

# **KIET SCHOOL OF PHARMACY**

## **TARGET BENCHMARK SUMMARY (2022-23 ODD SEMESTER)**

| Sem. | SUBJECT Code | NAME OF THE SUBJECT                             | CO-COORDINATOR             | PROPOSED INTERNAL BENCHMARK | PROPOSED EXTERNAL BENCHMARK |
|------|--------------|-------------------------------------------------|----------------------------|-----------------------------|-----------------------------|
| 1    | BP101T       | Human Anatomy and Physiology- Theory            | Dr. Praveen Kr. Dixit      | 55                          | 50                          |
| 1    | BP102T       | Pharmaceutical Analysis I - Theory              | Dr. Abhay Bhardwaj         | 50                          | 58                          |
| 1    | BP103T       | Pharmaceutics I - Theory                        | Mr. Debaprasad Ghosh       | 52                          | 52                          |
| 1    | BP104T       | Pharmaceutical Inorganic Chemistry- Theory      | Ms. Shikha Kaushik         | 50                          | 50                          |
| 1    | BP105T       | Communication Skills - Theory                   | Dr. Kavita Tiwari          | 50                          | NA                          |
| 1    | BP106RBT     | Remedial Biology                                | Dr. Vinay                  | 50                          | NA                          |
| 1    | BP106RMT     | Mathematics - Theory                            | Dr. Swati Maheshwari       | 50                          | NA                          |
| 1    | BP107P       | Human Anatomy and Physiology- (Practical)       | Mr. Praveen Kumar Dixit    | 70                          | 70                          |
| 1    | BP108P       | Pharmaceutical Analysis Practical               | Dr. Abhay Bhardwaj         | 60                          | 60                          |
| 1    | BP109P       | Pharmaceutics I - Practical                     | Mr. Debaprasad Ghosh       | 71                          | 71                          |
| 1    | BP110P       | Pharmaceutical Inorganic Chemistry              | Mr. Surya Prakash          | 70                          | 70                          |
| 1    | BP111P       | Communication Skills - Practical                | Ms. Priyanka Sharma        | 70                          | NA                          |
| 1    | BP112RP      | Remedial Biology - Practical                    | Dr. Richa Goel             | 70                          | NA                          |
|      |              |                                                 |                            |                             |                             |
| 3    | BP301T       | Pharmaceutical Organic Chemistry II - Theory    | Ms. Shipra Singhal         | 55                          | 56                          |
| 3    | BP302T       | Physical Pharmaceutics I - Theory               | Dr. Kiran Sharma           | 50                          | 52                          |
| 3    | BP303T       | Pharmaceutical Microbiology - Theory            | Dr. Monika Kaurav          | 54                          | 55                          |
| 3    | BP304T       | Pharmaceutical Engineering - Theory             | Mr. Sanjeev Chauhan        | 56                          | 56                          |
| 3    | BP305P       | Pharmaceutical Organic Chemistry II - Practical | Dr. Vaishali M. Patil      | 70                          | 70                          |
| 3    | BP306P       | Physical Pharmaceutics I - Practical            | Dr. N. G. R. Rao           | 70                          | 70                          |
| 3    | BP307P       | Pharmaceutical Microbiology - Practical         | Mr. Harsh Rastogi          | 70                          | 70                          |
| 3    | BP308P       | Pharmaceutical Engineering - Practical          | Mr. Sanjeev Chauhan        | 71                          | 71                          |
| 3    | KVE301       | Universal Human Values and Professional Ethics  | Dr. Praveen Kr. Dixit      | 60                          | 65                          |
|      |              |                                                 |                            |                             |                             |
| 5    | BP501T       | Medicinal Chemistry- Theory                     | Dr. Vaishali M. Patil      | 55                          | 55                          |
| 5    | BP502T       | Industrial Pharmacy I - Theory                  | Dr. Ashu Mittal            | 50                          | 55                          |
| 5    | BP503T       | Pharmacology II - Theory                        | Dr. Abhishek Kumar         | 55                          | 56                          |
| 5    | BP504T       | Pharmacognosy and Phytochemistry - Theory       | Dr. Daksh Bhatia           | 50                          | 51                          |
| 5    | BP505T       | Pharmaceutical Jurisprudence - Theory           | Mr. Harsh Rastogi          | 50                          | 57                          |
| 5    | BP506P       | Industrial Pharmacy I - Practical               | Mr. Harsh Rastogi          | 70                          | 70                          |
| 5    | BP507P       | Pharmacology II - Practical                     | Dr. Abhishek Kumar         | 65                          | 65                          |
| 5    | BP508P       | Pharmacognosy and Phytochemistry - Practical    | Dr. Daksh Bhatia           | 70                          | 70                          |
| 5    | BP509P       | Report on Hospital Training-I                   | Debaprasad Ghosh           | 70                          | 70                          |
|      |              |                                                 |                            |                             |                             |
| 7    | BP701T       | Instrumental Methods of Analysis - Theory       | Ms. Shipra Singhal         | 60                          | 50                          |
| 7    | BP702T       | Industrial Pharmacy II - Theory                 | Ms. Vidhu Saxena           | 51                          | 51                          |
| 7    | BP703T       | Pharmacy Practice - Theory                      | Dr. Shardendu Kumar Mishra | 52                          | 52                          |
| 7    | BP704T       | Novel Drug Delivery System (NDDS) - Theory      | Dr. Lakshmi                | 50                          | 60                          |
| 7    | BP705P       | Instrumental Methods of Analysis - Practical    | Dr. Gaurav Kapoor          | 70                          | 70                          |
| 7    | BP706PS      | Practice School                                 | Debaprasad Ghosh           | 73                          | NA                          |
| 7    | BP707P       | Report on Hospital Training-II                  | Kapil Sachan               | 70                          | NA                          |

Assoc./ Asst. Head DOC

Signature of Addl. HoD



KIET SCHOOL OF PHARMACY

Minutes of Meeting held on 3<sup>rd</sup> October 2022 in KSOP Department

Agenda: Discussion/Approval of Course outcome statements as well as CO-PO mapping for the subjects of the B.Pharm syllabus for the session 2022-23 odd semester.

Time : 12.30 P.M.

Venue: Principal's confidential room

Chair: Dr. K. Nagarajan (Principal-KSOP)

BOS Members Present:

1. Dr. K. Nagarajan

2. Dr. N.G. Raghavendra Rao

3. Dr. Ashu Mittal

4. Dr. Roma Ghai,

5. Dr. Daksh Bhatia,

6. Dr. Vaishali M. Patil

Topics Discussed

All the course outcome statements as well as CO-PO mapping of the session 2022-23 were reviewed and suggestions were made by BOS members for necessary corrections, wherever they were required.

24/10/22  
Dr. K. Nagarajan  
(Principal)



**KSOP SUBJECT ALLOTMENT/CLASS COORDINATOR LIST, ODD SEM-2022-23**

DATE: 30/08/2022

| KSOP SUBJECT ALLOTMENT/CLASS COORDINATOR LIST, ODD SEM-2022-23 |             |                                                       |                                   | DATE: 30/08/2022              |                                   |                                                   |
|----------------------------------------------------------------|-------------|-------------------------------------------------------|-----------------------------------|-------------------------------|-----------------------------------|---------------------------------------------------|
|                                                                |             |                                                       | Section- A                        |                               | Section- B                        |                                                   |
| I-YEAR                                                         | Course Code | Name of Subjects                                      | Mr. Praveen                       | Mr. PRAVEEN/<br>Ms. SHIKHA    | Ms. Priya                         | Mr. PANKAJ/<br>Ms. PRIY.                          |
|                                                                | BP101T      | Human Anatomy and Physiology - Theory                 | Dr. Abhishek                      |                               | Dr. Neha                          |                                                   |
|                                                                | BP102T      | Pharmaceutical Analysis I - Theory                    | Mr. Ghosh                         |                               | MR. PANKAJ                        |                                                   |
|                                                                | BP103T      | Pharmaceutics I - Theory                              | Ms. SHIKHA                        |                               | MR. SURYA                         |                                                   |
|                                                                | BP104T      | Pharmaceutical Inorganic Chemistry- Theory            | Dr. Priyanka                      |                               | Dr. Priyanka                      |                                                   |
|                                                                | BP105T      | Communication Skills - Theory                         | Dr. Vinay/ Dr. Richa              |                               | Dr. Swati                         |                                                   |
| II-YEAR                                                        | BP106RB1    | Remedial Biology                                      | Dr. Neelam                        | Ms. SAKSHI/<br>Mr. SANJEEV    | MS SHIPRA                         | Mr. GHOSH/<br>Dr. KIRAN                           |
|                                                                | BP106RM1    | Mathematics - Theory                                  | Mr. Surya                         |                               | DR. KIRAN                         |                                                   |
|                                                                | BP301T      | Pharmaceutical Organic Chemistry II - Theory          | MS SAKSHI                         |                               | MR. GHOSH                         |                                                   |
|                                                                | BP302T      | Physical Pharmaceutics I - Theory                     | DR. MONIKA                        |                               | Mr. PANKAJ                        |                                                   |
|                                                                | BP303T      | Pharmaceutical Microbiology - Theory                  | MR. SANJEEV                       |                               | Dr. Daksh                         |                                                   |
|                                                                | BP304T      | Pharmaceutical Engineering - Theory                   | MR. PRAVEEN                       |                               | Dr. Vinay, Dr. Alankar, Ms. Vidhu |                                                   |
| III-YEAR                                                       | KVE301      | Universal Human Values and Professional Ethics        | Dr. Vinay, Dr. Alankar, Ms. Vidhu | Mr. HARSH/<br>Dr. NEHA        | DR. VAISHALI                      | Dr. MONIKA/<br><del>Ms. KAPIL</del><br>Ms. Sheena |
|                                                                |             | MINOR SPECIALIZATION                                  | DR. NEHA                          |                               | DR. LAKSHMI                       |                                                   |
|                                                                | BP501T      | Medicinal Chemistry II - Theory                       | MS. SURBHI                        |                               | MS. SHEENA                        |                                                   |
|                                                                | BP502T      | Industrial Pharmacy I - Theory                        | DR. ABHISHEK                      |                               | DR. RICHHA                        |                                                   |
|                                                                | BP503T      | Pharmacology II - Theory                              | DR. DAKSH                         |                               | DR. MONIKA                        |                                                   |
|                                                                | BP504T      | Pharmacognosy and Phytochemistry                      | Mr. HARSH                         |                               | Dr. Deepti                        |                                                   |
| IV-YEAR                                                        | BP505T      | Pharmaceutical Jurisprudence - Theory                 | Dr. Deepti, Ms. Pragati           | Ms. VIDHU/<br>Ms. SHIPRA      | Ms. Pragati                       | Dr. LAKSHI II/<br>Dr. GARIMA                      |
|                                                                |             | VALUE ADDED COURSE                                    | MS. SHIPRA                        |                               | DR. GARIMA /<br>DR. NAGARAJAN     |                                                   |
|                                                                | BP701T      | Instrumental Methods of Analysis - Theory             | MS. VIDHU                         |                               | MR. ANUJ                          |                                                   |
|                                                                | BP702T      | Industrial Pharmacy II - Theory                       | MS. PRIYA                         |                               | DR. SHARDENDU                     |                                                   |
|                                                                | BP703T      | Pharmacy Practice - Theory                            | DR. RAO                           |                               | DR. LAKSHMI                       |                                                   |
|                                                                | BP704T      | Novel Drug Delivery System (NDDS) - Theory            | DR. NAGARAJAN                     |                               |                                   |                                                   |
| QA-PG                                                          | MQA101T     | Modern Pharmaceutical Analytical Techniques           | DR. KIRAN                         | Dr. ALANKAR                   |                                   |                                                   |
|                                                                | MQA102T     | Quality Management System                             | DR. ALANKAR                       |                               |                                   |                                                   |
|                                                                | MQA103T     | Quality Control and Quality Assurance                 | Ms. SURBHI                        |                               |                                   |                                                   |
|                                                                | MQA104T     | Product Development and Technology Transfer           | DR. ABHAY                         | Dr. ASHU MITTAL               |                                   |                                                   |
| PHARMACEUTICS                                                  | MPH101T     | Modern Pharmaceutical Analytical Techniques           | DR. RAO                           |                               |                                   |                                                   |
|                                                                | MPH102T     | Drug Delivery System                                  | DR. ASHU                          |                               |                                   |                                                   |
|                                                                | MPH103T     | Modern Pharmaceutics                                  | MR. ANUJ                          |                               |                                   |                                                   |
|                                                                | MPH104T     | Regulatory Affairs                                    | DR. PARUL                         | Dr. ROMA/Dr. VINAY            |                                   |                                                   |
| PHARMACOLOGY                                                   | MPL101T     | Modern Pharmaceutical Analytical Techniques           | DR. VINAY                         |                               |                                   |                                                   |
|                                                                | MPL102T     | Advanced Pharmacology-I                               | DR. ROMA                          |                               |                                   |                                                   |
|                                                                | MPL103T     | Pharmacological and Toxicological Screening Methods-I | DR. SHARDENDU                     |                               |                                   |                                                   |
|                                                                | MPL104T     | Cellular and Molecular Pharmacology                   |                                   | Dr. ASHU/Dr. ALANKAR/Dr. ROMA |                                   |                                                   |
| III-SEM-PG                                                     | MRM301T     | Research Methodology and Biostatistics                | Mr. Balwan, Dr. Ajay Dixit        |                               |                                   |                                                   |
| D PHARM-I/II                                                   | ER20-11T    | Pharmaceutics Theory D.Pharm-I                        | Ms. Riya                          | Mr. HARSH /Dr. DEEPTI         |                                   |                                                   |
|                                                                | ER20-12T    | Pharmaceutical Chemistry Theory D.Pharm-I             | Ms. Shikha                        |                               |                                   |                                                   |
|                                                                | ER20-13T    | Pharmacognosy Theory D.Pharm-I                        | Dr. Deepti                        |                               |                                   |                                                   |
|                                                                | ER20-14T    | Human Anatomy & Physiology Theory D.Pharm-I           | Dr. Roma                          |                               |                                   |                                                   |
|                                                                | ER20-15T    | Social Pharmacy Theory D.Pharm-I                      | Mr. Priya Ranjan                  |                               |                                   |                                                   |
| D PHARM-III/IV                                                 | ER20-21T    | Pharmacology Theory D. Pharm-II                       | Dr. Abhishek                      | Dr. ABHISHEK/Mr. KAPIL        |                                   |                                                   |
|                                                                | ER20-22T    | Community Pharmacy & Management Theory D. Pharm-II    | Ms. Sakshi                        |                               |                                   |                                                   |
|                                                                | ER20-23T    | Biochemistry & Clinical Pathology Theory D. Pharm-II  | Ms. Sheena                        |                               |                                   |                                                   |
|                                                                | ER20-24T    | Pharmacotherapeutics Theory D. Pharm-II               | Mr. Kapil                         |                               |                                   |                                                   |
|                                                                | ER20-25T    | Hospital & Clinical Pharmacy Theory D. Pharm-II       | Mr. Balwan                        |                               |                                   |                                                   |
|                                                                | ER20-26T    | Pharmacy Law & Ethics D. Pharm-II                     | Mr. Shubham                       |                               |                                   |                                                   |



**CO COORDINATOR ODD SEM 2022-23**

| S.NO. | SUBJECT CODE | SUBJECT NAME                            | SUBJECT TYPE       | FACULTY NAME                                  | SEMESTER |
|-------|--------------|-----------------------------------------|--------------------|-----------------------------------------------|----------|
| 1     | BP101T       | HUMAN ANATOMY AND PHYSIOLOGY            | THEORY             | Ms Priya                                      | 1        |
| 2     | BP102T       | PHARMACUTICAL ANALYSIS I -Theory        | THEORY             | Dr Abhinav Bhargava                           |          |
| 3     | BP103T       | PHARMACEUTICS I -Theory                 | THEORY             | MR. PANKAJ                                    |          |
| 4     | BP104T       | PHARMACEUTICAL INORGANIC CHEMISTRY      | THEORY             | Ms. Shikha                                    |          |
| 5     | BP105T       | COMMUNICATION SKILLS -Theory            | THEORY             | Dr Priyanka Sharma                            |          |
| 6     | BP106RBT     | REMEDIAL BIOLOGY -Theory                | THEORY             | Dr. Vinay                                     |          |
| 7     | BP106RMT     | REMEDIAL MATHEMATICS -Theory            | THEORY             | Dr. Swati Maheshwari                          |          |
| 8     | BP107P       | HAB PRACTICAL                           | LAB                | Mr. Praveen Kr. Dixit                         |          |
| 9     | BP108P       | P. ANALYSIS PRACTICAL                   | LAB                | Dr Abhinav Bhargava                           |          |
| 10    | BP109P       | PHARMACEUTICS PRACTICAL                 | LAB                | Mr. Ghosh                                     |          |
| 11    | BP110P       | IPC PRACTICAL                           | LAB                | MR. SURYA                                     |          |
| 12    | BP105T       | COMMUNICATION SKILLS PRACTICAL          | LAB                | Dr Priyanka Sharma                            |          |
| 13    | BP106RBT     | REMEDIAL BIOLOGY PRACTICAL              | LAB                | Dr. Richa                                     |          |
| 14    | BP-301T      | PHARMACEUTICAL ORGANIC CHEMISTRY-II     | THEORY             | Ms. Shipra                                    | 3        |
| 15    | BP-302T      | PHYSICAL PHARMACEUTICS-I                | THEORY             | Dr. Kiran                                     |          |
| 16    | BP-303T      | PHARMACEUTICAL MICROBIOLOGY             | THEORY             | Dr. Monika kaurav                             |          |
| 17    | BP-304T      | PHARMACEUTICAL ENGINEERING              | THEORY             | Mr. Sanjeev Chauhan                           |          |
| 18    | BP-305P      | PHARMACEUTICAL ORGANIC CHEMISTRY-II     | LAB                | Dr. Vaishali                                  |          |
| 19    | BP-306P      | PHYSICAL PHARMACEUTICS-I PRACTICAL      | LAB                | Dr. N.G. Raghavendra R                        |          |
| 20    | BP-307P      | PHARMACEUTICAL MICROBIOLOGY             | LAB                | Mr. Harsh                                     |          |
| 21    | BP-308P      | PHARMACEUTICAL ENGINEERING PRACTICAL    | LAB                | Mr. Sanjeev Chauhan                           |          |
| 22    | KVE-301      | UNIVERSAL HUMAN VALUES                  | THEORY             | Mr. Praveen Dixit                             |          |
| 24    | DRA          | MINOR SPECIALIZATION (DRA)              |                    | Dr. Vinay                                     |          |
| 25    | BP-501T      | MEDICINAL CHEMISTRY-II                  | THEORY             | DR. VAISHALI                                  | 5        |
| 26    | BP-502T      | INDUSTRIAL PHARMACY-I                   | THEORY             | DR. LAKSHMI                                   |          |
| 27    | BP-503T      | PHARMACOLOGY-II                         | THEORY             | Dr. Abhishek Kumar                            |          |
| 28    | BP-504T      | PHARMACOGNOSY-II                        | THEORY             | DR. RICHHA                                    |          |
| 29    | BP-505T      | PHARMACEUTICAL JURISPRUDENCE            | THEORY             | Mr. Harsh Rastogi                             |          |
| 30    | BP-506P      | INDUSTRIAL PHARMACY-I PRACTICAL         | LAB                | Mr. Harsh rastogi                             |          |
| 31    | BP-507P      | PHARMACOLOGY-II PRACTICAL               | LAB                | Dr. Abhishek Kumar                            |          |
| 32    | BP-508P      | PHARMACOGNOSY-II PRACTICAL              | LAB                | DR. DAKSHI                                    |          |
| 33    | RPH-533      | SOFT SKILLS                             | VALUE ADDED        | Ms. Sugandha                                  |          |
| 34    | VAS10        | Herbal Product Development              | VALUE ADDED COURSE | Dr. Deepti Katiyar                            |          |
| 35    | BP-701T      | INSTRUMENTAL METHODS OF ANALYSIS THEORY | THEORY             | Ms. Shipra Singhal                            | 7        |
| 36    | BP-702T      | INDUSTRIAL PHARMACY II THEORY           | THEORY             | Mr. Anuj Pathak                               |          |
| 37    | BP-703T      | PHARMACY PRACTICE THEORY                | THEORY             | Dr. Shardendu Mishra                          |          |
| 38    | BP-704T      | NOVEL DRUG DELIVERY SYSTEM (NDDS)       | THEORY             | DR. LAKSHMI                                   |          |
| 39    | BP-705P      | INSTRUMENTAL METHODS OF ANALYSIS        | LAB                | DR. GARIMA                                    |          |
| 40    | BP-706PS     | PS- PHYTOMEDICINE                       | LAB                | Mr. Debaprasad Ghosh.                         |          |
| 41    | BP-706PS     | PS- FORMULATION DEVELOPMENT             | LAB                | (A common CO and CO-PO needs to be prepared.  |          |
| 42    | BP-706PS     | PS- DRUG DESIGN AND PROCESS CHEMISTRY   | LAB                | All Practice school                           |          |
| 43    | BP-706PS     | PS- QUALITY CONTROL AND QUALITY         | LAB                | teachers kindly prepare                       |          |
| 44    | BP-706PS     | PS- ALTERNATIVE MEDICINE                | LAB                | by having a consultation amongst yourselves.) |          |
| 45    | BP-706PS     | PS- ARTIFICIAL INTELLIGENCE             | LAB                |                                               |          |

Principal KSOP



DR. NAGARAJAN  
Dr. Daksh Bhatia  
Mr. Debaprasad Ghosh  
Dr. Garima Kapoor  
Dr. Alankar Srivastav  
Dr. Shardendu Kumar Mishra  
Ms. Vidhu Saxena

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- I

Course- Human Anatomy & Physiology-I (Theory)

Course Code- BP101T

Course Instructors- Mr. Praveen Kumar Dixit and Ms. Priya Bansal

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                           | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                       |                                      |                         |
| CO1                                                         | Discuss the basic structure of human body parts including cell, tissue and various types of cells signaling pathways. | Understand                           | Factual & Conceptual    |
| CO2                                                         | Illustrate the structural and functional characteristics of bones and muscles of the human body.                      | Apply                                | Factual & Conceptual    |
| CO3                                                         | Outline the composition and functions of blood and lymph.                                                             | Analyze                              | Factual & Conceptual    |
| CO4                                                         | Illustrate the anatomical and physiological aspects of peripheral nervous system and sense organs.                    | Apply                                | Factual & Conceptual    |
| CO5                                                         | Outline the structural and functional aspects of heart and its correlation with disorders in relation with ECG.       | Analyze                              | Factual & Conceptual    |

Mapping of COs with POs

| Course Code: |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|
| BP101T       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |
| CO2          | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |
| CO3          | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |
| CO4          | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |
| CO5          | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |
| PO Target    | 3 |   |   |   |   |   | 1 | 1 | 1 |    | 2  |

Signature of CO- Coordinator: Ms. Priya Bansal



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Signature

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm. Ist Yr

Course- Pharmaceutical Analysis-I

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester- I

Course Code- BP102T

Course Instructors- Dr. Abhay Bhardwaj

| CO No.                                                      | Statement of Course Outcomes                                                                                        | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                     |                                      |                         |
| CO1                                                         | Illustrate the basics and concepts of pharmaceutical analysis, its techniques and errors.                           | Apply                                | Factual and Conceptual  |
| CO2                                                         | Determine the basics and concepts of acid base and non-aqueous titration and its application.                       | Apply                                | Factual and Conceptual  |
| CO3                                                         | Demonstrate the basics and concepts of precipitation, complexometric, gravimetry and diazotization its application. | Apply                                | Factual and Conceptual  |
| CO4                                                         | Illustrate the basics and concepts of redox titrations and its application.                                         | Apply                                | Factual and Conceptual  |
| CO5                                                         | Demonstrate the basics and concepts of electrochemical methods of analysis and its applications.                    | Apply                                | Factual and Conceptual  |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | -    | 2    | 3    | -    | 2    | 1    | -    | 2    | -     | 3     |
| CO2         | 3    | -    | 2    | 2    | -    | 2    | 1    | -    | 2    | -     | 3     |
| CO3         | 3    | -    | 2    | 3    | -    | 2    | 1    | -    | 2    | -     | 3     |
| CO4         | 3    | -    | 2    | 3    | -    | 1    | 1    | -    | 2    | -     | 2     |
| CO5         | 3    | -    | 2    | 3    | -    | 2    | 1    | -    | 2    | -     | 3     |
| PO Target   | 3    | -    | 2    | 2.8  | -    | 1.8  | 1    | -    | 2    | -     | 2.8   |

Signature of CO Coordinator

# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd semester

Program- B. Pharm.

