams.
	Discipiline Specific Elective Theory
DSE 003 T	Epidemiological Principles Relevant to Clinical Research
CO1	Explain mortality and morbidity indicators, and their relevance in epidemiological studies.
CO2	Analyze different types of bias (study, response, information, interviewer, site selection, measurement, and confounding) in research.
CO3	Interpret diagnostic tests, screening tests, and prognostic tests using an evidence-based approach.
CO4	Understand the principles and applications of pharmacoepidemiological studies in clinical settings.
CO5	Explain how molecular and genetic epidemiology contribute to clinical research.
CO6	Discuss the impact of race, ethnicity, social class, and culture on clinical research methodologies.
DSE 004 T	Clinical Trial Operations
	, , ,
DSE 004 T	Clinical Trial Operations
DSE 004 T CO1	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors.
DSE 004 T CO1 CO2 CO3 CO4	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators.
DSE 004 T CO1 CO2 CO3 CO4 CO5	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements).
DSE 004 T CO1 CO2 CO3 CO4	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance.
DSE 004 T CO1 CO2 CO3 CO4 CO5	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4 CO5	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data. Assess the effectiveness of alternative testing methods such as the Draize test.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4 CO5	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data. Assess the effectiveness of alternative testing methods such as the Draize test.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4 CO5 CO6 CO7	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data. Assess the effectiveness of alternative testing methods such as the Draize test. Describe the use of zebrafish, drosophilae, and C. elegans in toxicity studies.
DSE 004 T CO1 CO2 CO3 CO4 CO5 CO6 CO7 SEC 001 T CO1 CO2 CO3 CO4 CO5 CO6 SEC 002 T	Clinical Trial Operations Explain the process of selecting trial sites, investigators, and vendors. Describe the responsibilities of sponsors, institutions, coordinators, and investigators. Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements). Manage recruitment, site master file, SOPs, and regulatory compliance. Understand the role of monitors, auditors, and data monitoring committees. Develop strategies to handle unexpected challenges during clinical trials. Explain procedures for trial close-out, database lock, ethics committee submissions, and publication. Skill Ehancement Course Alternatives in Toxicity Testing Explain CPCSEA guidelines and ethical considerations in animal testing. Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research. Analyze non-mammalian and non-animal models used for toxicity testing. Explain the standard procedures for reporting animal trial data. Assess the effectiveness of alternative testing methods such as the Draize test. Describe the use of zebrafish, drosophilae, and C. elegans in toxicity studies. One Health (NPTEL) A comprehensive understanding of One Health & role in global health challenges, emphasizing interconnectedness among human, animal, and environmental

MCR 108 T Pharmacology II



MGM SCHOOL OF BIOMEDICAL SCIENCES, NAVI MUMBAI (A constituent unit of MGM INSTITUTE OF HEALTH SCIENCES)

(Deemed University u/s 3 of UGC Act 1956)
Grade "A++" Accredited by NAAC
Sector 1, Kamothe Navi Mumbai-410209, Tel.No.:022-27437631,27432890
Email. sbsnm@mgmuhs.com / Website : www.mgmsbsnm.edu.in

CO PO Mapping Programe - M.Sc. Clinical Research Semester I and II

PO1	Demonstrate comprehensive knowledge of clinical research methodologies, study design, biostatistics, and ethical principles to conduct high-quality research.
PO2	Apply national and international regulatory guidelines, ethical considerations, and Good Clinical Practice (GCP) standards in clinical trials and patient safety.
PO3	Develop, implement, and analyze clinical research studies using appropriate methodologies, statistical tools, and data interpretation techniques.
PO4	Exhibit leadership, teamwork, and effective communication skills in interdisciplinary clinical research settings for successful project management and collaboration.
PO5	Utilize critical thinking, innovation, and evidence-based approaches to address challenges in drug development, clinical trials, and healthcare advancements.