Semester- 3

Course- Pharmaceutics I - Theory

Course Code- BP103T

Course Instructors- Mr. Debaprasad Gosh & Mr. Pankaj Bhatt

## **Tagging COs with BLs & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                                                                         | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                     |                                      |                         |
| CO1                                                         | Illustrate the rationale and concept behind the pharmacy profession, definition and types of dosage forms, pharmacopoeias, prescription & posology. | Apply                                | Factual, Conceptual     |
| CO2                                                         | Explore different types of basic calculations involved in the pharmaceuticals, pharmaceutical powders & liquid dosage forms.                        | Analyze                              | Conceptual & Procedural |
| CO3                                                         | Outline monophasic liquid dosage forms, and biphasic liquid dosage forms like suspensions and emulsions.                                            | Analyze                              | Conceptual & Procedural |
| CO4                                                         | Identify the formulation requirements of suppositories and different pharmaceutical incompatibilities.                                              | Analyze                              | Conceptual & Procedural |
| CO5                                                         | Explore semisolid dosage forms.                                                                                                                     | Analyze                              | Conceptual & Procedural |

## **Mapping of COs with POs**

|              |   |   |     |   |   |   |   |   |   |    |    |
|--------------|---|---|-----|---|---|---|---|---|---|----|----|
| Course Code: |   |   |     |   |   |   |   |   |   |    |    |
| BP103T       | 1 | 2 | 3   | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | 1 | 1   | - | 1 | 1 | 1 | - | - | 1  | 1  |
| CO2          | 3 | 1 | 1   | - | - | 1 | 1 | - | - | -  | 1  |
| CO3          | 3 | 1 | 1   | - | - | 1 | 1 | - | - | -  | 1  |
| CO4          | 3 | 1 | 2   | - | - | 1 | 1 | - | - | -  | 1  |
| CO5          | 3 | 1 | 2   | - | - | 1 | 1 | - | - | -  | 1  |
| PO Target    | 3 | 1 | 1.4 | - | 1 | 1 | 1 | - | - | 1  | 1  |

Signature of CO- Coordinator

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# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Program- B. Pharm.

Course- Pharmaceutical Inorganic Chemistry

Course Instructors- Ms. Shikha Kaushik and Ms. Pragati Gupta

Tagging Cos with BLs & KCs

Semester- 1<sup>st</sup>

Course Code- BP104T

| CO No.                                                             | Statement of Course Outcomes                                                                                                 | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)       | Category |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------|----------------------|----------|
| <b>After completion of the course, the student will be able to</b> |                                                                                                                              |                              |         |                      |          |
| CO1                                                                | Understand the sources of impurities with their control and the Limit test of inorganic molecules in Pharmaceuticals.        |                              |         |                      |          |
| CO2                                                                | Explain buffers, major intra- and extracellular electrolytes used in combination therapy, including ORS and dental Products. | Understand                   |         | Factual & Conceptual |          |
| CO3                                                                | Describe the various inorganic gastrointestinal agents and antimicrobials.                                                   | Understand                   |         | Factual & Conceptual |          |
| CO4                                                                | Understand the expectorants, emetics, haematinics, and antidotes used in inorganic pharmaceuticals.                          | Understand                   |         | Factual & Conceptual |          |
| CO5                                                                | Elaborate the radiopharmaceuticals, their handling, and precautions.                                                         | Understand                   |         | Factual & Conceptual |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | -    | 3    | -    | -    | -    | -    | -    | 3    | 3     | 3     |
| CO2         | 3    | -    | 3    | -    | -    | -    | -    | -    | 3    | 2     | 3     |
| CO3         | 3    | -    | 3    | -    | -    | -    | -    | -    | 3    | -     | 3     |
| CO4         | 3    | -    | 3    | -    | -    | -    | -    | -    | 3    | -     | 3     |
| CO5         | 3    | 2    | 3    | 2    | 1    | -    | -    | -    | 3    | 3     | 3     |
| PO Target   | 3    | 2    | 3    | 2    | 1    | -    | -    | -    | 3    | 2.67  | 3     |



Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Communication Skills

Course Instructors-Dr Kavita Tiwari

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester-I

Course Code-BP105T

| CO No.                                                      | Statement of Course Outcomes                                                                                                                                     | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                                  |                                      |                         |
| CO1                                                         | Figure out the communication strategies and principles along with the various perspectives at workplace.                                                         |                                      |                         |
| CO2                                                         | Practice the verbal & Non-verbal communication skills including the cognition of various communication style matrix.                                             | Apply                                | Factual, Procedural     |
| CO3                                                         | Express his/her self confidence with improved command over the dimensions of LSRW.                                                                               | Apply                                | Factual, Procedural     |
| CO4                                                         | Exercise the key principles of effective presentation techniques.                                                                                                | Apply                                | Factual, Procedural     |
| CO5                                                         | Analyze, comprehend, converse, interact and participate at multinational levels in day-to-day events and situation with cohesive arguments to reach a consensus. | Apply                                | Factual, Procedural     |
| Mapping of COs with POs                                     |                                                                                                                                                                  |                                      |                         |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         |      |      |      |      |      |      |      |      |      |       |       |
| CO2         |      |      |      |      | 1    |      |      | 3    | 1    | 1     | 2     |
| CO3         |      |      |      |      |      |      |      | 3    | 1    | 1     | 2     |
| CO4         |      |      |      |      | 2    |      |      | 3    | 1    | 1     | 2     |
| CO5         |      |      |      |      | 3    |      |      | 3    | 1    | 2     | 2     |
| PO Target   |      |      |      |      | 2    |      |      | 3    | 1    | 1.20  | 2     |

Kavita Tiwari

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Program- B. Pharm.

Course- Remedial Biology-Theory

Course Instructors-Dr Vinay and Dr Richa Goel

Tagging Cos with BLs & KCs

Semester- I

Course Code-BP106RBT

| CO No.                                                      | Statement of Course Outcomes                                                                                         | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                      |                                      |                         |
| CO1                                                         | Describe the basic components of anatomy & morphology of plants.                                                     | Remember                             | Factual, Conceptual     |
| CO2                                                         | Explain the concept of Body fluids, circulatory system, digestive system and respiration system.                     | Analyze                              | Factual, Conceptual     |
| CO3                                                         | Restate the basic concepts of excretory system, human reproduction system, neural, chemical control and coordination | understand                           | Factual, Conceptual     |
| CO4                                                         | Summarize the basic concept of plant nutrition and nitrogen metabolism with the process of photosynthesis.           | Evaluate                             | Factual, Conceptual     |
| CO5                                                         | Elaborate about plant cell and tissues with the mechanism of plant respiration, its growth and development.          | understand                           | Factual, Conceptual     |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 1    |      |      |      |      |      |      |      |      |       | 3     |
| CO2         | 3    |      |      |      |      | 1    |      |      |      |       | 2     |
| CO3         | 3    |      |      |      |      | 1    |      |      |      |       | 2     |
| CO4         | 1    |      |      |      |      |      |      |      |      |       | 3     |
| CO5         | 1    |      |      |      |      |      |      |      |      |       | 3     |
| PO Target   | 1.80 |      |      |      |      | 1    |      |      |      |       | 2.60  |

*Richa*

Signature of CG Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Remedial Mathematics

Course Instructors-Dr Swati Maheswari&Dr Neelam Sharma

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester-I

Course Code-BPRMT106

| CO No.                                                      | Statement of Course Outcomes                                                                                                                              | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                           |                                      |                         |
| CO1                                                         | Understand and apply the concepts of partial fractions, logarithms, real valued functions, limits and continuity in Chemical Kinetics & Pharmacokinetics. | Understand                           | Factual, Conceptual     |
| CO2                                                         | Understand & apply the concepts of determinants and Matrices in solving Pharmacokinetics equations                                                        | Understand                           | Factual, Conceptual     |
| CO3                                                         | Understand & apply the concepts of derivatives of a function of one variable to find extrema at a point.                                                  | Understand                           | Factual, Conceptual     |
| CO4                                                         | Understand and apply the concepts of coordinate geometry integration in Pharmaceutical problems.                                                          | Understand                           | Factual, Conceptual     |
| CO5                                                         | Understand and apply the concepts of Differential equations and Laplace transformations in solving Chemical Kinetics & Pharmacokinetics equations.        | Understand                           | Factual, Conceptual     |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 2    |      |      |      |      |      | 1    |      | 1    |       | 1     |
| CO2         | 2    | 1    | 1    | 1    |      | 1    | 1    |      | 1    |       | 1     |
| CO3         | 2    | 1    | 2    |      |      | 1    | 1    |      | 1    |       | 1     |
| CO4         | 2    | 1    | 1    |      |      |      | 1    |      | 1    |       | 1     |
| CO5         | 2    | 1    | 2    |      |      | 1    | 1    |      |      |       | 1     |
| PO Target   | 2    | 1    | 1.50 | 1    |      | 1    | 1    |      | 1    |       | 1     |

Swati

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2021-22 Odd semester

Program- B. Pharm

Semester- 1

Course- Human Anatomy & Physiology-I (Practical)

Course Code- BP107P

Course Instructors- Mr. Praveen Kumar Dixit and Ms. Priya Bansal

**Tagging COs with BLs & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                                                                   | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                               |                                      |                         |
| CO1                                                         | Illustrate the microscopical characteristics of different types of cells and tissues in human body under the light of microscopic techniques. | Analyze                              | Conceptual & Procedural |
| CO2                                                         | Illustrate the concept for identification of various types of bones and joints under the background of their anatomical correlation.          | Analyze                              | Conceptual & Procedural |
| CO3                                                         | Assess the methods and techniques to measure the various components of blood.                                                                 | Evaluate                             | Conceptual & Procedural |

**Mapping of COs with POs**

| Course Code: |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|
| BP107P       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | 1 | 1 | 2 | 1 |   |   | 1 | 2 |    | 2  |
| CO2          | 3 | 1 | 1 | 2 | 1 |   |   | 1 | 2 |    | 2  |
| CO3          | 3 | 1 | 1 | 2 | 1 |   |   | 1 | 2 |    | 2  |
| PO Target    | 3 | 1 | 1 | 2 | 1 |   |   | 1 | 2 |    | 2  |

Signature of CO- Coordinator: Mr. Praveen Kumar Dixit



# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

**Program- B. Pharm. 1st Yr**  
**Course- Pharmaceutical Analysis Practical**  
**Tagging Cos with BLs & KCs**

**Session- 2022-23 Odd Semester**  
**Semester- I**  
**Course Code- BP108P**

**Course Instructors- Dr. Abhay Bhardwaj**

| CO No.                                                             | Statement of Course Outcomes                                               | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)   |
|--------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------|---------------------------|
| <b>After completion of the course, the student will be able to</b> |                                                                            |                                      |                           |
| <b>CO1</b>                                                         | Demonstrate various glassware used in pharmaceutical analysis experiments. | Apply                                | Conceptual and Procedural |
| <b>CO2</b>                                                         | Analyze the various chemical compounds used in pharmaceutical analysis.    | Analyze                              | Conceptual and Procedural |
| <b>CO3</b>                                                         | Examine various chemical compound by using pharmaceutical assay method.    | Apply                                | Conceptual and Procedural |

## **Mapping of COs with POs**

| Course Code      | PO 1     | PO 2     | PO 3     | PO 4     | PO 5     | PO 6     | PO 7     | PO 8     | PO 9     | PO 10    | PO 11    |
|------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>CO1</b>       | 3        | -        | 2        | 3        | -        | 2        | 1        | -        | 2        | -        | 3        |
| <b>CO2</b>       | 3        | -        | 2        | 3        | -        | 2        | 1        | -        | 2        | -        | 3        |
| <b>CO3</b>       | 3        | -        | 2        | 3        | -        | 2        | 1        | -        | 2        | -        | 3        |
| <b>PO Target</b> | <b>3</b> | <b>-</b> | <b>2</b> | <b>3</b> | <b>-</b> | <b>2</b> | <b>1</b> | <b>-</b> | <b>2</b> | <b>-</b> | <b>3</b> |



**Signature of CO Coordinator**

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Semester- I

Program- B. Pharm

Course- Pharmaceutics- I Practical

Course Code- BP109P

Course Instructors- Mr. Debaprasad Ghosh and Mr. Pankaj Dhat

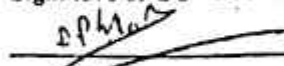
Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                                     | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                 |                                      |                         |
| CO1                                                         | Exercise the preparation and dispensing of monophasic liquid dosage forms such as syrups, elixirs, linctus, solutions, gargles and mouthwashes. | Apply                                | Conceptual & Procedural |
| CO2                                                         | Exercise the preparation and dispensing of biphasic liquid dosage forms such as suspensions and emulsions.                                      | Apply                                | Conceptual & Procedural |
| CO3                                                         | Exercise the preparation and dispensing of different types of powders and granules.                                                             | Apply                                | Conceptual & Procedural |
| CO4                                                         | Exercise the preparation and dispensing of semisolid dosage forms including ointments and creams.                                               | Apply                                | Conceptual & Procedural |
| CO5                                                         | Exercise the preparation and dispensing of suppositories.                                                                                       | Apply                                | Conceptual & Procedural |

Mapping of COs with POs

|              |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|
| Course Code: |   |   |   |   |   |   |   |   |   |    |    |
| BP109P       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |
| CO2          | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |
| CO3          | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |
| CO4          | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |
| CO5          | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |
| PO Target    | 3 | - | 2 | - | 2 | 2 | 2 | 1 | 3 | -  | 3  |

Signature of CO- Coordinator

  
Mr. D.P. Ghosh





# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Session- 2022-23 Odd Semester

Semester- I

Course- Pharmaceutical Inorganic Chemistry

Course Code- BP110P

Course Instructors- Mr. Surya Prakash

Tagging Cos with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                                                                      | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                   |                                      |                         |
| CO1                                                         | Understand the sources of impurities with their control and Limit test of inorganic molecules in Pharmaceuticals. | Understand                           | Conceptual & Procedural |
| CO2                                                         | Explain the Identification test and test of purity of inorganic molecules in Pharmaceuticals.                     | Apply                                | Conceptual & Procedural |
| CO3                                                         | Elaborate the Preparation of inorganic pharmaceuticals and their assays.                                          | Evaluate                             | Conceptual & Procedural |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 3    | 1    |      |      | 1    | 1    | 3    | 3     | 3     |
| CO2         | 3    | 1    | 3    | 1    |      |      | 1    | 1    | 3    | 3     | 3     |
| CO3         | 3    | 1    | 3    | 1    |      |      | 1    | 1    | 3    | 3     | 3     |
| PO Target   | 3    | 1    | 3    | 1    |      |      | 1    | 1    | 3    | 3     | 3     |

Signature of CO Coordinator \_\_\_\_\_



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Session- 2022-23 Odd Semester

Course-Communication Skills (Practical)

Semester- I

Course Instructors-Ms Priyanka Sharma

Course Code-BP111P

Tagging Cos with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                                                                                     | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                  |                                      |                         |
| CO1                                                         | Attain the cognizance to exhibit interest and participate in the synergy & team work with the help of good interpersonal skills. | Apply                                | Conceptual, Procedural  |
| CO2                                                         | Apply the pronunciation etiquette to build the self- confidence with improved command over the mechanics of English language.    | Apply                                | Conceptual, Procedural  |
| CO3                                                         | Practice both formal effective verbal and non-verbal communication skills to make information more accessible to the audience.   | Apply                                | Conceptual, Procedural  |
| Mapping of COs with POs                                     |                                                                                                                                  |                                      |                         |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         |      |      |      |      |      |      |      | 3    | 3    | 3     | 2     |
| CO2         |      |      |      |      |      |      |      | 3    | 2    | 3     | 2     |
| CO3         |      |      |      |      |      |      |      | 3    | 2    | 3     | 2     |
| PO Target   |      |      |      |      |      |      |      | 3    | 2.33 | 3     | 2     |

Signature of Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- I

Course- Remedial Biology- Practical

Course Code-BP112RBP

Course Instructors- Dr. Richa Goel/ Dr. Vinay Kumar

**Tagging COs with BLs & KCs**

| CO No.                                                      | Statement of Course Outcome                                                          | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                      |                                      |                         |
| CO1                                                         | Demonstrate microscope, section cutting, mounting and staining of slides.            | Apply                                | Procedural              |
| CO2                                                         | Explain various parts of plants.                                                     | Understand                           | Procedural              |
| CO3                                                         | Examine the tissues pertinent to Stem, Root, Leaf, seed, fruit and flower and bones. | Apply                                | Procedural              |
| CO4                                                         | Determine the blood group, blood pressure and tidal volume in human                  | Apply                                | Procedural              |

**Mapping of COs with Pos**

| Course Code:<br>BP112RBP | Programme Outcome (PO) |   |   |      |   |   |   |   |      |    |    |
|--------------------------|------------------------|---|---|------|---|---|---|---|------|----|----|
|                          | 1                      | 2 | 3 | 4    | 5 | 6 | 7 | 8 | 9    | 10 | 11 |
| CO1                      | 3                      | - | - | 2    | - | - | - | - | 1    | -  | 2  |
| CO2                      | 3                      | - | - | -    | - | - | - | 1 | 1    | 1  | 2  |
| CO3                      | 3                      | - | - | 1    | - | - | - | - | 1    | -  | 2  |
| CO4                      | 3                      | - | - | 2    | - | - | - | 1 | 2    | -  | 2  |
| PO Target                | 3                      |   |   | 1.67 |   |   |   | 1 | 1.25 | 1  | 2  |

Signature of CO- Coordinator

*Richa*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- 3

Course- Pharmaceutical Organic Chemistry-II- Theory

Course Code- BP301T

Course Instructors- Mr. Surya Prakash and Ms. Shipra Singhal

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                    | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                |                                      |                         |
| CO1                                                         | Illustrate the structure, properties, chemical reactions and uses of benzene and its derivatives.              | Apply                                | Factual & Conceptual    |
| CO2                                                         | Examine the structure, properties, chemical reactions and uses of phenols, aromatic amines and aromatic acids. | Apply                                | Factual & Conceptual    |
| CO3                                                         | Determine the structure, chemical reactions and analytical constants and significance of oil and fats.         | Apply                                | Factual & Conceptual    |
| CO4                                                         | Illustrate the structure, synthesis, chemical reactions and medicinal uses of polynuclear hydrocarbons.        | Apply                                | Factual & Conceptual    |
| CO5                                                         | Illustrate the structure, properties, chemical reactions and uses of cycloalkanes.                             | Apply                                | Factual & Conceptual    |

Mapping of COs with POs

| Course Code: |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|
| BP301T       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |
| CO2          | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |
| CO3          | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |
| CO4          | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |
| CO5          | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |
| PO Target    | 3 | 1 | 2 | 2 | - | 2 | 1 | 1 | 2 | 1  | 3  |

Signature of CO- Coordinator

*Surya Prakash*

*Shipra Singhal*



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Program- B. Pharm.

Course- Physical Pharmacy-Theory

Course Instructors-Dr Kiran Sharma and Ms Sakshi Garg

Tagging Cos with BLs & KCs

Semester- 3

Course Code-BP302T

| CO No.                                                      | Statement of Course Outcomes                                                                     | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)      | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------|---------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                  |                              |         |                     |          |
| CO1                                                         | Illustrate parameters related to solubility of drugs.                                            |                              |         |                     |          |
| CO2                                                         | Analyze states of Matter, properties of matter and physicochemical properties of drug molecules. | Apply                        |         | Factual, Conceptual |          |
| CO3                                                         | Determine about surface / interfacial phenomenon                                                 | Analyze                      |         | Factual, Conceptual |          |
| CO4                                                         | Outline complexation with protein binding.                                                       | Apply                        |         | Factual, Conceptual |          |
| CO5                                                         | Illustrate about buffers and Isotonic solutions.                                                 | Create                       |         | Factual, Conceptual |          |
| Mapping of COs with POs                                     |                                                                                                  |                              |         |                     |          |
|                                                             |                                                                                                  | Apply                        |         | Factual, Conceptual |          |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO2         | 3    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO3         | 3    | 1    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO4         | 3    | 1    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 2     | 2     |
| CO5         | 3    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 2     | 2     |
| PO Target   | 3    | 1    | 2    | 1.40 | 1    | 1    | 1    | 1    | 1    | 1.40  | 2     |

*Signature*  
Signature of CO Coordinator

**KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd Semester

**Program- B. Pharm.**

**Semester- III**

**Course- Pharmaceutical Microbiology- Theory**

**Course Code- BP303T**

**Course Instructors- Dr. Monika Kaurav**

**Tagging Cos with BLs & KCs**

| CO No. | Statement of Course Outcomes                                                                                         | Bloom's<br>Process Level (BL) | Knowledge Category (KC)    |
|--------|----------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------|
|        | After completion of the course, the student will be able to                                                          |                               |                            |
| CO1    | Illustrate scope and application of pharmaceutical microbiology.                                                     | Apply                         | Conceptual<br>& Procedural |
| CO2    | Explain various staining and sterilization techniques used in pharmaceutical biotechnology                           | Analyze                       | Conceptual<br>& Procedural |
| CO3    | Outline evaluation methods of antiseptics, disinfectants, and the sterility testing as per different pharmacopoeias. | Analyze                       | Conceptual<br>& Procedural |
| CO4    | Explore the significance of clean area, methods and standardization microbial assay of biological products.          | Analyze                       | Conceptual<br>& Procedural |
| CO5    | Analyse the microbial spoilage and preservation of pharmaceutical products.                                          | Analyze                       | Conceptual<br>& Procedural |

**Mapping of COs with POs**

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | -    | -    | -    | -    | 3    | -    | -    | -    | -     | 1     |
| CO2         | 3    | -    | 1    | 2    | -    | 3    | -    | -    | -    | -     | 1     |
| CO3         | 3    | -    | 1    | -    | -    | 3    | 3    | -    | -    | -     | 2     |
| CO4         | 3    | -    | 1    | 1    | 1    | 3    | -    | -    | -    | 1     | 2     |
| CO5         | 3    | -    | 1    | -    | 1    | 3    | 3    | -    | -    | 1     | 2     |
| PO Target   | 3.00 | -    | 1.00 | 1.50 | 1.00 | 3.00 | 3.00 | -    | -    | 1.00  | 1.60  |

  
**Signature of CO Coordinator**

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- 3

Course- Pharmaceutical Engineering- Theory

Course Code- BP304T

Course Instructors- Mr. Sanjeev Chauhan & Mr. Pankaj Bhatt

## Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                               | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)         |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|
| After completion of the course, the student will be able to |                                                                                                                                           |                                      |                                 |
| CO1                                                         | Understand the basic concepts related to fluid flow and equipment's used in size reduction and size separation in pharmaceutical industry | Understand                           | Factual, Conceptual, Procedural |
| CO2                                                         | Explain process of heat transfer and various equipment's used in evaporation and distillation.                                            | Analyze                              | Conceptual & Procedural         |
| CO3                                                         | Examine various processes and equipment used in drying and mixing.                                                                        | Apply                                | Conceptual & Procedural         |
| CO4                                                         | Apply filtration and centrifugation for processing of pharmaceutical products.                                                            | Apply                                | Conceptual & Procedural         |
| CO5                                                         | Explore selection of different material for pharmaceutical plant construction, corrosion and its prevention                               | Analyze                              | Conceptual & Procedural         |

## Mapping of COs with POs

| Course Code: |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|----|----|
| BP304T       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | 1 | 1 | - | - | 1 | - | - | - | 1  | 1  |
| CO2          | 3 | 1 | 1 | - | - | 1 | - | - | - | 1  | 1  |
| CO3          | 3 | 1 | 1 | 1 | - | 1 | - | - | - | 1  | 1  |
| CO4          | 3 | 1 | 1 | 1 | - | 1 | - | - | - | 1  | 1  |
| CO5          | 3 | 1 | 1 | 1 | - | 1 | - | - | - | 1  | 1  |
| PO Target    | 3 | 1 | 1 | 1 | - | 1 | - | - | - | 1  | 1  |

Signature of CO- Coordinator







# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Semester: III

Course Code: BP305P

Program: B. Pharm

Course: Pharmaceutical Organic Chemistry-II- Practical

Course Instructors:

Dr. Vaishali M. Patil, Dr. Garima Kapoor and Ms. Pragati Gupta

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                    | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                |                                      |                         |
| CO1                                                         | Demonstrate the purification of organic compounds.                                                                             | Apply                                | Conceptual & Procedural |
| CO2                                                         | Illustrate the synthesis of some organic compounds like benzanilide, acetanilide, phenyl benzoate, 2,4,6-tribromo aniline etc. | Apply                                | Conceptual & Procedural |
| CO3                                                         | Determine acid value, saponification value of oil and fats.                                                                    | Apply                                | Conceptual & Procedural |

Mapping of COs with POs

| Course Code:<br>BP305P | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|------------------------|---|---|---|---|---|---|---|---|---|----|----|
| CO1                    | 3 | 1 | 3 | 3 | - | - | - | - | 1 | 1  | 3  |
| CO2                    | 3 | 1 | 3 | 3 | - | - | - | - | 1 | 1  | 3  |
| CO3                    | 3 | 1 | 3 | 3 | - | - | - | - | 1 | 1  | 3  |
| PO Target              | 3 | 1 | 3 | 3 | - | - | - | - | 1 | 1  | 3  |

Signature of CO- Coordinator

*Mahe*  
*Garima*

OK

*Pragati*



# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

**Program- B. Pharm.**

**Course- Physical Pharmaceutics-I-Practical**

**Course Instructors-Prof.(Dr.) N.G. Raghvendra Rao, Dr Kiran Sharma, And Ms Sakshi**

**Tagging Cos with BLs & KCs**

Session- 2022-23 Odd Semester

Semester- 3

Course Code-BP306P

| CO No.                                                             | Statement of Course Outcomes                                                                                                                                                                                                                                                                                                                                                                  | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| <b>After completion of the course, the student will be able to</b> |                                                                                                                                                                                                                                                                                                                                                                                               |                                      |                         |
| CO1                                                                | Asses the solubility of drug at room temperature and % composition of NaCl in a solution using phenol-water system by CST method.                                                                                                                                                                                                                                                             | Evaluate                             | Factual, Conceptual     |
| CO2                                                                | Determine the partition co- efficient of benzoic acid in benzene / water system and Iodine in CCl <sub>4</sub> / water system, the Freundlich-Langmuir constants using activated char coal and the stability constant and donor acceptor ratio of PABA-Caffeine complex by solubility method and stability constant and donor acceptor ratio of Cupric-Glycine complex by pH titration method | Apply                                | Factual, Conceptual     |
| CO3                                                                | Evaluate the surface tension of given liquids by drop count and drop weight method, HLB number of a surfactant by saponification method and critical micellar concentration of surfactants.                                                                                                                                                                                                   | Evaluate                             | Factual, Conceptual     |
| CO4                                                                | Measure the pKa value of a drug by Half Neutralization/ Henderson-Hasselbalch equation (Experiments related to pH).                                                                                                                                                                                                                                                                           | Evaluate                             | Factual, Conceptual     |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO2         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO3         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO4         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| PO Target   | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |



Signature of CO Coordinator

Session- 2022-23 Odd semester

Semester: III

Course Code: BP-307P

Program- B. Pharm

Course: Pharmaceutical Microbiology-Practical

Course Instructors: Mr. Harsh Rustogi and Dr. Monika Kaurav

| CO No. | Statement of Course Outcome                                                              | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|--------|------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
|        | After completion of the course, the student will be able to                              |                                      |                         |
| CO1    | Apply various techniques and instrument used in microbiology lab                         | Apply                                | Conceptual & Procedural |
| CO2    | Apply their theoretical knowledge for the preparation of different type of culture media | Apply                                | Conceptual & Procedural |
| CO3    | Identify the type of bacteria by different staining techniques.                          | Analyze                              | Conceptual & Procedural |
| CO4    | Determine sterility testing of different pharmaceutical products                         | Apply                                | Conceptual & Procedural |

| Course code:<br>BP307P | Programme Outcome (PO) |      |      |      |   |   |   |   |   |    |    |
|------------------------|------------------------|------|------|------|---|---|---|---|---|----|----|
|                        | 1                      | 2    | 3    | 4    | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1                    | 3                      | 2    | 2    | 1    | - | - | 1 | 1 | - | 1  | 1  |
| CO2                    | 3                      | 2    | 3    | 2    | - | - | 1 | 1 | - | 1  | 1  |
| CO3                    | 3                      | 1    | 3    | 2    | - | - | 1 | 1 | - | 1  | 1  |
| CO4                    | 3                      | 2    | 3    | 2    | - | - | 1 | 1 | - | 1  | 1  |
| PO Target              | 3                      | 1.75 | 2.75 | 1.75 | - | - | 1 | 1 | - | 1  | 1  |

Signature of Co-coordinator



# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd semester

Semester- 3

Program- B. Pharm

Course Code- BP308P

Course- Pharmaceutical Engineering- Practical

Course Instructors- Mr. Sanjeev Chauhan, Ms. Surbhi Kamboj

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                       | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                   |                                      |                         |
| CO1                                                         | Demonstrate the process & factors affecting filtration and centrifugation.                                                        | Apply                                | Conceptual & Procedural |
| CO2                                                         | Demonstrate the process & principles of drying and evaporation.                                                                   | Apply                                | Conceptual & Procedural |
| CO3                                                         | Handle various pharmaceutical equipment's like FBD, fluid energy mill, Ball mill, Colloidal mill, planetary mixer & Freeze dryer. | Apply                                | Conceptual & Procedural |
| CO4                                                         | Demonstrate the process and principles of crystallization and distillation                                                        | Apply                                | Conceptual & Procedural |

Mapping of COs with POs

| Course Code: | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------|------|---|---|---|---|---|---|---|---|----|----|
| BP308P       | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 2    | 1 | 1 | - | - | 2 | - | - | 1 | -  | -  |
| CO2          | 2    | 1 | 1 | - | - | 2 | - | - | 1 | -  | -  |
| CO3          | 2    | 1 | 1 | - | - | 2 | - | - | 1 | -  | -  |
| CO4          | 1    | 1 | 1 | - | - | 2 | - | - | 1 | -  | -  |
| PO Target    | 1.75 | 1 | 1 | - | - | 2 | - | - | 1 | -  | -  |

Signature of CO- Coordinator

*[Signature]*

*Surbhi*

*[Signature]*



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd semester

Semester- 3

Program- B. Pharm

Course- Universal Human Values and Professional Ethics- Theory Course Code- KVE301

Course Instructors- Dr. Daksh Bhatia and Mr. Praveen Kumar Dixit

Tagging COs with BLs & KCs

| CO No. | Statement of Course Outcome                                                                                              | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|--------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
|        | After completion of the course, the student will be able to                                                              |                                      |                         |
| CO1    | Discuss the need, basic guidelines, content and process for Value Education under the light of 'universal human values'. | Understand                           | Conceptual & Factual    |
| CO2    | Explore the concept of harmony in the human being (in Myself) being 'I' & 'body' as separate entity.                     | Apply                                | Conceptual & Factual    |
| CO3    | Ensure the concept 'harmony' in the family and society keeping family as part of undivided society.                      | Analyze                              | Conceptual & Factual    |
| CO4    | Appraise harmony in the nature and existence imbibing the role of individuals in maintaining the harmony within.         | Evaluate                             | Conceptual & Factual    |
| CO5    | Interpret the holistic approach of harmony in relation with Professional Ethics.                                         | Evaluate                             | Conceptual & Factual    |

Mapping of COs with POs

| Course Code: | 1 | 2 | 3 | 4 | 5 | 6   | 7 | 8 | 9 | 10 | 11 |
|--------------|---|---|---|---|---|-----|---|---|---|----|----|
| KVE301       |   |   |   |   | 3 | 1   | 3 |   | 1 |    | 2  |
| CO1          |   |   |   |   | 3 | 1   | 3 |   | 1 |    | 2  |
| CO2          |   |   |   |   | 3 | 2   | 3 |   | 2 |    | 2  |
| CO3          |   |   |   |   | 3 | 2   | 3 |   | 3 | 3  | 2  |
| CO4          |   |   |   |   | 3 | 3   | 3 |   | 3 | 3  | 2  |
| CO5          |   |   |   |   | 3 | 3   | 3 |   | 2 | 3  | 2  |
| PO Target    |   |   |   |   | 3 | 1.8 | 3 |   | 2 | 3  | 2  |

Signature of CO- Coordinator: Mr. Praveen Kumar Dixit



Program- B. Pharm

Semester- 3

Course- Drug Regulatory Affairs

Course Code- Not Available

Course Instructors- Dr. Vinay Kumar

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                           | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)   |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------|
| After completion of the course, the student will be able to |                                                                                                                                       |                                      |                           |
| CO1                                                         | Understand the basics and introduction of drug regulatory affairs and various drug regulatory agencies.                               | Understand                           | Conceptual                |
| CO2                                                         | Understand basic requirements of the dossier preparation and general guidance on the submissions to different regulatory authorities. | Understand                           | Conceptual and Procedural |
| CO3                                                         | Understand the basic regulatory documentation; viz. Active Substance Master File, Types of Drug Master File, etc.                     | Understand                           | Conceptual                |
| CO4                                                         | Acquire detailed knowledge of ICH guidelines and IPR.                                                                                 | Apply                                | Conceptual                |

Mapping of COs with Pos

| Course Code: NA | Programme Outcome (PO) |   |   |   |   |   |   |   |   |    |    |
|-----------------|------------------------|---|---|---|---|---|---|---|---|----|----|
|                 | 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1             | 3                      | - | - | - | - | 2 | - | 2 | 1 | -  | 2  |
| CO2             | 3                      | - | - | - | - | 2 | - | 2 | 1 | -  | 2  |
| CO3             | 3                      | - | - | - | - | 2 | - | 2 | 1 | -  | 2  |
| CO4             | 3                      | - | - | - | - | 2 | - | 2 | 1 | -  | 2  |
| PO Target       | 3                      | - | - | - | - | 2 | - | 2 | 1 | -  | 2  |

Signature of CO- Coordinator

Vinay Kumar

Digitally signed by:  
Vinay Kumar  
Date: 2023.09.14  
15:02:34 +05'30'



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Academic Session 2022-2023 (Odd semester)

Semester: V

Program: B. Pharm

Course Code: BP501T

Course: Medicinal Chemistry- Theory

Course Instructors: Dr. Vaishali M Patil & Dr. Neha Rana

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                             | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                         |                                      |                         |
| CO1                                                         | Demonstrate the classification, mechanism of action and SAR of Antihistaminic agents & PPIs.                            | Apply                                | Factual & Conceptual    |
| CO2                                                         | Illustrate classification, mechanism of action and SAR of Antineoplastic agents.                                        | Apply                                | Factual & Conceptual    |
| CO3                                                         | Demonstrate the classification, mechanism of action and SAR of different categories of cardiovascular agents.           | Apply                                | Factual & Conceptual    |
| CO4                                                         | Illustrate classification, mechanism of action and SAR of various categories of drugs associated with endocrine system. | Apply                                | Factual & Conceptual    |
| CO5                                                         | Demonstrate the classification, mechanism of action and SAR of anti-diabetic agents and local anesthetics.              | Apply                                | Factual & Conceptual    |

Mapping of COs with POs

| CO \ PO   | Programme Outcome (PO) |     |     |     |     |     |     |     |     |      |      |
|-----------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
|           | PO1                    | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
| CO1       | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |
| CO2       | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |
| CO3       | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |
| CO4       | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |
| CO5       | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |
| PO Target | 3                      | 1   | 1   | 1   | -   | 2   | 1   | 1   | 2   | 1    | 1    |

Signature of CO- Coordinator

*Mahesh*

*Neha Rana*



**KIET Group of Institutions, Delhi-NCR,  
Ghaziabad**

Program- B. Pharm

Session- 2022-23 Odd semester

Semester- 5

Course- Industrial Pharmacy-I

Course Code- BP502T

Course Instructors- Dr. Ashu Mittal and Dr. Lakshmi

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcome                                                                                                                                                                                                  | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)         |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                                                                                              |                                      |                                 |
| CO1                                                         | Understand preformulation studies, various drug products such as tablets, coated tablet, liquid oral, capsules, pellets, parenteral, ophthalmic products, cosmetics, aerosols, ophthalmic preparation and packaging material | Understand                           | Factual, Conceptual, Procedural |
| CO2                                                         | Apply preformulation and BCS considerations in the development of solid, liquid oral and parenteral dosage forms and its impact on stability of dosage forms                                                                 | Apply                                | Conceptual, Procedural          |
| CO3                                                         | Formulate and prepare drug products such as tablets, coated tablet, liquid oral, capsules, pellets, parenteral, ophthalmic products, cosmetics, aerosols, ophthalmic preparation.                                            | Create                               | Conceptual, Procedural          |
| CO4                                                         | Assess the quality of prepared drug products such as tablets, coated tablet, liquid oral, capsules, pellets, parenteral, ophthalmic products, aerosols, and packaging material                                               | Evaluate                             | Conceptual, Procedural          |
| CO5                                                         | Investigate various compression and processing problems related to manufacture of tablets, coated tablets, capsules                                                                                                          | Analyze                              | Conceptual, Procedural          |

**Mapping of COs with POs**

| Course Code: |   |   |   |   |   |   |   |   |   |   |    |    |
|--------------|---|---|---|---|---|---|---|---|---|---|----|----|
| BP303T       |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1          | 3 | - | - | - | - | - | - | - | - | - | -  | -  |
| CO2          | 3 | - | 3 | 1 | - | - | - | 1 | - | - | -  | 1  |
| CO3          | 3 | - | 3 | - | 1 | - | 1 | 1 | - | 1 | 1  | 1  |
| CO4          | 3 | - | 3 | 3 | 1 | - | 1 | 1 | - | - | -  | 1  |
| CO5          | 3 | - | 3 | - | - | - | - | 1 | - | - | -  | 1  |
| PO Target    | 3 | - | 3 | 2 | 1 | - | - | 1 | - | 1 | 1  | 1  |

Signature of CO- Coordinator

*Lakshmi*

# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd Semester

**Program- B. Pharm.**

**Course- Pharmacology-II**

**Course Instructors- Dr. Abhishek Kumar**

**Tagging Cos with BLs & KCs**

**Semester- V**

**Course Code- BP503T**

| CO No.                                                      | Statement of Course Outcomes                                                                         | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                      |                                      |                         |
| CO1                                                         | Determine the pharmacology of drugs used for management of cardiovascular disorders                  | Evaluate                             | Factual & Conceptual    |
| CO2                                                         | Illustrate the pharmacology of drugs acting on urinary system                                        | Analyse                              | Factual & Conceptual    |
| CO3                                                         | Examine the pharmacological and physiological roles of autacoids and drugs acting on their receptors | Analyse                              | Factual & Conceptual    |
| CO4                                                         | Determine the pharmacology of drugs acting on endocrine system                                       | Evaluate                             | Factual & Conceptual    |
| CO5                                                         | Illustrate bioassay of specific drugs                                                                | Apply                                | Conceptual & Procedural |

**Mapping of COs with POs**

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | -    | 1    | -    | -    | -    | -    | -    | -    | -     | 3     |
| CO2         | 3    | -    | 1    | -    | -    | -    | -    | -    | -    | -     | 3     |
| CO3         | 3    | -    | 1    | -    | -    | -    | -    | -    | -    | -     | 3     |
| CO4         | 3    | -    | 1    | -    | -    | -    | -    | -    | -    | -     | 3     |
| CO5         | 3    | 1    | 2    | -    | -    | -    | -    | -    | -    | -     | 3     |
| PO Target   | 3    | 1    | 1.2  | -    | -    | -    | -    | -    | -    | -     | -     |



**Signature of CO Coordinator**

# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd semester

**Program- B. Pharm**

**Semester- 5**

**Course- Pharmacognosy & Phytochemistry-II- Theory**

**Course Code- BP504T**

**Course Instructors-Dr. Daksh Bhatia and Dr. Richa Goyal**

## **Tagging COs with BLs & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                                           | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                       |                                      |                         |
| CO1                                                         | Understand the concepts of metabolic pathways in higher plants.                                                       | Understand                           | Factual & Conceptual    |
| CO2                                                         | Acquire the knowledge of the chemistry, source, therapeutic uses and commercial applications of specific crude drugs. | Apply                                | Factual & Conceptual    |
| CO3                                                         | Analyze the specified phytoconstituents utilizing the standardized parameters                                         | Analyze                              | Conceptual & Procedural |
| CO4                                                         | Understand the industrial applications of the mentioned phytoconstituents                                             | Understand                           | Factual & Conceptual    |
| CO5                                                         | Compare various methods for extraction, isolation and purification of phytoconstituents.                              | Evaluate                             | Conceptual & Procedural |

## **Mapping of COs with POs**

| Course Code:<br>BP504T | Programme Outcome (PO) |   |   |   |   |   |   |   |   |    |    |
|------------------------|------------------------|---|---|---|---|---|---|---|---|----|----|
|                        | 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1                    | 3                      | - | - | 1 | - | - | - | - | - | -  | 2  |
| CO2                    | 3                      | - | 2 | - | - | - | - | - | - | -  | 2  |
| CO3                    | 3                      | - | 2 | 3 | - | - | - | - | - | -  | 2  |
| CO4                    | 3                      | - | 2 | 1 | - | - | - | - | - | -  | 2  |
| CO5                    | 3                      | 1 | 2 | 3 | - | - | - | - | - | -  | 2  |
| PO Target              | 3                      | 1 | 2 | 2 | - | - | - | - | - | -  | 2  |

Signature of CO- Coordinator

*Richa Goyal*



Session- 2022-23 Odd semester

Program- B. Pharm Semester: III

Course: Pharmaceutical Jurisprudence- Theory

Course Instructors: Mr. Harsh Rastogi and Dr. Monika Kaurav

Course Code: BP505T

**Tagging COs with BLA & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                                                               | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                           |                                      |                         |
| CO1                                                         | Demonstrate the rules and regulations defined under the Drugs and Cosmetics act 1945.                                                     | Apply                                | Factual & Conceptual    |
| CO2                                                         | Illustrate the regulation by Pharmacy Act 1948, Medicinal and Toilet Preparations Act and Narcotic Drugs and Psychotropic Substances Act. | Apply                                | Factual & Conceptual    |
| CO3                                                         | Demonstrate the guidelines laid under the acts pertaining to prevention of cruelty to animals and national pricing authority.             | Apply                                | Factual & Conceptual    |
| CO4                                                         | Illustrate the basics of pharmaceutical legislations and code of pharmaceutical ethics.                                                   | Apply                                | Factual & Conceptual    |
| CO5                                                         | Demonstrate the medical termination of pregnancy act, RTI act and IPR.                                                                    | Apply                                | Factual & Conceptual    |

**Mapping of COs with POs (BP505T)**

| Course Code:<br>BP505T | Programme Outcome (PO) |   |   |   |   |   |   |   |     |    |    |
|------------------------|------------------------|---|---|---|---|---|---|---|-----|----|----|
|                        | 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9   | 10 | 11 |
| CO1                    | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 1   | -  | 2  |
| CO2                    | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 1   | -  | 2  |
| CO3                    | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 2   | -  | 2  |
| CO4                    | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 1   | -  | 2  |
| CO5                    | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 1   | -  | 2  |
| PO Target              | 1                      | - | 1 | - | 1 | 2 | 3 | 1 | 1.4 | -  | 2  |

Signature of CO-Coordinator



# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- 5

Course- Industrial Pharmacy-I (Practical)

Course Code- BP506P

Course Instructors- Mr. Harsh Rastogi, Dr. Lakshmi, Dr. Ashu Mittal, Ms. Surbhi Kamboj