PO Mapping same with correlation level 3,2,1 The notation of 1 - low, 2 - moderate, 3 - high

Semester	Course / Course Code	Course Outcome	Course Outcome	Knowledge	Knowledge & skill, decision making	Methodology & Analytical Skills	Professional & Interpersonal Skills	Critical Thinking & Problem- Solving	Average
				PO1	P02	PO3	PO4	PO5	
Semester 1		CO1	Explain the Evolution of Clinical Research	3	2	1	1	3	2.0
		CO2	Demonstrate Understanding of Ethical and Regulatory Frameworks	3	0	0	0	0	0.6
	History and	CO3	Evaluate the Impact of Landmark Clinical Trials	3	0	0	3	0	1.2
	Fundamentals of	CO4	Apply Principles of Good Clinical Practice (GCP)	0	3	0	0	0	0.6
	Clinical Research	CO5	Identify Key Figures in Clinical Research	3	3	3	3	3	3.0
	(MCR 101 T)	CO6	Assess Societal and Ethical Challenges in Clinical Research	0	0	0	0	3	0.6
		CO7	Understand Pharmacovigilance and Safety Monitoring	3	0	3	0	2	1.6
		Average		2.1	1.1	1.0	1.0	1.6	1.4
		CO1	Explain the fundamental concepts, definitions, and applications of research.	3	0	0	3	0	1.2
		CO2	Classify research types based on applications, objectives, and paradigms.	3	3	2	2	3	2.6
		CO3	Describe and explain the eight-step research process.	3	0	0	3	0	1.2
	Clinical Research	CO4	Formulate a research problem, design, and proposal.	0	0	3	0	0	0.6
	Methodologies (MCR 102 T)	CO5	Demonstrate data collection methods, sampling techniques, and instrument construction.	3	3	3	2	1	2.4
		CO6	Analyze literature to identify research gaps and synthesize findings.	3	2	0	3	0	1.6
		CO7	Develop skills for structuring and writing research reports effectively.	0	0	3	0	3	1.2
		Average		2.1	1.1	1.6	1.9	1.0	1.5
		CO1	Explain the history, sources, drug development process, and principles of pharmacology.	3	0	0	3	0	1.2
		CO2	Describe different routes of drug administration and the pharmacokinetics of drugs.	3	0	0	3	0	1.2
	Pharmacology - I	CO3	Explain drug interactions, mechanisms of action, and adverse drug reactions (ADRs).	3	0	0	3	0	1.2
	(MCR 103 T)	CO4	Classify and explain the pharmacology of cholinergic, anticholinergic, adrenergic, and antiadrenergic drugs.	3	0	0	3	0	1.2