**Tagging COs with BLs & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                              | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                          |                                      |                         |
| CO1                                                         | Determine various physicochemical parameters of drugs to perform preformulation studies.                 | Evaluate                             | Conceptual, Procedural  |
| CO2                                                         | Prepare various dosage forms such as tablets, capsules, injections, eye ointments, eye drops and creams. | Create                               | Conceptual, Procedural  |
| CO3                                                         | Evaluate tablets and capsules on various parameters                                                      | Evaluate                             | Conceptual, Procedural  |
| CO4                                                         | Formulate coated tablets/granules                                                                        | Create                               | Conceptual, Procedural  |

**Mapping of COs with POs**

| Course Code: | Programme outcomes |      |      |   |   |   |   |   |   |    |    |
|--------------|--------------------|------|------|---|---|---|---|---|---|----|----|
|              | 1                  | 2    | 3    | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| BP506P       |                    |      |      |   |   |   |   |   |   |    |    |
| CO1          | 3                  | 2    | 2    | 1 | - | - | 1 | 1 | - | 1  | 1  |
| CO2          | 3                  | 2    | 3    | 1 | - | - | 1 | 1 | - | 1  | 1  |
| CO3          | 3                  | 1    | 3    | 1 | - | - | 1 | 1 | - | 1  | 1  |
| CO4          | 3                  | 2    | 3    | 1 | - | - | 1 | 1 | - | 1  | 1  |
| PO Target    | 3                  | 1.75 | 2.75 | 1 | - | - | 1 | 1 | - | 1  | 1  |

Signature of CO- Coordinator

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# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Pharmacology Practical

Course Instructors- Dr. Abhishek Kumar

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester- V

Course Code- BP507P

| CO No.                                                      | Statement of Course Outcomes                                                                                                         | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                      |                                      |                         |
| CO1                                                         | Determine the effect of drugs on isolated preparation of animal tissues through simulation software                                  | Apply                                | Conceptual & Procedural |
| CO2                                                         | Illustrate the pharmacological activity of drugs on animal models through simulation software                                        | Analyze                              | Conceptual & Procedural |
| CO3                                                         | Determine the effect of drugs on dose-response curve of agents on isolated preparation of animal tissues through simulation software | Apply                                | Conceptual & Procedural |
| CO4                                                         | Demonstrate the bioassay techniques for effect of drugs on animal preparations through simulation software                           | Apply                                | Conceptual & Procedural |
| CO5                                                         | Determine the effect of drugs on isolated preparation of animal tissues through simulation software                                  | Apply                                | Conceptual & Procedural |
| Mapping of COs with POs                                     |                                                                                                                                      |                                      |                         |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |
| CO2         | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |
| CO3         | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |
| CO4         | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |
| CO5         | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |
| PO Target   | 3    | 3    | 2    | 2    | -    | -    | -    | -    | 1    | -     | 3     |

  
Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Session- 2022-23 Odd Semester

Course- Pharmacognosy-II Practical

Semester- 5

Course Instructors-Dr Daksh Bhatia and Dr Richa Goel

Course Code-BP508P

Tagging COs with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                            | Bloom's Level (BL) | Cognitive Process | Knowledge (KC) | Category               |
|-------------------------------------------------------------|-------------------------------------------------------------------------|--------------------|-------------------|----------------|------------------------|
| After completion of the course, the student will be able to |                                                                         |                    |                   |                |                        |
| CO1                                                         | Qualitative microscopical studies of crude drug.                        |                    |                   |                |                        |
| CO2                                                         | Extraction of crude drugs by various methods (Soxhlet, Sonication etc.) |                    | Apply             |                | Conceptual, Procedural |
| CO3                                                         | Isolation of volatile Oils from medicinal plants                        |                    | Apply             |                | Conceptual, Procedural |
| CO4                                                         | Evaluation of crude drugs on the basis of their identification tests    |                    | Apply             |                | Conceptual, Procedural |
| Mapping of COs with POs                                     |                                                                         |                    |                   |                |                        |
|                                                             |                                                                         |                    | Evaluate          |                | Conceptual, Procedural |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    | 3    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 2     |
| CO2         | 3    | 3    | 3    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 2     |
| CO3         | 3    | 3    | 3    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 2     |
| CO4         | 3    | 3    | 3    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 1     |
| PO Target   | 3    | 3    | 3    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 1     |
|             |      |      |      | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 1.50  |

*Richa*

Signature of CO Coordinator

**Course Code-BP509P**

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    | 2    | 3    | -    | 2    | 3    | -    | 2    | -     | 3     |
| CO2         | 3    |      | 2    | 3    | -    | 2    | 3    | -    | 2    | -     | 3     |
| CO3         | 3    | 3    | 2    | 3    | -    | 2    | 3    | -    | 2    | -     | 3     |
| PO Target   | 3    | 3    | 2    | 3    | -    | 2    | 3    | -    | 2    | -     | 3     |
|             |      |      |      |      |      | 2    | 3    | -    | 2    | -     | 3     |

Signature of CO Coordinator

# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Session- 2022-23 Odd semester

Program- B. Pharm

Semester- 5

Course- Herbal Product Development

Course Code-VA510

Course Instructors-Dr. Deepthi Kotiyar and Ms. Pragati

## **Tagging COs with BLA & KCs**

| CO No.                                                      | Statement of Course Outcome                                                                                                    | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                |                                      |                         |
| CO1                                                         | Understand the concepts of Phytochemical Screening, Extraction and Isolation                                                   | Understand                           | Factual & Conceptual    |
| CO2                                                         | Analyze the parameters for the standardization of crude drugs and herbal products                                              | Analyze                              | Conceptual & Procedural |
| CO3                                                         | Understand the screening models for biological activities of natural products                                                  | Understand                           | Factual & Conceptual    |
| CO4                                                         | Understand the concepts for developing herbal formulations, herbal cosmetics and nutraceuticals and their packaging strategies | Understand                           | Factual & Conceptual    |
| CO5                                                         | Evaluate the herbal products for their pharmaceutical stability                                                                | Evaluate                             | Conceptual & Procedural |

## **Mapping of COs with POs**

| Course Code:<br>VA510 | Programme Outcome (PO) |   |   |   |   |   |   |   |   |    |    |
|-----------------------|------------------------|---|---|---|---|---|---|---|---|----|----|
|                       | 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| CO1                   | 3                      | - | - | - | - | - | - | - | - | -  | 2  |
| CO2                   | 3                      | 1 | 2 | 3 | - | - | 2 | 1 | - | -  | 2  |
| CO3                   | 3                      | - | - | 3 | - | - | - | - | - | -  | 2  |
| CO4                   | 3                      | - | - | - | - | - | - | - | - | -  | 2  |
| CO5                   | 3                      | 1 | 2 | 3 | - | - | 2 | 1 | - | -  | 2  |
| PO Target             | 3                      | 1 | 2 | 3 | - | - | 2 | 1 | - | -  | 2  |

Signature of CO- Coordinator

*Deepthi*  
*Pragati*



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Program- B. Pharm.

Course-Instrumental Method of Analysis

Course Instructors- Ms. Shipra Singhal

Tagging Cos with BLs & KCs

Semester- VII

Course Code- BP701T

| CO No.                                                      | Statement of Course Outcomes                                                                                             | Bloom's Cognitive Process Level (BL) | Knowledge (KC)       | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------|----------|
| After completion of the course, the student will be able to |                                                                                                                          |                                      |                      |          |
| CO1                                                         | Illustrate the basics and concepts of UV Visible spectroscopy, Fluorimetry and its applications.                         |                                      |                      |          |
| CO2                                                         | Apply the basics and concepts of IR spectroscopy, flame photometry, atomic absorption spectroscopy, Nepheloturbidimetry. | Apply                                | Factual & Conceptual |          |
| CO3                                                         | Demonstrate the basics and concepts of chromatography, TLC, paper chromatography, Electrophoresis.                       | Apply                                | Factual & Conceptual |          |
| CO4                                                         | Illustrate the basics and concepts of Gas chromatography and High-performance liquid chromatography.                     | Apply                                | Factual & Conceptual |          |
| CO5                                                         | Understand the basics and concepts of Ion exchange chromatography, Gel chromatography and Affinity chromatography.       | Apply                                | Factual & Conceptual |          |
| Mapping of COs with POs                                     |                                                                                                                          |                                      |                      |          |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO2         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO3         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO4         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO5         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| PO Target   | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |

Signature of CO Coordinator

# **KIET Group of Institutions, Delhi-NCR, Ghaziabad**

Program- B. Pharm.

Course-Instrumental Method of Analysis

Course Instructors- Ms. Shipra Singhal

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester- VII

Course Code- BP701T

| CO No.                                                      | Statement of Course Outcomes                                                                                             | Bloom's Cognitive Process Level (BL) | Knowledge (KC)       | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------|----------|
| After completion of the course, the student will be able to |                                                                                                                          |                                      |                      |          |
| CO1                                                         | Illustrate the basics and concepts of UV Visible spectroscopy, Fluorimetry and its applications.                         |                                      |                      |          |
| CO2                                                         | Apply the basics and concepts of IR spectroscopy, flame photometry, atomic absorption spectroscopy, Nepheloturbidometry. | Apply                                | Factual & Conceptual |          |
| CO3                                                         | Demonstrate the basics and concepts of chromatography, TLC, paper chromatography, Electrophoresis.                       | Apply                                | Factual & Conceptual |          |
| CO4                                                         | Illustrate the basics and concepts of Gas chromatography and High-performance liquid chromatography.                     | Apply                                | Factual & Conceptual |          |
| CO5                                                         | Understand the basics and concepts of Ion exchange chromatography, Gel chromatography and Affinity chromatography.       | Apply                                | Factual & Conceptual |          |
| Mapping of COs with POs                                     |                                                                                                                          |                                      |                      |          |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO2         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO3         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO4         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| CO5         | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
| PO Target   | 3    |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |
|             |      |      | 2    | 3    |      | 2    | 1    |      | 2    |       | 3     |

*Shipra Singhal*

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- B. PHARM

Course Instructors- Ms. Vidhu Saxena

Tagging Cos with BLs & KCs

Session- 2022-23 Odd Semester

Semester- 7

Course Code- BP702T

| CO No. | Statement of Course Outcomes                                                                                                                                                                                                      | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)            |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------|
| CO1    | Explain pilot plant scale up techniques, SUPAC guidelines and platform technology in perspective of Indian Pharmaceutical setup                                                                                                   | BL-2                                 | Conceptual, Procedural and Factual |
| CO2    | Differentiate various terminologies, guidelines for technology development and transfer along with different technology transfer agencies in India, in light of referring the basics of product development and commercialization | BL-4                                 | Conceptual, Procedural and Factual |
| CO3    | Outline regulatory affairs and various regulatory requirements for drug approval in context with regulatory framework of Pharma Industry                                                                                          | BL-4                                 | Conceptual, Procedural and Factual |
| CO4    | Implement different aspects of Quality Management System in the capacity of quality product development                                                                                                                           | BL-3                                 | Conceptual, Procedural and Factual |
| CO5    | Determine Indian Regulatory Requirements                                                                                                                                                                                          | BL-3                                 | Conceptual, Procedural and Factual |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 2    | 1    | 2    |      |      | 3    | 3    |      | 1     | 3     |
| CO2         | 3    | 3    | 3    | 2    | 1    |      | 3    | 3    |      | 1     | 3     |
| CO3         | 3    |      | 1    |      |      | 3    | 2    | 2    | 1    | 1     | 3     |
| CO4         | 3    | 3    | 3    | 2    |      | 2    | 2    | 3    |      | 3     | 3     |
| CO5         | 3    | 1    | 1    |      |      | 1    | 2    | 2    |      | 1     | 3     |
| PO Target   | 3    | 2.25 | 1.80 | 2    | 1    | 2    | 2.40 | 2.60 | 1    | 1.40  | 3     |

Signature of CO Coordinator

# KIET GROUP OF INSTITUTIONS, DELHI-NCR, GHAZIABAD

Program- B.Pharm.

Session 2022-2023 Odd Semester

Semester- VII

Course Pharmacy Practice - Theory

Course Code - BP703T

Course Instructor - Dr Shardendu Kumar Mishra and Mrs. Priya Bansal

Tagging COs with BLs and KCs

| No.                                                           | Statement of Course Outcome                                                                                              | Bloom's Cognitive Process Level (BL) | Knowledge Category (KCs) |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------|
| ~After completion of the course, the student will be able to: |                                                                                                                          |                                      |                          |
| CO1                                                           | Acquire the concept of hospital organization, drug stores and role of pharmacist in hospital.                            | Apply                                | Factual & Conceptual     |
| CO2                                                           | Explore the drug distribution system in hospital, hospital formulary, therapeutic drug monitoring and medical adherence. | Apply                                | Factual & Conceptual     |
| CO3                                                           | Illustrate the pharmacy and therapeutic committee to maintain the drug safety and medication error.                      | Apply                                | Factual & Conceptual     |
| CO4                                                           | Illustrate the implementation of budget in pharmacy and rational use of OTC medications.                                 | Apply                                | Factual & Conceptual     |
| CO5                                                           | Explore various estimation of blood compositions and urine in clinical set-up.                                           | Apply                                | Conceptual & Procedural  |

Mapping of COs with POs

| Course Outcome BP703T | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| CO1                   | 3   |     |     |     |     | 3   |     |     | 1   |      | 1    |
| CO2                   | 3   |     |     |     |     | 3   |     |     | 1   |      | 1    |
| CO3                   | 3   |     |     |     |     | 2   |     |     | 1   |      | 1    |
| CO4                   | 3   |     |     |     |     | 3   |     |     | 2   |      | 1    |
| CO5                   | 3   |     |     |     |     | 3   |     |     | 2   |      | 1    |
| PO Target             | 3   |     |     |     |     | 2.8 |     |     | 1.4 |      | 1    |

Signature of CO Coordinator

Dr. Shardendu Kumar Mishra



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 ODD semester

Semester: 7

Course Code: BP704T

Program: B. Pharm

Course: Novel Drug Delivery Systems

Course Instructors: Prof. (Dr). N. G. Raghavendra Rao and Dr. Lakshmi

Tagging COs with BLs & KCs

| CO No. | Statement of Course Outcome                                                               | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)         |
|--------|-------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|
|        | After completion of the course, the student will be able to                               |                                      |                                 |
| CO1    | Understand basic concepts related to various Novel drug delivery systems.                 | Understand                           | Factual, Conceptual, Procedural |
| CO2    | Analyze various novel drug delivery systems.                                              | Analyze                              | Conceptual, Procedural          |
| CO3    | Examine various approaches for development of various Novel drug delivery systems.        | Apply                                | Conceptual, Procedural          |
| CO4    | Apply different methods for development of novel drug delivery systems for various drugs. | Apply                                | Conceptual, Procedural          |
| CO5    | Apply Novel drug delivery systems for various medical conditions.                         | Apply                                | Conceptual, Procedural          |

Mapping of COs with POs

| Course Code: | 1 | 2   | 3   | 4 | 5 | 6 | 7 | 8 | 9   | 10  | 11 |
|--------------|---|-----|-----|---|---|---|---|---|-----|-----|----|
| BP704T       | 3 | 2   | 1   | 1 | - | - | - | - | 1   | -   | 1  |
| CO1          | 3 | 2   | 1   | - | - | - | - | - | 1   | -   | 1  |
| CO2          | 3 | 2   | 1   | - | - | - | - | - | 1   | -   | 1  |
| CO3          | 3 | 3   | 2   | 1 | 1 | - | - | - | 1   | 2   | 1  |
| CO4          | 3 | 3   | 3   | 1 | - | - | - | - | 2   | 1   | 1  |
| CO5          | 3 | 3   | 2   | 1 | - | - | - | - | 1.2 | 1.5 | 1  |
| PO Target    | 3 | 2.6 | 1.8 | 1 | 1 | - | - | - |     |     |    |

Signature of CO- Coordinator

*Rakshmi*

*Amey*

*RAG*



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Session- 2022-23 Odd Semester

Course-Instrumental Methods Of Analysis (Practical)

Semester- VII

Course Instructors- Dr Garima Kapoor And Ms Shipra Singhal

Course Code-BP705P

Tagging Cos with BLs & KCs

| CO No. | Statement of Course Outcomes                                                                          | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)      | Category |
|--------|-------------------------------------------------------------------------------------------------------|------------------------------|---------|---------------------|----------|
|        | After completion of the course, the student will be able to                                           |                              |         |                     |          |
| CO1    | Analyze the graphs of absorption maxima and effect of solvents in different organic compounds.        | Analyze                      |         |                     |          |
| CO2    | Evaluate different organic compounds using colorimetry, fluorimetry and UV spectroscopy.              | Evaluate                     |         | Factual, Conceptual |          |
| CO3    | Demonstrate the working of HPLC, Gas chromatography and flame photometry.                             | Apply                        |         | Factual, Conceptual |          |
| CO4    | Illustrate the process of separation of various compounds using different chromatographic techniques. | Apply                        |         | Factual, Conceptual |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      | 1    | 3    | 1    | 2    |      | 2    |      |       | 1     |
| CO2         | 3    |      | 1    | 3    | 1    | 2    |      | 2    |      |       | 1     |
| CO3         | 3    |      | 1    | 3    | 1    | 2    |      | 2    |      |       | 1     |
| CO4         | 3    |      | 1    | 3    | 1    | 2    |      | 2    |      |       | 1     |
| PO Target   | 3    |      | 1    | 3    | 1    | 2    |      | 2    |      |       | 1     |

  
Signature of CO Coordinator

Program- B. Pharm.

Session- 2022-23 Odd Semester

Semester-7

Course- Practice School

Course Instructors-Dr K Nagarajan,Dr Daksh Bhatia,Dr Vaishali M.Patil,Mr Anuj Pathak,Mr Sanjeev Chauhan, Mr Surya Prakash,Mr Debaprasad Ghosh,Ms Vidhu Saxena, Dr Lakshmi,Dr Garima Kapoor,Ms Shipra Singhal,Mr Pankaj Bhatt,Ms Sakshi Garg,Dr Sahrindu Kumar Mishra, Ms Dr Neha,Mr Balwan

Tagging Cos with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                                                                                                                                                                                                                                                                                                                                         | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)      | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                                                                                                                                                                                                                                                                                                      |                              |         |                     |          |
| CO1                                                         | Understand the concepts in thrust areas like drug designing, formulation development, QC-QA, 3D printing, nutraceuticals, cosmeceuticals, phytomedicines, alternative medicines, artificial intelligence, and pharmaceutical soft-wares.                                                                                                                                             | Understand                   |         | Factual, Procedural |          |
| CO2                                                         | Acquire expertise in handling advanced instruments used in in thrust areas like drug designing, formulation development, QC-QA, 3D printing, artificial intelligence, nutraceuticals, cosmeceuticals, phytomedicines, alternative medicines and their applications in manufacturing and analysis of pharmaceuticals.                                                                 | Apply                        |         | Factual, Procedural |          |
| CO3                                                         | Analyze the role of any of the subjects like drug designing, formulation development, QC-QA, 3D printing, artificial intelligence, nutraceuticals, cosmeceuticals, phytomedicines, alternate medicines in modern pharmaceutical setting.                                                                                                                                             | Analyze                      |         | Factual, Procedural |          |
| CO4                                                         | Evaluate either advanced chemically designed drugs or advanced drug delivery systems or phytomedicines or nutraceuticals or cosmeceuticals or 3D printed pharmaceuticals or AI based pharmaceuticals or pharmaceutical soft-wares and their quality.                                                                                                                                 | Evaluate                     |         | Factual, Procedural |          |
| CO5                                                         | Create modern pharmaceuticals or alternate therapeutic systems using expertise in either advanced chemical drug designing or modern formulations development methods or phytomedicines or nutraceuticals or cosmeceuticals or 3D printing technology or Artificial Intelligence or advanced pharmaceutical soft-wares or methods involved in controlling and assuring their quality. | Create                       |         | Factual, Procedural |          |

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Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    | 3    | 3    | 2    | 1    | 1    | 1    |      |       | 2     |
| CO2         | 3    | 3    | 3    | 1    | 2    | 2    | 2    | 1    | 1    |       | 2     |
| CO3         | 3    | 2    | 2    | 3    | 1    | 1    |      |      |      |       | 2     |
| CO4         | 3    | 2    | 2    | 1    | 1    | 1    | 2    | 1    | 1    |       | 2     |
| CO5         | 1    |      | 2    | 3    | 3    | 2    | 1    | 2    | 2    | 2     | 2     |
| PO Target   | 2.60 | 2.50 | 2.40 | 2.20 | 1.80 | 1.40 | 1.50 | 1.25 | 1.33 | 2     | 2     |

Signature of CO Coordinator

*[Handwritten signatures]*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Program- B. Pharm.

Semester- 7

Course- Report On Hospital Training

Course Code-BP707P

Course Instructors-Mr Kapil Sachan

Tagging Cos with BLs & KCs

| CO No. | Statement of Course Outcomes                                                                                                   | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|--------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
|        | After completion of the course, the student will be able to .                                                                  |                                      |                     |          |
| CO1    | Observe the different sections and different departments of pharmaceutical industry/ CRO/ Hospital Pharmacy/ Clinical Pharmacy | Understand                           | Factual, procedural |          |
| CO2    | Explore the roles and responsibilities of pharmaceutical industry/ CRO/ Hospital Pharmacy/ Clinical Pharmacy                   | Apply                                | Factual, procedural |          |
| CO3    | Document the day to day learning as received in pharmaceutical industry/ CRO/ Hospital Pharmacy/ Clinical Pharmacy             | Analyze                              | Factual, procedural |          |
| CO4    | Understand the rules and regulations related with pharmaceutical industry/ CRO/ Hospital Pharmacy/ Clinical Pharmacy           | Understand                           | Factual, procedural |          |
| CO5    | Acquire professional ethics and responsibilities towards the environment and the society.                                      | Apply                                |                     |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 1    | 3    |      | 1    |      | 1    | 1    | 1     | 3     |
| CO2         | 3    | 1    | 1    | 3    |      | 1    |      | 1    | 1    | 1     | 3     |
| CO3         | 3    | 1    |      |      |      | 3    |      | 3    | 1    | 1     | 2     |
| CO4         | 3    | 1    |      |      |      | 1    |      |      | 3    | 1     | 2     |
| CO5         | 1    | 1    |      |      | 3    | 1    | 3    |      | 1    | 3     | 3     |
| PO Target   | 2.60 | 1    | 1    | 3    | 3    | 1.40 | 3    | 1.67 | 1.40 | 1.40  | 2.60  |

Signature of CO Coordinator

## KIET SCHOOL OF PHARMACY

### Minutes of Meeting held on 14<sup>th</sup> March 2023 in KSOP Department

#### Agenda:

Granting approval on the course statements as well as CO-PO mapping of the respective subjects of the B.Pharm syllabus for the session 2022-23 even semester as per IQAC requirement.

Time: 3.00 P.M.

Venue: Principal's confidential room

**Chair:** Dr. K. Nagarajan (Principal-KSOP)

#### ROS Members Present:

1. Dr. N.G. Raghavendra Rao

2. Dr. Ashu Mittal

3. Dr. Roma Ghai

4. Dr. Vaishali M. Patil

5. Dr. Parul Grover

6. Dr. Richa Goel

7. Dr. Shardendu Kumar Mishra

#### Topics Discussed

The BoS members reviewed and approved the CO statements and CO-PO mapping as per IQAC requirements.

Dr. K. Nagarajan  
(Principal)

Dr. Anil Ahlawat  
Dean Academics

Dr. A. Garg  
Director,  
KIET Group of Institutions



22/3/23

Per: Dr.

23 MAR 23

# KSOP SUBJECT ALLOCATION LIST 2022-23 EVEN SEM

| SN | NAME                      | SUB-1                                                              | SUB-2                                                 |
|----|---------------------------|--------------------------------------------------------------------|-------------------------------------------------------|
| 1  | Dr. K. Nagarajan          | Principles of Drug Discovery PG College                            | *                                                     |
| 2  | Dr. Vaishali M. Pali      | Medicinal Chemistry II - Theory III-yr                             |                                                       |
| 3  | Dr. Parul Grover          | Medicinal Chemistry I - Theory I-yr                                |                                                       |
| 4  | Dr. Abhay Bhartiya        | Hazards and Safety Management PG QA                                | Pharmaceutical Organic Chemistry III - Theory II-yr   |
| 5  | Mr. Surya Prakash         | Pharmaceutical Organic Chemistry III - Theory II-yr                | Computer Aided Drug Design* II-yr                     |
| 6  | Ms. Shilpa Singhel        | Pharmaceutical Organic Chemistry I - Theory I-yr                   | Statistical Chemistry I - Theory I-yr                 |
| 7  | Dr. Garima Kapoor         | Medicinal Chemistry II - Theory II-yr                              | Computer Applications in Pharmacy - Theory I-yr       |
| 8  | Ms. Shikha Kaushik        | Pharm. Chemistry (I-yr-Dip)                                        | Pharm. Marketing Management* II-yr                    |
| 9  | Dr. Anjiteha Malhotra     | ON LEAVE                                                           |                                                       |
| 10 | Dr. Neha Rana             | Pharmaceutical Organic Chemistry I - Theory I-yr                   | Biochemistry - Theory I-yr                            |
| 11 | Ms. Pragati Gupta         | Biochemistry - Theory I-yr                                         |                                                       |
| 12 | Dr. N.G.R. Rao            | Molecular Pharmaceutics (Drug Tech and Targeted DDS) PG (Research) | Cosmetic Science* IV-yr                               |
| 13 | Dr. Ashu Mittal           | Advanced Biopharmaceutics & Pharmacokinetics PG (Research)         | Biopharmaceutics and Pharmacokinetics - Theory III-yr |
| 14 | Mr. Sanjeev Chauhan       | Biopharmaceutics and Pharmacokinetics - Theory III-yr              | Environmental Sciences - Theory I-yr                  |
| 15 | NF                        | Pharmaceutical Validation PG QA                                    |                                                       |
| 16 | Mr. Anuj Pathak           | Cosmetic and Cosmeceuticals PG (Pharmaceutics)                     |                                                       |
| 17 | Dr. Lakshmi               | Computer Aided Drug Delivery System PG (Pharmaceutics)             | Quality Assurance - Theory II-yr                      |
| 18 | Dr. Kiran Sharma          | Audio and Regulatory PG QA                                         | Quality Control and Standardization of Herbal* IV-yr  |
| 19 | Mr. Debaprasad Ghosh      | Physical Pharmaceutics II - Theory II-yr                           | Pharmaceutical Biotechnology - Theory II-yr           |
| 20 | Dr. Monika Kaurav         | Pharmaceutical Biotechnology - Theory II-yr                        | Biomedical waste management II-yr                     |
| 21 | Mr. Pankaj                | Pharmaceutical Manufacturing Technology PG QA                      | Biostatistics and Research Methodology IV-yr (R&R)    |
| 22 | Mr. Harsh Rastogi         | Herbal Drug Technology - Theory II-yr                              | Environmental Sciences - Theory I-yr                  |
| 23 | Ms. Sakshi Garg           | Physical Pharmaceutics II - Theory II-yr                           | Computer Applications in Pharmacy - Theory I-yr       |
| 24 | Mr. Balwan                | Hospital & CI Pharmacy (II-yr-Dip)                                 | Herbal Drug Technology - Theory II-yr                 |
| 25 | Ms. Surbhi Kamboj         | Pharmaceutical Validation PG QA                                    | Quality Assurance - Theory II-yr                      |
| 26 | Dr. Roma Ghai             | HAP-D.Pharm                                                        | Clinical Research and Pharmacovigilance PG College    |
| 27 | Dr. Vinay Kumar           | Advanced Pharmacology II PG College                                | Pharmacovigilance* IV-yr                              |
| 28 | Mr. Praveen Kumar Dixit   | Human Anatomy and Physiology II - Theory I-yr                      | Pathophysiology - Theory I-yr                         |
| 29 | Mr. Himanshu Aggarwal     | Pathophysiology - Theory I-yr                                      | Pharmacology III - Theory II-yr                       |
| 30 | Dr. Abhishek Kumar        | Pharmacology II-yr-Dip                                             | Pharmacology I - Theory I-yr                          |
| 31 | Ms. Priya Bansal          | Human Anatomy and Physiology II - Theory I-yr                      | Experimental Pharmacology* IV-yr                      |
| 32 | Ms. Vidhu Saxena          | Social and Preventive Pharmacy IV-yr                               |                                                       |
| 33 | Dr. Shardendu Mishra      | Pharmacological and Toxicological Screening Methods PG College     | Pharmacology III - Theory II-yr                       |
| 34 | Mr. Kapil Sachan          | Pharmacotherapeutics II-yr-Dip                                     | Pharmacology I - Theory II-yr                         |
| 35 | Ms. Sheena Mehta          | Biochemistry (I-yr-Dip)                                            | Social and Preventive Pharmacy IV-yr                  |
| 36 | NF                        | Pharmacognosy I - Theory II-yr                                     |                                                       |
| 37 | Dr. Richa Goel            | Pharmacognosy I - Theory II-yr                                     |                                                       |
| 38 | Dr. Deepthi Katiyar       | Pharmacognosy-D.Pharm                                              |                                                       |
| 39 | Ms. Riya Rastogi          | Pharmaceutics (I-yr-Dip)                                           | Biomedical waste management II-yr                     |
| 40 | Mr. Priya Ranjan Bhidonia | Social Pharmacy (I-yr-Dip)                                         |                                                       |
| 41 | Mr. Shubham Sharma        | Pharmacy Law & Ethics II-yr Dip                                    |                                                       |
| 42 | Ms. Konika Rao            | Community Pharmacy & Management (II-yr-Dip)                        | ENVIRONMENTAL EDUCATION & DISASTER MANAGEMENT         |
|    | Dr. Barkha Rohatgi        | Biostatistics and Research Methodology IV-yr                       |                                                       |
|    | Dr. Richa Aggarwal        | Biostatistics and Research Methodology IV-yr                       |                                                       |



# CO- Coordinator

## KSOP SUBJECT ALLOCATION 2022-23 EVEN SEM

| No | Code    | SUBJECT NAME (Theory)                                 | CO- Coordinator (Theory) | Code     | SUBJECT NAME (Lab)                            | CO- Coordinator (Lab)   |
|----|---------|-------------------------------------------------------|--------------------------|----------|-----------------------------------------------|-------------------------|
| 1  | BP201T  | Human Anatomy and Physiology II – Theory I-yr         | Ms. Priya Bansal         | BP207P   | Human Anatomy and Physiology II- Practical    | Mr. Praveen Kumar Dixit |
| 2  | BP202T  | Pharmaceutical Organic Chemistry I – Theory I-yr      | Dr. Neha Rana            | BP208P   | Pharmaceutical Organic Chemistry I- Practical | Ms. Shipra Singhal      |
| 3  | BP203T  | Biochemistry – Theory I-yr                            | Ms. Pragati Gupta        | BP209P   | Biochemistry- Practical                       | Dr. Neha Rana           |
| 4  | BP204T  | Pathophysiology – Theory I-yr                         | Mr. Praveen Kumar Dixit  | -        | -                                             | -                       |
| 5  | BP205T  | Computer Applications in Pharmacy – Theory I-yr       | Dr. Garima Kapoor        | BP210P   | Computer Applications in Pharmacy- Practical  | Ms. Sakshi Garg         |
| 6  | BP206T  | Environmental Sciences – Theory I-yr                  | Mr. Harsh Rastogi        | -        | -                                             | -                       |
| 7  | BP401T  | Pharmaceutical Organic Chemistry III – Theory II-yr   | Dr. Abhay Bhardwaj       | -        | -                                             | -                       |
| 8  | BP402T  | Medicinal Chemistry I – Theory II-yr                  | Ms. Shipra Singhal       | BP406P   | Medicinal Chemistry I- Practical              | Dr. Parul Grover        |
| 9  | BP403T  | Physical Pharmaceutics II – Theory II-yr              | Mr. Debaprasad Ghosh     | BP407P   | Physical Pharmaceutics II- Practical          | Ms. Sakshi Garg         |
| 10 | BP404T  | Pharmacology I – Theory II-yr                         | Dr. Abhishek Kumar       | BP408P   | Pharmacology I- Practical                     | Mr. Kapil Sachan        |
| 11 | BP405T  | Pharmacognosy I – Theory II-yr                        | Dr. Richa Goel           | BP409P   | Pharmacognosy I- Practical                    | Dr. Richa Goel          |
| 12 | -       | Biomedical waste management II-yr                     | Ms. Riya Rastogi         | -        | -                                             | -                       |
| 13 | BP601T  | Medicinal Chemistry III – Theory III-yr               | Dr. Vaishali M. Patil    | BP607P   | Medicinal Chemistry III- Practical            | Dr. Garima Kapoor       |
| 14 | BP602T  | Pharmacology III – Theory III-yr                      | Mr. Himanshu Aggarwal    | BP608P   | Pharmacology III- Practical                   | Dr. Shardendu Mishra    |
| 15 | BP603T  | Herbal Drug Technology – Theory III-yr                | Mr. Balwan               | BP609P   | Herbal Drug Technology- Practical             | Mr. Harsh Rastogi       |
| 16 | BP604T  | Biopharmaceutics and Pharmacokinetics – Theory III-yr | Mr. Sanjeev Chauhan      | BP610P   | Industrial Training                           | Mr. Debaprasad Ghosh    |
| 17 | BP605T  | Pharmaceutical Biotechnology – Theory III-yr          | Dr. Monika Kaurav        | -        | -                                             | -                       |
| 18 | BP606T  | Quality Assurance – Theory III-yr                     | Ms. Surbhi Kamboj        | -        | -                                             | -                       |
| 19 | BP801T  | Biostatistics and Research Methodology IV-yr          | Dr. Richa Aggarwal       | BP814P W | Elective Project (s)                          | Mr. Debaprasad Ghosh    |
| 20 | BP802T  | Social and Preventive Pharmacy IV-yr                  | Ms. Vidhu Saxena         | BP815P   | Report on Industrial Tour                     | Mr. Debaprasad Ghosh    |
| 21 | BP803ET | Pharma Marketing Management* IV-yr                    | Ms. Shikha Kaushik       | -        | -                                             | -                       |
| 22 | BP805ET | Pharmacovigilance* IV-yr                              | Dr. Vinay Kumar          | -        | -                                             | -                       |
| 23 | BP806ET | Quality Control and Standardization of Herbal* IV-yr  | Dr. Kiran Sharma         | -        | -                                             | -                       |
| 24 | BP807ET | Computer Aided Drug Design* IV-yr                     | Mr. Surya Prakash        | -        | -                                             | -                       |
| 25 | BP809ET | Cosmetic Science* IV-yr                               | Dr. N.G.R. Rao           | -        | -                                             | -                       |
| 26 | BP810ET | Experimental Pharmacology* IV-yr                      | Ms. Priya Bansal         | -        | -                                             | -                       |

24/02/23



| % Benchmark Targets- 2022-23 Even semester |           |      |     |                                                              | Course Type | Benchmark Target - Internal | Benchmark Target - External |
|--------------------------------------------|-----------|------|-----|--------------------------------------------------------------|-------------|-----------------------------|-----------------------------|
| CO- Coordinator                            | Program   | Year | Sem | Course Name                                                  |             |                             |                             |
| Ms. Priya Bansal                           | B. Pharm. | 1    | 2   | BP201T Human Anatomy and Physiology II - Theory I-yr         | Theory      | 61                          | 55                          |
| Dr. Neha Rana                              |           |      |     | BP202T Pharmaceutical Organic Chemistry I - Theory I-yr      | Theory      | 50                          | 50                          |
| Ms. Pragati Gupta                          |           |      |     | BP203T Biochemistry - Theory I-yr                            | Theory      | 51                          | 52                          |
| Mr. Praveen Kumar Dixit                    |           |      |     | BP204T Pathophysiology - Theory I-yr                         | Theory      | 51                          | 53                          |
| Dr. Garima Kapoor                          |           |      |     | BP205T Computer Applications in Pharmacy - Theory I-yr       | Theory      | 60                          | 50                          |
| Mr. Harsh Rastogi                          |           |      |     | BP206T Environmental Sciences - Theory I-yr                  | Theory      | 61                          | 61                          |
| Mr. Praveen Kumar Dixit                    |           |      |     | BP207P Human Anatomy and Physiology II - Practical           | Lab         | 65                          | 75                          |
| Ms. Shipra Singhal                         |           |      |     | BP208P Pharmaceutical Organic Chemistry I - Practical        | Lab         | 55                          | 55                          |
| Dr. Neha Rana                              |           |      |     | BP209P Biochemistry- Practical                               | Lab         | 70                          | 70                          |
| Ms. Sakshi Garg                            |           |      |     | BP210P Computer Applications in Pharmacy- Practical          | Lab         | 70                          | 70                          |
| Dr. Abhay Bhardwaj                         |           |      |     | BP401T Pharmaceutical Organic Chemistry III - Theory II-yr   | Theory      | 60                          | 58                          |
| Ms. Shipra Singhal                         |           |      |     | BP402T Medicinal Chemistry I - Theory II-yr                  | Theory      | 55                          | 50                          |
| Mr. Debaprasad Ghosh                       |           |      |     | BP403T Physical Pharmaceutics II - Theory II-yr              | Theory      | 55                          | 55                          |
| Dr. Abhishek Kumar                         |           |      |     | BP404T Pharmacology I - Theory II-yr                         | Theory      | 54                          | 56                          |
| Dr. Richa Goel                             |           |      |     | BP405T Pharmacognosy I - Theory II-yr                        | Theory      | 70                          | 60                          |
| Dr. Parul Grover                           |           |      |     | BP406P Medicinal Chemistry I- Practical                      | Lab         | 70                          | 70                          |
| Ms. Sakshi Garg                            |           |      |     | BP407P Physical Pharmaceutics II- Practical                  | Lab         | 61                          | 61                          |
| Mr. Kapil Sachan                           |           |      |     | BP408P Pharmacology I- Practical                             | Lab         | 70                          | 65                          |
| Dr. Richa Goel                             |           |      |     | BP409P Pharmacognosy I- Practical                            | Lab         | 50                          | 50                          |
| Dr. Vaishali M. Patil                      |           | 3    | 6   | BP601T Medicinal Chemistry III - Theory III-yr               | Theory      | 58                          | 55                          |
| Mr. Himanshu Aggarwal                      |           |      |     | BP602T Pharmacology III - Theory III-yr                      | Theory      | 52                          | 52                          |
| Mr. Balwan                                 |           |      |     | BP603T Herbal Drug Technology - Theory III-yr                | Theory      | 60                          | 59                          |
| Mr. Sanjeev Chauhan                        |           |      |     | BP604T Biopharmaceutics and Pharmacokinetics - Theory III-yr | Theory      | 55                          | 55                          |
| Dr. Monika Kaurav                          |           |      |     | BP605T Pharmaceutical Biotechnology-Theory III-yr            | Theory      | 50                          | 50                          |
| Ms. Surbhi Kamboj                          |           |      |     | BP606T Quality Assurance- Theory III-yr                      | Theory      | 60                          | 55                          |
| Dr. Garima Kapoor                          |           |      |     | BP607P Medicinal Chemistry III- Practical                    | Lab         | 62                          | 65                          |
| Dr. Shardendu Mishra                       |           |      |     | BP608P Pharmacology III- Practical                           | Lab         | 72                          | 70                          |
| Mr. Harsh Rastogi                          |           |      |     | BP609P Herbal Drug Technology- Practical                     | Lab         | 60                          | 60                          |
| Mr. Debaprasad Ghosh                       |           |      |     | BP610P Industrial Training                                   | Lab         | 55                          | 55                          |
| Mr. Pankaj Bhat                            |           |      |     | BP801T Biostatistics and Research Methodology IV-yr          | Theory      | 52                          | 51                          |
| Ms. Vidhu Saxena                           |           |      |     | BP802T Social and Preventive Pharmacy IV-yr                  | Theory      | 55                          | 55                          |
| Ms. Shikha Kaushik                         |           |      |     | BP803ET Pharma Marketing Management* IV-yr                   | Elective    | 55                          | 65                          |
| Dr. Vinay Kumar                            |           |      |     | BP805ET Pharmacovigilance* IV-yr                             | Elective    | 70                          | 51                          |
| Dr. Kiran Sharma                           |           |      |     | BP806ET Quality Control and Standardization of Herbal* IV-yr | Elective    | 50                          | 50                          |
| Mr. Surya Prakash                          |           |      |     | BP807ET Computer Aided Drug Design* IV-yr                    | Elective    | 50                          | 51                          |
| Dr. N.G.R. Rao                             |           | 4    | 8   | BP809ET Cosmetic Science* IV-yr                              | Elective    | 50                          | 50                          |
| Ms. Priya Bansal                           |           |      |     | BP810ET Experimental Pharmacology* IV-yr                     | Elective    | 50                          | 50                          |
| Ms. Priya Bansal                           |           |      |     | BP810ET Experimental Pharmacology* IV-yr                     | Elective    | 50                          | 50                          |
| Mr. Debaprasad Ghosh                       |           |      |     | BP814PW Elective Project (s)                                 | Lab         | 60                          | 60                          |
| Mr. Debaprasad Ghosh                       |           |      |     | BP815P Report on Industrial Tour                             | Lab         | 60                          | 60                          |



**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                               |  |                      |      |              |          |   |
|---------------------|-----------------------------------------------|--|----------------------|------|--------------|----------|---|
| Program-            | B. Pharm.                                     |  |                      |      | Year         | 1        |   |
| Course-             | Human Anatomy and Physiology II – Theory I-yr |  |                      | Code | BP201T       | Semester | 2 |
| Course Instructors- | Mrs. Priya Bansal                             |  | Mr. Praveen K. Dixit |      | Course Type- | Theory   |   |

| CO No.                                                      | Statement of Course Outcome                                                                       | BL         | KC                   |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------|----------------------|
| After completion of the course, the student will be able to |                                                                                                   |            |                      |
| CO1                                                         | Understand the anatomy and physiology of Nervous system.                                          | Understand | Factual & Conceptual |
| CO2                                                         | Review the anatomy and physiology of Digestive System and energetics (ATP, Creatinine Phosphate). | Understand | Factual & Conceptual |
| CO3                                                         | Summarize the structure and functions of Respiratory System and Urinary System.                   | Understand | Factual & Conceptual |
| CO4                                                         | Understand the anatomical and physiological aspects of Endocrine System.                          | Understand | Factual & Conceptual |
| CO5                                                         | Review the structural and functional aspects of Reproductive System and Genetics.                 | Understand | Factual & Conceptual |
| CO6                                                         |                                                                                                   |            |                      |

| Mapping of COs with POs |      |         |         |         |         |      |         |      |      |         |       |
|-------------------------|------|---------|---------|---------|---------|------|---------|------|------|---------|-------|
|                         | PO1  | PO2     | PO 3    | PO 4    | PO 5    | PO 6 | PO 7    | PO 8 | PO 9 | PO 10   | PO 11 |
| CO1                     | 3    |         |         |         |         | 1    |         | 1    | 2    |         | 2     |
| CO2                     | 3    |         |         |         |         | 1    |         | 1    | 2    |         | 2     |
| CO3                     | 3    |         |         |         |         | 1    |         | 1    | 2    |         | 2     |
| CO4                     | 3    |         |         |         |         | 1    |         | 1    | 2    |         | 2     |
| CO5                     | 3    |         |         |         |         | 1    |         | 1    | 2    |         | 2     |
| CO6                     |      |         |         |         |         |      |         |      |      |         |       |
| PO Target               | 3.00 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 1.00 | #DIV/0! | 1.00 | 2.00 | #DIV/0! | 2.00  |

Signature of Course Instructor (s):

*Priya Bansal*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Even Semester

Semester-II

Program- B. Pharm.

Course- Pharmaceutical Organic Chemistry-I

Course Instructors- Dr Neha and Ms Shipra Singhal

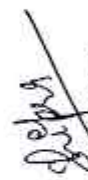
Tagging Cos with BLs & KCs

Course Code-BP202T

| CO No. | Statement of Course Outcomes                                                                                        | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|--------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
|        | After completion of the course, the student will be able to                                                         |                                      |                         |
| CO1    | Determine Classification, nomenclature and isomerism of Organic Compounds.                                          | Analyze                              | Factual, Conceptual     |
| CO2    | Apply mechanism of action of alkanes, alkenes and conjugated dienes addition reactions.                             | Apply                                | Factual, Conceptual     |
| CO3    | Examine the basics of stereochemistry, kinetics, reactivity order and uses of important alkyl halides and alcohols. | Analyze                              | Factual, Conceptual     |
| CO4    | Illustrate the mechanism involved in name reactions and identification tests of carbonyl compounds.                 | Apply                                | Factual, Conceptual     |
| CO5    | Examine the chemistry and uses of carboxylic acids and amines.                                                      | Analyze                              | Factual, Conceptual     |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 1    | 1    |      | 1    | 1    |      | 1    |       | 1     |
| CO2         | 3    |      | 1    | 1    |      | 1    | 1    |      | 1    |       | 1     |
| CO3         | 3    |      | 1    | 1    |      | 1    | 1    |      | 1    | 1     | 1     |
| CO4         | 3    |      | 1    | 1    |      | 1    | 1    |      | 1    | 1     | 1     |
| CO5         | 3    |      | 1    | 1    |      | 1    | 1    |      | 1    |       | 1     |
| PO Target   | 3    | 1    | 1    | 1    |      | 1    | 1    |      | 1    | 1     | 1     |

  
Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Odd Semester

Semester- II

Course Code-BP203T

Program- B. Pharm.