	CO5	Explain the action and uses of skeletal muscle relaxants and local anesthetics.	3	0	0	3	0	1.2
	CO6	Apply pharmacological concepts in clinical settings and drug therapy decision-making.	3	0	0	3	3	1.8
	Average		3.0	0.0	0.0	3.0	0.5	1.3
Research Methodology & Biostatistics (core Course) (CC 001 T)	CO1	Students will demonstrate the ability to design a research study, including the formulation of research questions, hypothesis generation, and selection of appropriate study design (e.g., experimental, observational).	0	0	3	3	2	1.6
	Average		0.0	0.0	3.0	3.0	2.0	1.6
	CO1	Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering them to make informed decisions and adapt to evolving medical technologies.	3	3	3	2	2	2.6
MCR Directed Clinical Education - I (MCR 105 CP)	CO 2	Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practical exposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care.	2	3	3	2	2	2.4
	CO 3	Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams.	3	3	2	1	2	2.2
	Average	, v	2.7	3.0	2.7	1.7	2.0	2.4
	CO1	Explain the historical development of clinical research ethics, including key ethical guidelines	3	3	0	3	0	1.8
	CO2	Identify and analyze legal liabilities, investigator responsibilities, and compensation-related obligations in clinical research.	3	3	2	2	0	2.0
Ethics in Clinical	CO3	Describe the role of CIOMS, NIH, and ICMR guidelines in ethical clinical research.	0	3	0	0	0	0.6
Research (DSE 001 T)	CO4	Explain the function and significance of IRB/IEC/ERB in clinical trials.	0	3	0	0	0	0.6
	CO5	Analyze the ethics review process and the importance of informed consent in clinical trials.	0	3	3	2	3	2.2
	CO6	Evaluate the ethical and legal aspects of informed consent and patient information documentation.	0	3	0	0	3	1.2
	Average		1.0	3.0	0.8	1.2	1.0	1.4
	CO1	Explain the origins, evolution, and significance of Ayurveda, Siddha, Unani, Yoga, Naturopathy, and Homeopathy.	3	3	0	2	0	1.6
	CO2	Describe the fundamental principles of disease prevention and treatment in different systems of medicine.	3	0	0	3	0	1.2
Different Systems of -	CO3	Examine how traditional practices align with or differ from modern medical approaches.	3	0	0	3	0	1.2
Medicine (DSE 002 T)	CO4	Identify key medicinal plants used in different systems and their therapeutic applications.	3	0	0	3	0	1.2
	CO5	Discuss recent advances in validating traditional medicine and US botanical drug development.	3	0	0	3	0	1.2
	CO6	Assess how globalization has influenced Ayurveda and other traditional systems.	3	0	0	2	2	1.4
	Average		3.0	0.5	0.0	2.7	0.3	1.3
	CO1	Explain the principles and types of analytical methods used in drug analysis.	3	0	0	3	0	1.2
	CO2	Identify and describe various laboratory apparatus used in drug analysis.	3	0	0	3	0	1.2
	CO3	Explain the theory, mathematical concepts, and principles behind IR absorption spectroscopy.	3	0	0	3	0	1.2
Drug Analysis (MCR	CO4	Analyze and interpret IR spectra for organic and inorganic compounds.	3	0	0	3	3	1.8
106 T)	CO5	Explain the working of Single Beam and Double Beam spectrometers and their applications.	3	0	0	3	0	1.2

	CO6	Evaluate the applications of IR spectroscopy in the qualitative and quantitative analysis of drugs.	3	0	0	3	0	1.2
	CO7	Discuss advanced techniques such as ATR, Non-dispersive IR, and Polythermal Beam Deflection Spectroscopy.	3	0	0	3	0	1.2
	Average		3.0	0.0	0.0	3.0	0.4	1.3
	CO1	Explain the CDSCO guidelines for bioavailability & bioequivalence studies and their significance in clinical research.	3	3	0	2	0	1.6
	CO2	Analyze the ethical principles from the World Medical Association's Declaration of Helsinki.	3	3	0	2	0	1.6
Clinical Research	CO3	Interpret regulatory requirements for clinical trials in India as per Schedule Y.	3	3	0	2	0	1.6
Guidelines I (MCR 107	CO4	Describe the principles of GCP and their role in ensuring ethical and high- quality clinical trials.	3	3	0	2	0	1.6
T)	CO5	Compare international regulatory guidelines for BA/BE studies in veterinary and human medicine.	3	3	0	2	0	1.6
	CO6	Examine the importance of clinical safety data management and periodic safety update reports.	3	3	0	2	2	2.0
	Average		3.0	3.0	0.0	2.0	0.3	1.7
	CO1	Explain the mechanism of action, uses, and side effects of diuretics and antidiuretics.	3	0	0	3	0	1.2
	CO2	Describe the pharmacology of drugs used for peptic ulcers, emetics, antiemetics, constipation, and diarrhea.	3	0	0	3	0	1.2
	CO3	Classify and explain the mechanisms of action of beta-lactam antibiotics, tetracyclines, aminoglycosides, and chloramphenicol.	3	0	0	3	0	1.2
Pharmacology - II (MCR 108 T)	CO4	Understand the pharmacokinetics, pharmacodynamics, and clinical applications of anti-TB and antileprotic drugs.	3	0	0	3	0	1.2
	CO5	Identify different antifungal and antiviral drugs and their applications in treating infections.	3	0	0	3	0	1.2
	CO6	Explain the mode of action, resistance mechanisms, and therapeutic uses of drugs for malaria and urinary tract infections.	3	0	0	3	0	1.2
	Average		3.0	0.0	0.0	3.0	0.0	1.2
	CO1	Build a robust theoretical foundation, enabling students to understand healthare practices, disease management, and patient care, thereby empowering them to make informed decisions and adapt to evolving medical technologies.	3	3	0	0	1	1.4
MCR Directed Clinical Education - II (MCR 110 CP)	CO2	Emphasize hands-on training, ensuring proficiency in clinical procedures, diagnostic techniques, and the use of advanced medical equipment. This practical exposure will bridge the gap between theory and practice, enhancing students' confidence and competence in delivering quality patient care.	0	0	0	0	0	0.0
	CO3	Focus on developing professionalism, empathy, ethical conduct, teamwork, and communication skills—key traits for holistic patient care and effective collaboration in interdisciplinary healthcare teams.	3	3	0	0	1	1.4
	Average		2.0	2.0	0.0	0.0	0.7	0.9
Discipiline Specific Ele	ctive Theory							
	CO1	Explain mortality and morbidity indicators, and their relevance in epidemiological studies.	3	0	3	2	0	1.6
	CO2	Analyze different types of bias (study, response, information, interviewer, site selection, measurement, and confounding) in research.	3	0	0	2	2	1.4
Epidemiological	CO3	Interpret diagnostic tests, screening tests, and prognostic tests using an evidence-based approach.	3	0	3	2	2	2.0
Principles Relevant to Clinical Research (DSE	CO4	Understand the principles and applications of pharmacoepidemiological studies in clinical settings.	3	0	3	3	0	1.8
003 T)	CO5	Explain how molecular and genetic epidemiology contribute to clinical research.	3	0	3	3	0	1.8
	CO6	Discuss the impact of race, ethnicity, social class, and culture on clinical	3	0	2	2		1.8