Course- Biochemistry-Theory 1-yr

Course Instructors-Ms Pragati Gupta and Dr Neha Rana

Tagging Cos with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                                                                            | Bloom's Cognitive Process Level (BL) | Knowledge (KC) | Category            |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------|---------------------|
| After completion of the course, the student will be able to |                                                                                                                         |                                      |                |                     |
| CO1                                                         | Understand And Identify The Concept Of Biomolecules And Bioenergetics                                                   | Understand                           |                | Factual, Conceptual |
| CO2                                                         | Learn/Review Carbohydrate Metabolism And Biological Oxidation And Apply The Learned Knowledge In Understanding Diseases | Understand                           |                | Factual, Conceptual |
| CO3                                                         | Analyze The Concepts Lipid And Amino Acids Metabolism And Their Role In Various Diseases.                               | Analyze                              |                | Factual, Conceptual |
| CO4                                                         | Illustrate The Concept Of Nucleic Acid Metabolism And Transfer Of Genetic Information.                                  | Apply                                |                | Factual, Conceptual |
| CO5                                                         | Describe The Classification And Types Of Enzymes And Their Role As Diagnostic And Therapeutic Applications.             | Remember                             |                | Factual, Conceptual |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 2     | 2     |
| CO2         | 3    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 2    | 1     | 1     |
| CO3         | 3    | 3    | 2    | 1    | 1    | 1    | 1    | 1    | 2    | 1     | 1     |
| CO4         | 3    | 3    | 3    | 2    | 2    | 2    | 1    | 1    | 3    | 2     | 2     |
| CO5         | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1     |
| PO Target   | 2.60 | 2.40 | 2    | 1.40 | 1.20 | 1.20 | 1    | 1    | 1.80 | 1.40  | 1.40  |

Pragati  
Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Pathophysiology-Theory I-Yr

Course Instructors-Mr Himanshu Aggarwal & Mr Praveen Dixit

Tagging Cos with BLs & KCs

Session- 2022-23 EVEN Semester

Semester-2

Course Code-BP204T

| CO No.                                                      | Statement of Course Outcomes                                                                                             | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                                          |                                      |                     |          |
| CO1                                                         | Outline the basic mechanisms involved in the process of cell injury and inflammation                                     | Remember                             | Factual, Conceptual |          |
| CO2                                                         | Illustrate the pathological mechanisms involved in the development of cardiovascular, renal and respiratory systems.     | Analyze                              | Factual, Conceptual |          |
| CO3                                                         | Explore the mechanisms of development of diseases associated with blood, endocrine, nervous and gastrointestinal system. | Apply                                | Factual, Conceptual |          |
| CO4                                                         | Demonstrate the development and progression of inflammatory diseases along with cancer.                                  | Apply                                | Factual, Conceptual |          |
| CO5                                                         | Explain the etiology and pathogenesis of infectious and sexually transmitted diseases.                                   | Analyze                              | Factual, Conceptual |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      |      |      |      | 1    |      | 1    | 2    |       | 2     |
| CO2         | 3    |      |      |      |      | 1    |      | 1    | 2    |       | 2     |
| CO3         | 3    |      |      |      |      | 1    |      | 1    | 2    |       | 2     |
| CO4         | 3    |      |      |      |      | 1    |      | 1    | 2    | 1     | 2     |
| CO5         | 3    |      |      |      |      | 1    |      | 1    | 2    | 1     | 2     |
| PO Target   | 3    |      |      |      |      | 1    |      | 1    | 2    | 1     | 2     |

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 EVEN Semester

Program- B. Pharm.

Course- Computer Applications In Pharmacy-Theory I-Yr

Course Instructors-Dr Garima Kapoor& Ms Sakshi Garg

Tagging Cos with BLs & KCs

Semester- 2

Course Code-BP205T

| CO No.                                                      | Statement of Course Outcomes                                                                    | Bloom's<br>Level (BL) | Cognitive<br>Process | Knowledge<br>(KC)   | Category |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------|----------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                 |                       |                      |                     |          |
| CO1                                                         | Understand the concept of number system and information systems.                                | Understand            |                      | Factual, Conceptual |          |
| CO2                                                         | Summarize the about various web technologies and databases.                                     | Understand            |                      | Factual, Conceptual |          |
| CO3                                                         | Classify and apply the concepts of the various types of application of computers in pharmacy.   | Understand            |                      | Factual, Conceptual |          |
| CO4                                                         | Assess the objective, concept and impact of Bioinformatics.                                     | Evaluate              |                      | Factual, Conceptual |          |
| CO5                                                         | Understand and formulate application of computers in data analysis in Preclinical development . | Understand            |                      | Factual, Conceptual |          |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 2    | 3    | 2    | 3    | 1    | 1    | 2    | 1    | 2    | 2     | 3     |
| CO2         | 2    | 3    | 2    | 3    | 1    | 3    | 1    | 2    | 2    | 3     | 3     |
| CO3         | 3    | 2    | 2    | 3    | 2    | 3    | 2    | 2    | 3    | 3     | 3     |
| CO4         | 3    | 2    | 2    | 3    | 1    | 3    | 2    | 1    | 3    | 2     | 3     |
| CO5         | 3    | 2    | 2    | 3    | 1    | 2    | 3    | 2    | 3    | 3     | 3     |
| PO Target   | 2.60 | 2.40 | 2    | 3    | 1.20 | 2.40 | 2    | 1.60 | 2.60 | 2.60  | 3     |

Signature of Coordinator

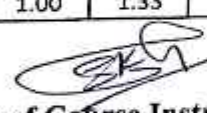
**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                     |                                      |  |                     |        |              |        |
|---------------------|--------------------------------------|--|---------------------|--------|--------------|--------|
| Program-            | B. Pharm.                            |  |                     |        | Year         | 1      |
| Course-             | Environmental Sciences - Theory 1-yr |  | Code                | BP206T | Semester     | 2      |
| Course Instructors- | MR. HARSH RASTOGI                    |  | MR. SANJEEV CHAUHAN |        | Course Type- | Theory |

| CO No. | Statement of Course Outcome                                                                                                      | BL         | KC                 |
|--------|----------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|
|        | After completion of the course, the student will be able to                                                                      |            |                    |
| CO1    | Understand the multidisciplinary nature of environmental studies and role of an individual in conservation of natural resources. | Understand | Factual            |
| CO2    | Understand the concept of Ecosystem with various types.                                                                          | Understand | Factual/conceptual |
| CO3    | Illustrate the environmental pollution: Air pollution; Water pollution; Soil pollution                                           | Remember   | conceptual         |
| CO4    |                                                                                                                                  |            |                    |
| CO5    |                                                                                                                                  |            |                    |
| CO6    |                                                                                                                                  |            |                    |

| Mapping of COs with POs |      |      |      |      |         |      |      |      |      |       |       |
|-------------------------|------|------|------|------|---------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 1    | 1    | 1    | 1    |         | 1    | 3    | 1    | 2    | 3     | 3     |
| CO2                     | 1    | 1    | 1    | 1    |         | 1    | 3    | 1    | 2    | 3     | 3     |
| CO3                     | 1    | 2    | 2    | 1    |         | 2    | 3    | 1    | 2    | 3     | 3     |
| CO4                     |      |      |      |      |         |      |      |      |      |       |       |
| CO5                     |      |      |      |      |         |      |      |      |      |       |       |
| CO6                     |      |      |      |      |         |      |      |      |      |       |       |
| PO Target               | 1.00 | 1.33 | 1.33 | 1.00 | #DIV/0! | 1.33 | 3.00 | 1.00 | 2.00 | 3.00  | 3.00  |



Signature of Course Instructor (s):

**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                     |                                            |  |                 |        |              |     |  |
|---------------------|--------------------------------------------|--|-----------------|--------|--------------|-----|--|
| Program-            | B. Pharm.                                  |  |                 |        | Year         | 2   |  |
| Course-             | Human Anatomy and Physiology II- Practical |  | Code            | HP207P | Semester     | 2   |  |
| Course Instructors- | Mr.Praveen K.Dixit                         |  | Ms.Priya Bansal |        | Course Type- | Lab |  |

| CO No.                                                      | Statement of Course Outcome                                                                                                                                           | BL         | KC                   |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|
| After completion of the course, the student will be able to |                                                                                                                                                                       |            |                      |
| CO1                                                         | Understand the anatomy and physiology of CNS, Digestive system, Respiratory system, urinary system, endocrine system and reproductive system using models and charts. | Understand | Factual & Conceptual |
| CO2                                                         | Illustrate the practical aspects related to reflex activity, body temperature recording, lung capacities, BMI and their importance.                                   | Apply      | Factual & Procedural |
| CO3                                                         | Understand the different mechanisms of responses related to sense organs and nervous system.                                                                          | Understand | Factual & Conceptual |

| Mapping of COs with POs |      |      |      |      |      |         |         |      |      |         |       |
|-------------------------|------|------|------|------|------|---------|---------|------|------|---------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6    | PO 7    | PO 8 | PO 9 | PO 10   | PO 11 |
| CO1                     | 3    | 1    | 1    | 2    | 1    |         |         | 1    | 2    |         | 2     |
| CO2                     | 3    | 1    | 1    | 2    | 1    |         |         | 1    | 2    |         | 2     |
| CO3                     | 3    | 1    | 1    | 2    | 1    |         |         | 1    | 2    |         | 2     |
| PO Target               | 3.00 | 1.00 | 1.00 | 2.00 | 1.00 | #DIV/0! | #DIV/0! | 1.00 | 2.00 | #DIV/0! | 2.00  |

Signature of Course Instructor (s):  Praveen

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Even Semester

Program- B. Pharm.

Course-Organic Chemistry-I Practical

Course Instructors- Ms. Shipra Singhal

Tagging Cos with BLs & KCs

Semester- II

Course Code- BP208P

| CO No.                                                      | Statement of Course Outcomes                                            | Bloom's<br>Process Level (BL) | Cognitive<br>(KC) | Knowledge<br>Category |
|-------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|-------------------|-----------------------|
| After completion of the course, the student will be able to |                                                                         |                               |                   |                       |
| CO1                                                         | Outline the Preliminary test for organic compounds                      | Analyze                       |                   | Factual & Conceptual  |
| CO2                                                         | Analyze the Detection of elements.                                      | Analyze                       |                   | Factual & Conceptual  |
| CO3                                                         | Experiment the Solubility test and functional group test.               | Analyze                       |                   | Factual & Conceptual  |
| CO4                                                         | Identify the Melting point/Boiling point of organic compounds.          | Analyze                       |                   | Factual & Conceptual  |
| CO5                                                         | Demonstrate the Preparation and Identification of the unknown compound. | Apply                         |                   | Factual & Conceptual  |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 2    | 3    | 3    | 3    | 2    | 2    | 2    | 3    | 3    | 2     | 2     |
| CO2         | 3    | 2    | 3    | 3    | 2    | 3    | 3    | 3    | 3    | 1     | 3     |
| CO3         | 3    | 2    | 3    | 3    | 3    | 2    | 3    | 3    | 3    | 3     | 3     |
| CO4         | 3    | 3    | 3    | 2    | 3    | 2    | 3    | 2    | 3    | 2     | 3     |
| CO5         | 3    | 3    | 3    | 2    | 2    | 3    | 3    | 3    | 3    | 3     | 2     |
| PO Target   | 2.8  | 2.6  | 3    | 2.6  | 2.4  | 2.4  | 2.8  | 2.8  | 3    | 2.2   | 2.6   |

*Shipra Singhal*

Signature of CO Coordinator

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                    |                         |  |  |              |        |  |
|--------------------|-------------------------|--|--|--------------|--------|--|
| Program-           | B. Pharm.               |  |  | Year         | 1      |  |
| Course-            | Biochemistry- Practical |  |  | Code         | BP209P |  |
| Course Instructors | Dr. Neha Rana           |  |  | Semester     | 2      |  |
|                    |                         |  |  | Course Type- | Lab    |  |

| CO No. | Statement of Course Outcome                                                                   | BL      | KC                      |
|--------|-----------------------------------------------------------------------------------------------|---------|-------------------------|
|        | After completion of the course, the student will be able to                                   |         |                         |
| CO1    | Analyze different carbohydrates, proteins and abnormal constituents of urine.                 | Analyze | Procedural & Conceptual |
| CO2    | Determination of blood creatinine, salivary amylase, blood sugar and serum total cholesterol. | Analyze | Procedural & Conceptual |
| CO3    | Quantitative analysis of reducing sugars (DNSA method) and proteins                           | Analyze | Procedural & Conceptual |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 3    | 1    | 1    |      | 1    | 1    | 1    | 1    | 1     | 1     |
| CO2                     | 3    | 3    | 2    | 2    | 1    | 1    | 2    | 1    | 2    | 2     | 1     |
| CO3                     | 3    | 3    | 2    | 2    | 1    | 1    | 2    | 1    | 2    | 2     | 1     |
| PO Target               | 3.00 | 3.00 | 1.67 | 1.67 | 1.00 | 1.00 | 1.67 | 1.00 | 1.67 | 1.67  | 1.00  |

Signature of Course Instructor (s):

*Neha Rana*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Computer Application In Pharmacy-Practical

Course Instructors-Ms Sakshi Garg

Tagging Cos with BLs & KCs

Session- 2022-23 EVEN Semester

Semester- 2

Course Code-210P

| CO No. | Statement of Course Outcomes                                                                           | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|--------|--------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
|        | After completion of the course, the student will be able to                                            |                                      |                     |          |
| CO1    | Design a questionnaire using a word processing package.                                                | Create                               | Factual, Conceptual |          |
| CO2    | Create a HTML web page to show personal information.                                                   | Create                               | Factual, Conceptual |          |
| CO3    | Retrieve the information of a drug and its adverse effects using online tools.                         |                                      | Factual, Conceptual |          |
| CO4    | Create a database in MS Access to store the patient information with the required fields Using access. | Create                               | Factual, Conceptual |          |
| CO5    | Exporting Tables, Queries, Forms and Reports to XML pages and web pages.                               |                                      | Factual, Conceptual |          |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 3    |      | 2    | 1    |      | 2    |      |      |       | 2     |
| CO2         | 2    | 3    | 2    | 2    | 1    |      |      | 2    |      |       | 2     |
| CO3         | 3    | 3    | 2    | 2    | 2    |      | 2    | 3    |      |       | 1     |
| CO4         | 3    | 3    | 2    | 2    | 2    |      | 2    | 3    |      |       | 1     |
| CO5         | 3    | 3    | 2    | 2    | 2    |      | 2    | 3    |      |       | 1     |
| PO Target   | 2.80 | 3    | 2    | 2    | 1.60 |      | 2    | 2.75 |      |       | 1.40  |

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Session- 2022-23 EVEN Semester

Course- PHARMACEUTICAL ORGANIC CHEMISTRY-III

Semester- 4

Course Instructors-Dr Abhay Bhardwaj  
Tagging Cos with BLs & KCs

Course Code-BP401T

| CO No.                                                      | Statement of Course Outcomes                                                                    | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                 |                                      |                     |          |
| CO1                                                         | Illustrate about Stereo isomerism, Optical isomerism                                            |                                      |                     |          |
| CO2                                                         | Illustrate about Geometrical isomerism and Conformational isomerism.                            | Apply                                | Factual, Conceptual |          |
| CO3                                                         | Outline the nomenclature, classification, synthesis and reaction of some heterocyclic compounds | Apply                                | Factual, Conceptual |          |
| CO4                                                         | Summarize the Synthesis, reactions and medicinal uses of some heterocyclic compounds            | Analyze                              | Factual, Conceptual |          |
| CO5                                                         | Outline some important synthetic reactions.                                                     | Understand                           | Factual, Conceptual |          |
| Mapping of COs with POs                                     |                                                                                                 | Analyze                              | Factual, Conceptual |          |

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |
| CO2         | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |
| CO3         | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |
| CO4         | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |
| CO5         | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |
| PO Target   | 3    | 1    | 2    | 2    | 1    | 2    | 1    | 1    | 2    | 1     | 3     |

Signature of CO Coordinator

Program- B. Pharm.  
 Course-Medicinal Chemistry-I  
 Course Instructors- Ms. Shipra Singhal  
 Tagging Cos with BLs & KCs

Session- 2022-23 Even Semester

Semester- IV  
 Course Code- BP402T

| CO No.                                                      | Statement of Course Outcomes                                                                                                               | Bloom's Cognitive Level (BL) | Process | Knowledge Category (KC) |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                            |                              |         |                         |
| CO1                                                         | Discuss basics of medicinal chemistry, physicochemical and stereochemical properties in relation to drug design and drug metabolism.       | Understand                   |         |                         |
| CO2                                                         | Illustrate chemistry of drugs acting on ANS such as sympathomimetics and adrenergic drugs.                                                 | Apply                        |         | Factual & Conceptual    |
| CO3                                                         | Outline chemistry of parasympathomimetics, cholinesterase inhibitors and cholinergic blocking agents.                                      | Analyze                      |         | Factual & Conceptual    |
| CO4                                                         | Illustrate chemistry of drugs acting on CNS such as sedative, hypnotics, antipsychotics and anticonvulsants.                               | Apply                        |         | Factual & Conceptual    |
| CO5                                                         | Outline the chemistry of drugs acting on CNS such as General anesthetics, narcotic & non-narcotic analgesics and anti-inflammatory agents. | Analyze                      |         | Factual & Conceptual    |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |
| CO2         | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |
| CO3         | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |
| CO4         | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |
| CO5         | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |
| PO Target   | 3    | 1    | 1    | 1    |      | 1    | 1    | 1    | 2    | 1     | 2     |

Signature of CO Coordinator

*Shipra*

**KIET School of Pharmacy, KIET Group of Institutions****CO Statements and CO- PO Mapping**

|                     |                                          |                 |        |              |        |  |
|---------------------|------------------------------------------|-----------------|--------|--------------|--------|--|
| Program-            | B. Pharm.                                |                 |        | Year         | 2      |  |
| Course-             | Physical Pharmaceutics II – Theory II-yr | Code            | BP403T | Semester     | 4      |  |
| Course Instructors- | Mr. Debaprasad Ghosh                     | Ms. Sakshi Garg |        | Course Type- | Theory |  |

| CO No.                                                      | Statement of Course Outcome                                                                                                                                       | BL         | KC         |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| After completion of the course, the student will be able to |                                                                                                                                                                   |            |            |
| CO1                                                         | Understand the types, general characteristics, and effect of various factors on Colloidal dispersions.                                                            | Understand | Procedural |
| CO2                                                         | Identify the rheological behaviour of fluids and the principles of deformation of solids.                                                                         | Analyze    | Procedural |
| CO3                                                         | Analyse the theories, types, various properties, and stability of Coarse dispersions like suspensions and emulsions.                                              | Analyze    | Procedural |
| CO4                                                         | Analyze various aspects of micrometrics.                                                                                                                          | Analyze    | Procedural |
| CO5                                                         | Analyze the effects of kinetics, degradation factors and common reactions on the stability of drugs including accelerated stability studies and their prevention. | Analyze    | Conceptual |

| Mapping of COs with POs |      |      |      |      |         |         |      |      |      |         |      |
|-------------------------|------|------|------|------|---------|---------|------|------|------|---------|------|
|                         | PO1  | PO2  | PO3  | PO4  | PO5     | PO6     | PO7  | PO8  | PO9  | PO10    | PO11 |
| CO1                     | 3    | 2    | 2    | 2    |         |         | 1    | 1    | 1    |         | 2    |
| CO2                     | 3    | 2    | 2    | 3    |         |         | 1    | 1    | 1    |         | 2    |
| CO3                     | 3    | 2    | 2    | 2    |         |         | 1    | 1    | 1    |         | 2    |
| CO4                     | 3    | 2    | 2    | 3    |         |         | 1    | 1    | 1    |         | 2    |
| CO5                     | 3    | 2    | 2    | 2    |         |         | 1    | 1    | 1    |         | 2    |
| PO Target               | 3.00 | 2.00 | 2.00 | 2.40 | #DIV/0! | #DIV/0! | 1.00 | 1.00 | 1.00 | #DIV/0! | 2.00 |

Signature of Course Instructor (s):

Debaprasad Ghosh

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 Even Semester

Semester- IV  
Course Code- BP404T

Program- B. Pharm.  
Course- Pharmacology-I  
Course Instructors- Dr. Abhishek Kumar  
Tagging Cos with BLs & KCs

| CO No.                                                      | Statement of Course Outcomes                                                            | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                         |                                      |                         |
| CO1                                                         | Understand the basics of pharmacology and Pharmacokinetics                              | Understand                           | Factual & Conceptual    |
| CO2                                                         | Demonstrate the basics of Pharmacodynamics and drug interactions                        | Apply                                | Factual & Conceptual    |
| CO3                                                         | Illustrate the pharmacology of drugs acting on peripheral nervous system                | Apply                                | Factual & Conceptual    |
| CO4                                                         | Explain the pharmacology of drugs acting on neurohumoral transmission related disorders | Analyze                              | Factual & Conceptual    |
| CO5                                                         | Analyze the pharmacology of drugs acting on Psychopharmacological disorders             | Analyze                              | Factual & Conceptual    |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      | 1    | 1    |      | 2    |      | 2    | 3    | 1     | 3     |
| CO2         | 3    |      | 1    | 1    |      | 2    |      | 2    | 3    | 1     | 3     |
| CO3         | 3    |      | 1    | 1    |      | 2    |      | 2    | 3    | 1     | 3     |
| CO4         | 3    | 1    | 1    | 1    |      | 2    | 1    | 2    | 3    | 1     | 3     |
| CO5         | 3    | 1    | 2    | 1    |      | 2    | 1    | 2    | 1    | 1     | 3     |
| PO Target   | 3.00 | 1.00 | 1.20 | 1.00 |      | 2.00 | 1.00 | 2.00 | 2.60 | 1.00  | 3.00  |



Signature of CO Coordinator

Program- B. Pharm.

Course-Pharmacognosy-I

Course Instructors-Dr Richa Goel

Tagging Cos with BLs & KCs

Session- 2022-23 EVEN Semester

Semester- 4

Course Code-BP405T

| CO No.                                                      | Statement of Course Outcomes                                                                                                                          | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC) |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                       |                                      |                         |
| CO1                                                         | Illustrate the sources of drugs, classification of crude drugs and justify the quality control of herbal drugs.                                       | Apply                                | Factual, Conceptual     |
| CO2                                                         | Acquire the knowledge of the techniques used for cultivation and production of crude drugs and outline conservation of medicinal plants.              | Apply                                | Factual, Conceptual     |
| CO3                                                         | Illustrate the concepts of Plant Tissue Culture and to describe properties of edible vaccines.                                                        | Apply                                | Factual, Conceptual     |
| CO4                                                         | Explore the working of various traditional systems of medicine and to summarize properties of various secondary metabolites.                          | Apply                                | Factual, Conceptual     |
| CO5                                                         | Attain the knowledge of the properties and applications of plant fibers, hallucinogens, carbohydrates, lipids, proteins, enzymes and marine products. | Apply                                | Factual, Conceptual     |
| Mapping of COs with POs                                     |                                                                                                                                                       |                                      |                         |

#### Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      |      | 3    |      |      |      |      |      |       | 2     |
| CO2         | 3    |      | 2    |      |      |      |      |      |      |       | 2     |
| CO3         | 3    |      | 2    | 3    |      |      |      |      |      |       | 2     |
| CO4         | 3    |      | 2    | 3    |      |      |      |      |      |       | 2     |
| CO5         | 3    | 1    | 2    | 3    |      |      |      |      |      |       | 2     |
| PO Target   | 3    | 1    | 2    | 3    |      |      |      |      |      |       | 2     |

*Richa*  
Signature of CO Coordinator

**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                            |                                  |  |             |        |                     |     |  |
|----------------------------|----------------------------------|--|-------------|--------|---------------------|-----|--|
| <b>Program-</b>            | B. Pharm.                        |  |             |        | <b>Year</b>         | 2   |  |
| <b>Course-</b>             | Medicinal Chemistry I- Practical |  | <b>Code</b> | BP406P | <b>Semester</b>     | 4   |  |
| <b>Course Instructors-</b> | Dr. Parul Grover                 |  |             |        | <b>Course Type-</b> | Lab |  |

| CO No. | Statement of Course Outcome                                 | BL     | KC                        |
|--------|-------------------------------------------------------------|--------|---------------------------|
|        | After completion of the course, the student will be able to |        |                           |
| CO1    | Synthesize drugs and metabolites.                           | Create | Conceptual and Procedural |
| CO2    | Determine the assay of drugs.                               | Apply  | Conceptual and Procedural |
| CO3    | Determine the partition coefficient of drugs.               | Apply  | Conceptual and Procedural |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 1    | 3    | 3    | 1    | 2    | 1    | 1    | 1    | 1     | 3     |
| CO2                     | 3    | 1    | 3    | 3    | 1    | 2    | 1    | 1    | 1    | 1     | 3     |
| CO3                     | 3    | 1    | 3    | 3    | 1    | 2    | 1    | 1    | 1    | 1     | 3     |
| <b>PO Target</b>        | 3.00 | 1.00 | 3.00 | 3.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00  | 3.00  |

Signature of Course Instructor (s):

*Parul*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 EVEN Semester

Program- B. Pharm.

Course-Physical Pharmaceutics-II Practical

Course Instructors-Ms Sakshi Garg

Tagging Cos with BLs & KCs

Semester- 4

Course Code-BP407P

| CO No.                                                      | Statement of Course Outcomes                                                        | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                     |                                      |                     |          |
| CO1                                                         | Assess particle size, particle size distribution and derived properties of powder.. | Evaluate                             | Factual, Procedural |          |
| CO2                                                         | Determine the viscosity of viscous samples using different methods.                 | Apply                                | Factual, Procedural |          |
| CO3                                                         | Evaluate the prepared suspension and emulsion formulations.                         | Evaluate                             | Factual, Procedural |          |
| CO4                                                         | Measure the kinetics of chemical reactions with stability studies.                  | Evaluate                             | Factual, Procedural |          |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO2         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO3         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO4         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| CO5         | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |
| PO Target   | 3    | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 1     | 2     |

*Sakshi*

Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Pharmacology-I-Theory Iiy

Course Instructors-Mr Kapil Sachan

Tagging Cos with BLs & KCs

Session- 2022-23 EVEN Semester

Semester- 4

Course Code-BP408P

| CO No.                                                      | Statement of Course Outcomes                                          | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)      | Category |
|-------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------|---------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                       |                              |         |                     |          |
| CO1                                                         | To understand and articulate basics of Experimental Pharmacology.     | Understand                   |         | Factual, Procedural |          |
| CO2                                                         | To understand and learn common laboratory techniques of Pharmacology. | Understand                   |         | Factual, Procedural |          |
| CO3                                                         | To observe the effect of drugs on animals by simulated experiments.   | Understand                   |         | Factual, Procedural |          |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    |      | 3    | 1    |      | 2    |      |      | 2    |       | 3     |
| CO2         | 3    |      | 3    | 3    |      | 2    |      |      | 1    |       | 3     |
| CO3         | 3    |      | 3    | 3    |      | 2    |      |      | 1    |       | 3     |
| PO Target   | 3    |      | 3    | 2.33 |      | 2    |      |      | 1.33 |       | 3     |

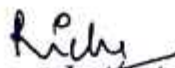
  
Signature of CO Coordinator

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

| CO Statements and CO- PO Mapping |                            |  |  |      |        |              |     |
|----------------------------------|----------------------------|--|--|------|--------|--------------|-----|
| Program-                         | B. Pharm.                  |  |  |      |        | Year         | 2   |
| Course-                          | Pharmacognosy I- Practical |  |  | Code | PR409P | Semester     | 4   |
| Course Instructors-              | Dr. Richa Goel             |  |  |      |        | Course Type- | Lab |

| CO No. | Statement of Course Outcome                                                   | BL       | KC                      |
|--------|-------------------------------------------------------------------------------|----------|-------------------------|
|        | After completion of the course, the student will be able to                   |          |                         |
| CO1    | Describe the tools used in quantitative microscopy                            | Apply    | Conceptual & Procedural |
| CO2    | Evaluate the crude drugs on the basis of WHO guidelines                       | Evaluate | Conceptual & Procedural |
| CO3    | Analyze the specified phytoconstituents utilizing the standardized parameters | Analyze  | Conceptual & Procedural |

| Mapping of COs with POs |      |      |      |      |     |      |     |     |     |      |      |
|-------------------------|------|------|------|------|-----|------|-----|-----|-----|------|------|
|                         | PO1  | PO2  | PO3  | PO4  | PO5 | PO6  | PO7 | PO8 | PO9 | PO10 | PO11 |
| CO1                     | 3    | 2    | 2    | 2    |     | 2    |     |     |     |      | 2    |
| CO2                     | 3    | 2    | 2    | 2    |     | 2    |     |     |     |      | 2    |
| CO3                     | 3    | 2    | 2    | 2    |     | 2    |     |     |     |      | 2    |
| PO Target               | 3.00 | 2.00 | 2.00 | 2.00 |     | 2.00 |     |     |     |      | 2.00 |

  
 Signature of Course Instructor (s):

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                   |  |  |              |        |
|---------------------|-----------------------------------|--|--|--------------|--------|
| Program-            | B. Pharm,                         |  |  | Year         | 2      |
| Course-             | Biomedical waste management II-yr |  |  | Semester     | 4      |
| Course Instructors- | Ms. Riya Rastogi                  |  |  | Code         | BP412  |
|                     |                                   |  |  | Course Type- | Theory |

| CO No. | Statement of Course Outcome                                                                                                                                                            | BL         | KC                   |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|
|        | After completion of the course, the student will be able to                                                                                                                            |            |                      |
| CO1    | Generalise the fundamentals of hazardous waste and also the types and sources of hazardous as well as biomedical waste.                                                                | Understand | Factual / Conceptual |
| CO2    | Acquire the knowledge of health impacts of various types of hazards and biomedical wastes.                                                                                             | Apply      | Factual / Conceptual |
| CO3    | Attain the knowledge about the storage, collection and transport of hazards and biomedical wastes, and also to study about the guidelines used for handling and segregation of wastes. | Apply      | Factual / Conceptual |
| CO4    | Determine the waste processing techniques which includes incineration, solidification and stabilization of hazardous wastes.                                                           | Apply      | Factual / Conceptual |
| CO5    | Illustrate the basics of the waste disposal options and also a detailed study on the disposal in landfills and also to learn about landfill remediation.                               | Apply      | Factual / Conceptual |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |      |      |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|
|                         | PO1  | PO2  | PO3  | PO4  | PO5  | PO6  | PO7  | PO8  | PO9  | PO10 | PO11 |
| CO1                     | 1    | 1    | 3    | 2    | 1    | 1    | 1    |      | 1    | 3    | 2    |
| CO2                     | 1    |      | 1    |      | 1    | 1    | 2    | 1    | 2    | 3    | 2    |
| CO3                     | 1    | 1    | 2    | 1    | 1    | 1    | 3    | 1    | 1    | 1    | 1    |
| CO4                     | 1    | 2    | 2    | 2    | 1    | 1    |      | 1    | 1    | 2    | 1    |
| CO5                     |      | 2    | 1    | 2    |      | 1    | 1    | 2    | 1    | 2    | 3    |
| PO Target               | 1.00 | 1.50 | 1.80 | 1.75 | 1.00 | 1.00 | 1.75 | 1.25 | 1.20 | 2.20 | 1.80 |

Signature of Course Instructor (s): Riya

*Riya*

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

| KIET School of Pharmacy, KIET Group of Institutions |                                         |  |           |      |              |          |   |
|-----------------------------------------------------|-----------------------------------------|--|-----------|------|--------------|----------|---|
| CO Statements and CO- PO Mapping                    |                                         |  |           |      |              |          |   |
| Program-                                            | B. Pharm.                               |  |           |      |              | Year     | 3 |
| Course-                                             | Medicinal Chemistry III – Theory III-yr |  |           | Code | BP601T       | Semester | 6 |
| Course Instructors-                                 | Dr. Vaishali M Patil                    |  | Dr Garima |      | Course Type- | Theory   |   |

| CO No. | Statement of Course Outcome                                                                                                                                                                                       | BL         | KC         |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
|        | After completion of the course, the student will be able to                                                                                                                                                       |            |            |
| CO1    | Understand the approach of classification, nomenclature, synthesis, stereochemistry, structure activity relationship and uses of antibiotics.                                                                     | Understand | Conceptual |
| CO2    | Apply the concept of nomenclature, stereochemistry, structure activity relationship, chemical degradation, classification of important products of Macrolide, Antimalarials, and apply basic approach of Prodrug. | Apply      | Conceptual |
| CO3    | Analyze the various aspects of chemotherapy of Anti-tubercular Agents, Urinary tract anti-infective agents and Antiviral agents.                                                                                  | Analyze    | Conceptual |
| CO4    | Illustrate the core principles of Chemotherapy of Antifungal agents, Anti-protozoal Agents, Sulphonamides and Sulfones, Folate reductase inhibitors and Anthelmintics.                                            | Apply      | Conceptual |
| CO5    | Analyze the idea of Drug Design, and Combinatorial Chemistry.                                                                                                                                                     | Analyze    | Conceptual |
| CO6    |                                                                                                                                                                                                                   |            |            |

| Mapping of COs with POs |      |      |      |      |         |      |         |      |         |       |       |
|-------------------------|------|------|------|------|---------|------|---------|------|---------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7    | PO 8 | PO 9    | PO 10 | PO 11 |
| CO1                     | 1    | 1    | 1    | 1    |         | 1    |         | 1    |         | 1     | 1     |
| CO2                     | 1    | 1    | 2    | 2    |         | 2    |         | 2    |         | 1     | 1     |
| CO3                     | 1    | 1    | 2    | 2    |         | 2    |         | 2    |         | 1     | 1     |
| CO4                     | 1    | 1    | 1    | 1    |         | 2    |         | 2    |         | 1     | 1     |
| CO5                     | 1    | 1    | 1    | 1    |         | 1    |         | 2    |         | 1     | 1     |
| CO6                     |      |      |      |      |         |      |         |      |         |       |       |
| PO Target               | 1.00 | 1.00 | 1.40 | 1.40 | #DIV/0! | 1.60 | #DIV/0! | 1.80 | #DIV/0! | 1.00  | 1.00  |

Signature of Course Instructor (s): Vaishali M Patil

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                  |  |                       |      |              |          |   |
|---------------------|----------------------------------|--|-----------------------|------|--------------|----------|---|
| Program-            | B. Pharm.                        |  |                       |      | Year         | 3        |   |
| Course-             | Pharmacology III – Theory III-yr |  |                       | Code | BP602T       | Semester | 6 |
| Course Instructors- | Dr. Shardendu K Mishra           |  | Mr. Himanshu Aggarwal |      | Course Type- | Theory   |   |

| CO No. | Statement of Course Outcome                                                                                          | BL         | KC                      |
|--------|----------------------------------------------------------------------------------------------------------------------|------------|-------------------------|
|        | After completion of the course, the student will be able to                                                          |            |                         |
| CO1    | Understand the pharmacology of the drugs used in respiratory and GIT disorders.                                      | Understand | Conceptual              |
| CO2    | Explain the utility of antimicrobial agents used for curing infections.                                              | Apply      | Conceptual              |
| CO3    | Illustrate the various mechanisms by which anti-microbial agents act and their applications in infection management. | Apply      | Conceptual              |
| CO4    | Express the pharmacological profiles of chemotherapeutic agents and immunomodulators.                                | Apply      | Conceptual              |
| CO5    | Apply the principles of toxicology and chrono pharmacology.                                                          | Apply      | Conceptual & Procedural |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 1    | 2    | 2    |      | 2    | 1    | 1    | 3    | 2     | 3     |
| CO2                     | 3    | 1    | 2    | 2    |      | 2    | 1    | 1    | 3    | 2     | 3     |
| CO3                     | 3    | 1    | 2    | 2    |      | 2    | 1    | 1    | 3    | 2     | 3     |
| CO4                     | 3    | 1    | 2    | 2    |      | 2    | 1    | 1    | 3    | 2     | 3     |
| CO5                     | 3    | 1    | 2    | 2    |      | 2    | 1    | 1    | 3    | 2     | 3     |
| PO Target               | 3.00 | 1.00 | 2.00 | 2.00 |      | 2.00 | 1.00 | 1.00 | 3.00 | 2.00  | 3.00  |

Signature of Course Instructor (s):

*[Signature]*

*[Signature]*

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Program- B. Pharm.

Course- Herbal Drug Technology-Theory

Course Instructors-Mr Harsh Rastogi

Tagging Cos with BLs & KCs

Session- 2022-23 EVEN Semester

Semester- 6

Course Code-BP603T

| CO No.                                                      | Statement of Course Outcomes                                                                                                                                               | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                                                                                            |                                      |                     |          |
| CO1                                                         | Generalize the Indian system of medicines and fundamentals of traditional herbal raw materials from its cultivation to collection with the help of biodynamic agriculture. | UNDERSTAND                           | FACTUAL, CONCEPTUAL |          |
| CO2                                                         | Analyze the demand and need of nutraceuticals with the help of herbal drug and herbal food interactions.                                                                   | ANALYZE                              | FACTUAL, CONCEPTUAL |          |
| CO3                                                         | Apply various herbal drug cosmetics and formulations with the study of their excipients.                                                                                   | APPLY                                | FACTUAL, CONCEPTUAL |          |
| CO4                                                         | Apply the National and International regulatory guidelines for the assessment of herbal drugs and patenting.                                                               | APPLY                                | FACTUAL, CONCEPTUAL |          |
| CO5                                                         | Operate the Current Good Manufacturing Practices(cGMP) in herbal drug industry.                                                                                            | APPLY                                | FACTUAL, CONCEPTUAL |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 2    |      | 1    | 2    |      | 2    |      | 1    | 2    | 3     | 3     |
| CO2         | 2    |      |      |      |      | 2    |      | 1    | 3    | 3     | 3     |
| CO3         | 2    |      | 1    | 2    |      | 1    |      | 1    | 2    | 3     | 3     |
| CO4         | 2    | 1    | 1    |      |      | 2    | 2    | 3    | 3    | 3     | 3     |
| CO5         | 2    | 1    | 1    |      |      | 2    | 2    | 3    | 3    | 3     | 3     |
| PO Target   | 2    | 1    | 1    | 2    |      | 1.80 | 2    | 1.80 | 2.60 | 3     | 3     |

Signature of CO Coordinator



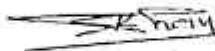
**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                                       |  |                 |        |              |        |  |
|---------------------|-------------------------------------------------------|--|-----------------|--------|--------------|--------|--|
| Program-            | B. Pharm.                                             |  |                 |        | Year         | 3      |  |
| Course-             | Biopharmaceutics and Pharmacokinetics – Theory III-yr |  | Code            | BP604T | Semester     | 6      |  |
| Course Instructors- | Mr. Sanjeev Chauhan                                   |  | Dr. Ashu Mittal |        | Course Type- | Theory |  |

| CO No. | Statement of Course Outcome                                                                                                                                                                                                         | BL         | KC                     |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|
|        | After completion of the course, the student will be able to                                                                                                                                                                         |            |                        |
| CO1    | Students shall be able to understand major Biopharmaceutics & Pharmacokinetics processes.                                                                                                                                           | Understand | Factual, Conceptual    |
| CO2    | Students shall be able to calculate pharmacokinetic parameters.                                                                                                                                                                     | Apply      | Conceptual, Procedural |
| CO3    | Student shall be able to derive various pharmacokinetic equations related to compartmental (Linear Pharmacokinetics), non compartmental and non linear pharmacokinetics.                                                            | Apply      | Conceptual, Procedural |
| CO4    | Student shall be able to compare drug absorption processes, drug disposition processes, various pharmacokinetics compartment models, types of IVIVC, disposition kinetics, dissolution testing models, biotransformation processes. | Analyze    | Conceptual             |
| CO5    | To illustrate various Biopharmaceutics & Pharmacokinetics process.                                                                                                                                                                  | Apply      | Conceptual, Procedural |
| CO6    |                                                                                                                                                                                                                                     |            |                        |

| Mapping of COs with POs |      |      |      |      |         |      |      |      |         |       |       |
|-------------------------|------|------|------|------|---------|------|------|------|---------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8 | PO 9    | PO 10 | PO 11 |
| CO1                     | 3    | 1    | 1    |      |         | 1    | 1    | 1    |         | 1     | 1     |
| CO2                     | 3    | 1    | 3    | 2    |         | 1    |      | 1    |         |       | 2     |
| CO3                     | 3    | 1    | 1    | 1    |         | 1    |      | 1    |         |       | 1     |
| CO4                     | 3    | 1    | 3    | 1    |         | 1    |      | 1    |         |       | 1     |
| CO5                     | 3    | 1    | 1    | 1    |         | 1    | 1    | 1    |         | 1     | 1     |
| CO6                     |      |      |      |      |         |      |      |      |         |       |       |
| PO Target               | 3.00 | 1.00 | 1.80 | 1.25 | #DIV/0! | 1.00 | 1.00 | 1.00 | #DIV/0! | 1.00  | 1.20  |

Signature of Course Instructor (s):



**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                            |  |  |      |              |          |   |
|---------------------|--------------------------------------------|--|--|------|--------------|----------|---|
| Program-            | B. Pharm.                                  |  |  |      | Year         | 3        |   |
| Course-             | Pharmaceutical Biotechnology-Theory III-yr |  |  | Code | BP605T       | Semester | 6 |
| Course Instructors- | DR. MONIKA KAURAV                          |  |  |      | Course Type- | Theory   |   |

| CO No. | Statement of Course Outcome                                                               | BL         | KC                                 |
|--------|-------------------------------------------------------------------------------------------|------------|------------------------------------|
|        | After completion of the course, the student will be able to                               |            |                                    |
| CO1    | Explain biotechnology and its importance in pharmaceuticals with applicable methodologies | Understand | Conceptual, Factual and Procedural |
| CO2    | Analyze the recombinant DNA technology and its application in pharmaceuticals production. | Analyze    | Conceptual, Factual and Procedural |
| CO3    | Demonstrate immunity and various immunological products and their production methods.     | Apply      | Conceptual, Factual and Procedural |
| CO4    | Analyze various immune assay techniques for determination of immunological products.      | Analyze    | Conceptual, Factual and Procedural |
| CO5    | Apply different fermentation techniques in production of various fermentation products.   | Apply      | Conceptual, Factual and Procedural |

| Mapping of COs with POs |      |      |      |         |      |      |      |      |      |       |       |
|-------------------------|------|------|------|---------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4    | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 1    |      |         | 1    | 1    | 2    | 1    | 1    | 1     | 1     |
| CO2                     | 3    | 1    | 1    |         | 1    | 1    | 2    |      | 1    | 1     | 1     |
| CO3                     | 3    | 1    | 1    |         | 1    | 1    | 2    | 1    | 1    | 1     | 1     |
| CO4                     | 3    | 1    | 2    |         | 1    | 1    | 2    | 1    | 1    | 1     | 1     |
| CO5                     | 3    | 1    | 1    |         | 1    | 1    | 2    | 1    | 1    | 1     | 1     |
| PO Target               | 3.00 | 1.00 | 1.25 | #DIV/0! | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00  | 1.00  |

Signature of Course Instructor (s): MONIKA KAURAV

Session- 2022-23 Even Semester

Program- B. Pharm.

Course- Quality Assurance

Course Instructors- Ms. Surbhi Kamboj

Tagging Cos with BLs &amp; KCs

Semester- VI

Course Code- BP606T

| CO No.                                                             | Statement of Course Outcomes                                                                                                                                                                                                                                                               | Bloom's Cognitive Process Level (BL) | Knowledge Category (KC)       |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------|
| <b>After completion of the course, the student will be able to</b> |                                                                                                                                                                                                                                                                                            |                                      |                               |
| CO1                                                                | Understand major guidelines and principles related to Quality Assurance and Quality Management, Total Quality Management (TQM), ICH Guidelines, Quality by design (QbD), ISO 9000 & ISO14000 and NABL accreditation and Good Laboratory Practices (GLP)                                    | Understand                           | Factual/Conceptual/Procedural |
| CO2                                                                | Acquire knowledge of organization and personnel, premises, equipments and raw materials related issues in pharmaceutical industry.                                                                                                                                                         | Apply                                | Factual/Conceptual/Procedural |
| CO3                                                                | Select proper procedure for quality control of containers, rubber closures, secondary packing materials and calibration and qualification of commonly used equipments e.g. pH meter and UV spectrophotometers                                                                              | Analyze                              | Factual/Conceptual/Procedural |
| CO4                                                                | Relate various documents e.g. Batch Formula Record, Master Formula Record, SOP, Quality audit, Quality Review and Quality documentation. Reports and documents, distribution records.                                                                                                      | Analyze                              | Factual/Conceptual/Procedural |
| CO5                                                                | Apply general principles of analytical method Validation, good warehousing practice, materials management, definition and general principles of calibration, qualification and validation, complaints and evaluation of complaints, Handling of return good, recalling and waste disposal. | Apply                                | Factual/Conceptual/Procedural |

Mapping of COs with POs

| Course Code | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| CO1         | 3   | 1   | -   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |
| CO2         | 3   | 1   | 1   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |
| CO3         | 3   | 1   | 1   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |
| CO4         | 3   | 1   | 1   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |
| CO5         | 3   | 1   | 1   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |
| PO Target   | 3   | 1   | 1   | -   | 1   | 1   | 2   | -   | 2   | -    | 1    |

*Surbhi Kamboj*  
Signature of CO Coordinator

# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 EVEN Semester

Program- B. Pharm.