	Average		3.0	0.0	2.3	2.3	0.8	1.7
	CO1	Explain the process of selecting trial sites, investigators, and vendors.	3	3	0	2	0	1.6
	CO2	Describe the responsibilities of sponsors, institutions, coordinators, and investigators.	3	3	0	2	0	1.6
Clinical Trial Perations	CO3	Identify essential trial documents (protocol, CRF, ICD, investigator brochure, agreements).	3	3	0	2	0	1.6
(DSE 004 T)	CO4	Manage recruitment, site master file, SOPs, and regulatory compliance.	3	3	0	2	0	1.6
	CO5	Understand the role of monitors, auditors, and data monitoring committees.	3	3	0	2	0	1.6
	CO6	Develop strategies to handle unexpected challenges during clinical trials.	3	3	0	2	0	1.6
	Average		3.0	3.0	0.0	2.0	0.0	1.6
Skill Ehancement Cou	rse							
	CO1	Explain CPCSEA guidelines and ethical considerations in animal testing.	3	3	0	2	0	1.6
	CO2	Describe the principles of Reduce, Refine, Replace, and Rehabilitate in animal research.	3	3	0	2	0	1.6
Almondina in Trainin	CO3	Analyze non-mammalian and non-animal models used for toxicity testing.	3	3	0	2	0	1.6
Alrenative in Toxicity	CO4	Explain the standard procedures for reporting animal trial data.	3	3	0	2	0	1.6
Testing (SEC 001 T)	CO5	Assess the effectiveness of alternative testing methods such as the Draize test.	3	3	0	2	0	1.6
	CO6	Describe the use of zebrafish, drosophilae, and C. elegans in toxicity studies.	3	3	0	2	0	1.6
	Average		3.0	3.0	0.0	2.0	0.0	1.6
	CO1	A comprehensive understanding of One Health & role in global health challenges, emphasizing interconnectedness among human, animal, and environmental health.	0	0	0	3	3	1.2
One Health (NPTEL) (SEC 002 T)	CO2	Topics include research ethics, disease surveillance, and successes in controlling emerging infectious diseases.	3	3	0	0	0	1.2
	CO3	Students explore disease emergence, transmission, antimicrobial resistance, and food safety, gaining insights into effective public health strategies.	3	0	0	0	3	1.2
	Average		2.0	1.0	0.0	1.0	2.0	1.2