Course- Medicinal Chemistry-III-Practical

Course Instructors-Dr Garima Kapoor

Tagging Cos with BLs & KCs

Semester- 6

Course Code-BP607P

| CO No. | Statement of Course Outcomes                                                                             | Bloom's Cognitive Level (BL) | Process | Knowledge (KC)      | Category |
|--------|----------------------------------------------------------------------------------------------------------|------------------------------|---------|---------------------|----------|
|        | After completion of the course, the student will be able to                                              |                              |         |                     |          |
| CO1    | Understand the synthesis different molecules.                                                            | Understand                   |         | Factual, Conceptual |          |
| CO2    | Analyze the concept of assay of different drugs                                                          | Analyze                      |         | Factual, Conceptual |          |
| CO3    | Apply and understand the aspects of Chem Draw and use different online softwares to study ADME activity. | Apply                        |         | Factual, Conceptual |          |

Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     | 1     |
| CO2         | 1    | 1    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 1     | 1     |
| CO3         | 1    | 1    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 1     | 1     |
| PO Target   | 1    | 1    | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1     | 1     |

  
Signature of CO Coordinator

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                             |  |                       |  |              |        |  |
|---------------------|-----------------------------|--|-----------------------|--|--------------|--------|--|
| Program-            | B. Pharm.                   |  |                       |  | Year         | 3      |  |
| Course-             | Pharmacology III- Practical |  |                       |  | Code         | RP608P |  |
| Course Instructors- | Dr. Shardendu Kumar Mishra  |  | Mr. Himanshu Aggarwal |  | Semester     | 6      |  |
|                     |                             |  |                       |  | Course Type- | Lab    |  |

| CO No. | Statement of Course Outcome                                                                            | BL         | KC                        |
|--------|--------------------------------------------------------------------------------------------------------|------------|---------------------------|
|        | After completion of the course, the student will be able to                                            |            |                           |
| CO1    | Apply the methods for dose calculation for experimental animals.                                       | Apply      | Conceptual and Procedural |
| CO2    | Apply the knowledge of experiment design and process by experimental pharmacology simulation software. | Apply      | Conceptual and Procedural |
| CO3    | Understand the method of bioassay on different living tissue.                                          | Understand | Conceptual and Procedural |
| CO4    | Understand the method of biochemical, pharmacokinetic analysis and different toxicity studies.         | Understand | Conceptual                |
| CO5    | Understand the biostatistical method of data analysis.                                                 | Understand | Conceptual                |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 2    | 3    | 1    | 1    | 2    | 2    | 1    | 1    | 1     | 3     |
| CO2                     | 3    | 2    | 3    | 1    | 1    | 2    | 2    | 1    | 1    | 1     | 3     |
| CO3                     | 3    | 2    | 3    | 1    | 1    | 2    | 2    | 1    | 1    | 1     | 3     |
| CO4                     | 3    | 2    | 3    | 1    | 1    | 2    | 2    | 1    | 1    | 1     | 3     |
| CO5                     | 3    | 2    | 3    | 1    | 1    | 2    | 2    | 1    | 1    | 1     | 3     |
| CO6                     |      |      |      |      |      |      |      |      |      |       |       |
| PO Target               | 3.00 | 2.00 | 3.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00  | 3.00  |

*[Signature]*  
**Signature of Course Instructor (s):**

**KIET School of Pharmacy, KIET Group of Institutions****CO Statements and CO- PO Mapping**

|                     |                                   |                  |        |              |        |
|---------------------|-----------------------------------|------------------|--------|--------------|--------|
| Program-            | B. Pharm.                         |                  |        | Year         | 3      |
| Course-             | Herbal Drug Technology- Practical | Code             | BP609P | Semester     | 5      |
| Course Instructors- | MR. HARSH RASTOGI                 | MR. BALWAN SINGH |        | Course Type- | Theory |

| CO No.                                                      | Statement of Course Outcome                                                   | BL       | KC                    |
|-------------------------------------------------------------|-------------------------------------------------------------------------------|----------|-----------------------|
| After completion of the course, the student will be able to |                                                                               |          |                       |
| CO1                                                         | Determine various phytochemical screening of different groups of crude drugs. | Evaluate | CONCEPTUAL/PROCEDURAL |
| CO2                                                         | Prepare various herbal dosage forms.                                          | Create   | CONCEPTUAL/PROCEDURAL |
| CO3                                                         | Evaluate various herbal dosage forms.                                         | Evaluate | CONCEPTUAL/PROCEDURAL |
| CO4                                                         | Standardization of various market ayurvedic preparations.                     | Apply    | CONCEPTUAL/PROCEDURAL |
| CO5                                                         |                                                                               |          |                       |
| CO6                                                         |                                                                               |          |                       |

| Mapping of COs with POs |  |  | PO 1 | PO 2 | PO 3    | PO 4    | PO 5    | PO 6    | PO 7    | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------------------|--|--|------|------|---------|---------|---------|---------|---------|------|------|-------|-------|
|                         |  |  |      |      |         |         |         |         |         | 1    | 2    | 1     | 3     |
| CO1                     |  |  | 3    | 2    |         |         |         |         |         | 1    | 1    | 2     | 3     |
| CO2                     |  |  | 3    | 2    |         |         |         |         |         | 1    | 2    | 3     | 3     |
| CO3                     |  |  | 3    | 2    |         |         |         |         |         | 1    | 1    | 1     | 3     |
| CO4                     |  |  | 3    | 2    |         |         |         |         |         |      |      |       |       |
| CO5                     |  |  |      |      |         |         |         |         |         |      |      |       |       |
| CO6                     |  |  |      |      |         |         |         |         |         |      |      |       |       |
| PO Target               |  |  | 3.00 | 2.00 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 1.00 | 1.50 | 1.75  | 3.00  |

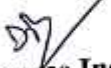
*B. Singh*  
Signature of Course Instructor (s):

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                      |  |      |        |              |     |  |
|---------------------|----------------------|--|------|--------|--------------|-----|--|
| Program-            | B. Pharm.            |  |      |        | Year         | 3   |  |
| Course-             | Industrial Training  |  | Code | BP610P | Semester     | 6   |  |
| Course Instructors- | Mr. Debaprasad Ghosh |  |      |        | Course Type- | Lab |  |

| CO No. | Statement of Course Outcome                                                                                                                                          | BL         | KC                                  |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------|
|        | After completion of the course, the student will be able to                                                                                                          |            |                                     |
| CO1    | Understand how an Industry or an approved research laboratory function and their sections and departments.                                                           | Understand | Factual, Conceptual                 |
| CO2    | Outline the different roles and responsibilities inside an industry or an approved research laboratory.                                                              | Analyze    | Factual, Conceptual.                |
| CO3    | Handle different equipments that are being used inside an industry or an approved research laboratory.                                                               | Apply      | Conceptual, Procedural.             |
| CO4    | Understand the approvals, rules and regulations related with an industry or an approved research laboratory.                                                         | Understand | Factual, Conceptual.                |
| CO5    | Acquire knowledge about professionalism, methods of official communications inside an organization and its responsibilities towards the environment and the society. | Apply      | Factual, Conceptual and Procedural. |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 3    | 3    | 3    | 2    | 1    | 1    | 1    | -    | -     | 2     |
| CO2                     | 3    | 3    | 3    | 1    | 2    | 2    | 2    | 1    | 1    | -     | 2     |
| CO3                     | 3    | 2    | 2    | 3    | 1    | 1    | -    | -    | -    | -     | 2     |
| CO4                     | 3    | 2    | 2    | 1    | 1    | 1    | 2    | 1    | 1    | 2     | 2     |
| CO5                     | 1    | 2    | 2    | 1    | 3    | 2    | 1    | 2    | 2    | 2     | 2     |
| PO Target               | 2.60 | 2.40 | 2.40 | 1.80 | 1.80 | 1.40 | 1.50 | 1.25 | 1.33 | 2.00  | 2.00  |

  
 Signature of Course Instructor (s):

**KIET School of Pharmacy, KIET Group of Institutions****CO Statements and CO- PO Mapping**

|                     |                                              |  |      |              |          |        |  |
|---------------------|----------------------------------------------|--|------|--------------|----------|--------|--|
| Program-            | B. Pharm.                                    |  |      |              | Year     | 4      |  |
| Course-             | Biostatistics and Research Methodology IV-yr |  | Code | BP801T       | Semester | 8      |  |
| Course Instructors- | Mr. Pankaj Bhatt                             |  |      | Course Type- |          | Theory |  |

| CO No.                                                      | Statement of Course Outcome                                                                                                                                       | BL         | KC                        |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                                   |            |                           |
| CO1                                                         | Understand the basic principles of biostatistics and research methodology, including research design, sampling techniques, data collection, and analysis methods. | Understand | Conceptual and Procedural |
| CO2                                                         | Apply regression analysis and Parametric test to different types of data, including continuous, binary, and count data.                                           | Apply      | Conceptual and Procedural |
| CO3                                                         | Understand the concept of statistical power and be able to calculate the required sample size for a given research question                                       | Understand | Conceptual and Procedural |
| CO4                                                         | Use statistical software to analyze and visualize data, generate reports and graphics that effectively communicate research findings.                             | Apply      | Conceptual and Procedural |
| CO5                                                         | Analyze experiments with continuous variables using factorial design and response surface methodology.                                                            | Analyze    | Conceptual and Procedural |

| Mapping of COs with POs |      |      |      |      |         |      |      |         |      |         |       |
|-------------------------|------|------|------|------|---------|------|------|---------|------|---------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8    | PO 9 | PO 10   | PO 11 |
| CO1                     | 1    | 3    | 2    | 1    |         |      | 1    |         | 1    |         | 2     |
| CO2                     | 1    | 3    | 2    | 2    |         |      | 1    |         | 1    |         | 2     |
| CO3                     | 1    | 3    | 3    | 2    |         | 1    | 1    |         | 1    |         | 2     |
| CO4                     | 1    | 3    | 2    | 2    |         |      | 1    |         | 1    |         | 2     |
| CO5                     | 1    | 3    | 2    | 2    |         |      | 1    |         | 1    |         | 2     |
| PO Target               | 1.00 | 3.00 | 2.20 | 1.80 | #DIV/0! | 1.00 | 1.00 | #DIV/0! | 1.00 | #DIV/0! | 2.00  |

Signature of Course Instructor (s):



# KIET Group of Institutions, Delhi-NCR, Ghaziabad

Session- 2022-23 EVEN Semester

Program- B. Pharm.

Course- Social And Preventive Pharmacy

Semester-8

Course Instructors-Ms Vidhu Saxena

Tagging Cos with BLs & KCs

Course Code-BP802T

| CO No.                                                      | Statement of Course Outcomes                                                                     | Bloom's Cognitive Process Level (BL) | Knowledge (KC)      | Category |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------|---------------------|----------|
| After completion of the course, the student will be able to |                                                                                                  |                                      |                     |          |
| CO1                                                         | To define and describe the concept of health and disease.                                        | Remember                             | Factual, Conceptual |          |
| CO2                                                         | To outline and explain the general principles of prevention and control of diseases.             | Create                               | Factual, Conceptual |          |
| CO3                                                         | To analyze and examine the objectives and functioning of various National health programs.       | Analyze                              | Factual, Conceptual |          |
| CO4                                                         | To categorize and assess various national and social health programs along with the role of WHO. | Create                               | Factual, Conceptual |          |
| CO5                                                         | To discuss and generate the role of Community services in rural, urban and school health.        | Understand                           | Factual, Conceptual |          |

## Mapping of COs with POs

| Course Code | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
|-------------|------|------|------|------|------|------|------|------|------|-------|-------|
| CO1         | 3    | 1    | 3    | 1    | 1    | 3    | 2    | 3    | 3    | 1     | 3     |
| CO2         | 3    | 1    | 3    | 1    | 1    | 3    | 1    | 3    | 3    | 1     | 2     |
| CO3         | 3    | 3    | 2    | 1    | 1    | 2    | 1    | 3    | 3    | 1     | 2     |
| CO4         | 3    | 3    | 2    | 1    | 1    | 2    | 1    | 3    | 3    | 1     | 2     |
| CO5         | 3    | 2    | 2    | 1    | 1    | 2    | 1    | 2    | 2    | 1     | 2     |
| PO Target   | 3    | 2    | 2.40 | 1    | 1    | 2.40 | 1.20 | 2.80 | 2.80 | 1     | 2.20  |

Signature of CO Coordinator



**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                            |                                    |  |             |                     |                 |   |
|----------------------------|------------------------------------|--|-------------|---------------------|-----------------|---|
| <b>Program-</b>            | B. Pharm.                          |  |             | <b>Year</b>         | 4               |   |
| <b>Course-</b>             | Pharma Marketing Management* IV-yr |  | <b>Code</b> | BPS01ET             | <b>Semester</b> | 8 |
| <b>Course Instructors-</b> | Ms. Shikha Krushik                 |  |             | <b>Course Type-</b> | Elective        |   |

| CO No.                                                      | Statement of Course Outcome                                                                   | BL      | KC                    |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------|-----------------------|
| After completion of the course, the student will be able to |                                                                                               |         |                       |
| CO1                                                         | Understand the basic concepts of marketing and their application in pharmaceutical marketing. | Apply   | Factual/Conceptual    |
| CO2                                                         | Illustrate product management in the pharmaceutical industry.                                 | Apply   | Factual/Conceptual    |
| CO3                                                         | Analyze various promotional techniques for pharmaceutical products.                           | Analyze | Conceptual/Procedural |
| CO4                                                         | Apply knowledge about various pharmaceutical marketing channels.                              | Apply   | Factual/Conceptual    |
| CO5                                                         | Demonstrate the objectives and importance of price management in the pharmaceutical industry. | Apply   | Factual/Conceptual    |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 2    | 3    | 3    | 1    | 3    | 3    | 2    | 2    | 3    | 3     | 2     |
| CO2                     | 3    | 3    | 2    | 3    | 3    | 3    | 2    | 3    | 3    | 3     | 3     |
| CO3                     | 2    | 3    | 3    | 3    | 1    | 3    | 3    | 3    | 3    | 2     | 3     |
| CO4                     | 2    | 3    | 3    | 2    | 3    | 2    | 3    | 3    | 3    | 3     | 3     |
| CO5                     | 3    | 2    | 3    | 3    | 2    | 3    | 3    | 3    | 3    | 2     | 3     |
| <b>PO Target</b>        | 2.40 | 2.80 | 2.80 | 2.40 | 2.40 | 2.80 | 2.60 | 2.80 | 3.00 | 2.60  | 2.80  |

Signature of Course Instructor (s):

**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                     |                          |  |              |         |          |          |  |
|---------------------|--------------------------|--|--------------|---------|----------|----------|--|
| Program-            | B. Pharm.                |  |              |         | Year     | 4        |  |
| Course-             | Pharmacovigilance* IV-yr |  | Code         | BP805ET | Semester | 8        |  |
| Course Instructors- | Dr. Vinay Kumar          |  | Course Type- |         |          | Elective |  |

| CO No.                                                      | Statement of Course Outcome                                                                                                                  | BL         | KC                     |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|
| After completion of the course, the student will be able to |                                                                                                                                              |            |                        |
| CO1                                                         | Understand the importance of safety monitoring of drugs with emphasis on causality assessment of different classes of adverse drug reactions | Understand | Factual and Conceptual |
| CO2                                                         | Understand the drug and disease classification, various drug dictionaries, and coding in pharmacovigilance with examples                     | Understand | Factual and Conceptual |
| CO3                                                         | Apply the pharmacovigilance methods with vaccine pharmacovigilance and communication in pharmacovigilance                                    | Apply      | Factual and Conceptual |
| CO4                                                         | Illustrate the generation of safety data in preclinical, clinical, and post-approval phases and also study ICH                               | Analyze    | Factual and Conceptual |
| CO5                                                         | Analyze genetics related adverse drug reactions and safety evaluation of drugs in special population                                         | Analyze    | Factual and Conceptual |
| CO6                                                         |                                                                                                                                              |            |                        |

| Mapping of COs with POs |      |      |      |      |         |      |      |      |      |       |       |
|-------------------------|------|------|------|------|---------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 1    | 1    | 2    |         |      | 1    | 2    | 2    |       | 3     |
| CO2                     | 3    |      | 1    | 2    |         |      | 1    | 2    | 2    |       | 3     |
| CO3                     | 3    | 1    | 1    | 2    |         | 1    | 1    | 2    | 2    |       | 3     |
| CO4                     | 3    |      | 1    | 2    |         | 1    | 1    | 2    | 2    | 1     | 3     |
| CO5                     | 3    |      |      | 2    |         | 1    | 1    | 2    | 2    | 1     | 3     |
| CO6                     |      |      |      |      |         |      |      |      |      |       |       |
| PO Target               | 3.00 | 1.00 | 1.00 | 2.00 | #DIV/0! | 1.00 | 1.00 | 2.00 | 2.00 | 1.00  | 3.00  |

Signature of Course Instructor (s): **Vinay Kumar**

Digitally signed by  
Vinay Kumar  
Date: 2023.01.15  
19:31:14 +0530'

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                                      |  |      |              |          |   |
|---------------------|------------------------------------------------------|--|------|--------------|----------|---|
| Program-            | B. Pharm.                                            |  |      | Year         | 4        |   |
| Course-             | Quality Control and Standardization of Herbal* IV-yr |  | Code | BP806ET      | Semester | 8 |
| Course Instructors- | Dr. Kiran Sharma                                     |  |      | Course Type- | Theory   |   |

| CO No.                                                      | Statement of Course Outcome                                                              | BL         | KC         |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------|------------|------------|
| After completion of the course, the student will be able to |                                                                                          |            |            |
| CO1                                                         | Understand the basic concepts of WHO guidelines for quality control of herbal drugs      | Understand | Facutal    |
| CO2                                                         | Describe the application and significance of Quality assurance in herbal drug industry   | Apply      | Conceptual |
| CO3                                                         | Determine the appropriate regulatory approval process and their registration in market.  | Apply      | Facutal    |
| CO4                                                         | Enhance the ability to analyze EU and ICH guidelines for quality control of herbal drugs | Create     | Conceptual |
| CO5                                                         | Understand the various types of guidelines on safety monitoring of herbal medicines      | Understand | Facutal    |
| CO6                                                         |                                                                                          |            |            |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 1    | 3    | 2    |      | 1    | 2    | 1    | 1    | 1     | 3     |
| CO2                     | 3    | 2    | 2    | 1    |      | 2    | 2    | 1    | 2    | 1     | 3     |
| CO3                     | 3    | 2    | 2    | 2    |      | 2    | 2    | 1    | 2    | 1     | 3     |
| CO4                     | 3    | 1    | 3    | 3    |      |      | 2    | 1    | 1    | 1     | 3     |
| CO5                     | 3    | 1    | 2    | 2    |      |      | 2    | 1    | 2    | 1     | 3     |
| CO6                     |      |      |      |      |      |      |      |      |      |       |       |
| PO Target               | 3.00 | 1.40 | 2.40 | 2.00 |      | 1.67 | 2.00 | 1.00 | 1.60 | 1.00  | 3.00  |

Signature of Course Instructor



**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                                   |  |      |         |              |          |  |
|---------------------|-----------------------------------|--|------|---------|--------------|----------|--|
| Program-            | B. Pharm.                         |  |      |         | Year         | 4        |  |
| Course-             | Computer Aided Drug Design* IV-yr |  | Code | BF807ET | Semester     | 8        |  |
| Course Instructors- | Surya Prakash                     |  |      |         | Course Type- | Elective |  |

| CO No. | Statement of Course Outcome                                                                               | BL      | KC         |
|--------|-----------------------------------------------------------------------------------------------------------|---------|------------|
|        | After completion of the course, the student will be able to                                               |         |            |
| CO1    | Understand the basic concepts of CADD and rational approaches to drug design.                             | Apply   | Facutal    |
| CO2    | Illustrate QSAR, descriptors and various approaches.                                                      | Apply   | Conceptual |
| CO3    | Understand and analyze virtual screening techniques and molecular docking.                                | Analyze | Conceptual |
| CO4    | Acquire knowledge about role of bioinformatics and cheminformatics in pharmaceutical drug discovery.      | Apply   | Conceptual |
| CO5    | Demonstrate the objectives and importance of molecular mechanics and quantum mechanics in drug discovery. | Apply   | Procedural |
| CO6    |                                                                                                           |         |            |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 2    | 3    | 3    | 1    | 3    | 3    | 2    | 2    | 3    | 3     | 2     |
| CO2                     | 3    | 3    | 2    | 3    | 3    | 3    | 2    | 3    | 3    | 3     | 3     |
| CO3                     | 2    | 3    | 3    | 3    | 1    | 3    | 3    | 3    | 3    | 2     | 3     |
| CO4                     | 2    | 3    | 3    | 2    | 3    | 2    | 3    | 3    | 3    | 3     | 3     |
| CO5                     | 3    | 2    | 3    | 3    | 2    | 3    | 3    | 3    | 3    | 2     | 3     |
| CO6                     |      |      |      |      |      |      |      |      |      |       |       |
| PO Target               | 2.40 | 2.80 | 2.80 | 2.40 | 2.40 | 2.80 | 2.60 | 2.80 | 3.00 | 2.60  | 2.80  |

  
**Signature of Course Instructor (s):**

|                     |                                  |              |            |          |               |
|---------------------|----------------------------------|--------------|------------|----------|---------------|
| Program-            | CO Statements and CO- PO Mapping |              |            |          |               |
| Course              | B. Pharm.                        | Year         | IV (FINAL) |          |               |
| Course Instructors- | Cosmetic Sciences (Theory)       | Code         | BP 809 ET  | Semester | Semester VIII |
|                     | Prof.(Dr.) N. G. Raghavendra Rao | Course Type- | Theory     |          |               |

| CO No. | Statement of Course Outcome                                                                                                                                                                                  | BL      | KC                                  |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------|
|        | After completion of the course, the student will be able to                                                                                                                                                  |         |                                     |
| CO1    | Illustrate the classification and applications of the cosmetic product; different excipients used to manufacture cosmetic products; basic structures of skin, hair, and problems associated with oral cavity | Apply   | Conceptual, Factual, and Procedural |
| CO2    | Explain the skin care products, antiperspirants, deodorants, and hair care products.                                                                                                                         | Analyze | Conceptual, Factual, and Procedural |
| CO3    | Demonstrate the role of herbs in cosmetics, analytical cosmetics.                                                                                                                                            | Apply   | Conceptual, Factual, and Procedural |
| CO4    | Analyze the principles of cosmetic evaluation.                                                                                                                                                               | Analyze | Conceptual, Factual, and Procedural |
| CO5    | Apply the cosmetic problems associated with Hair and scalp and skin.                                                                                                                                         | Apply   | Conceptual, Factual, and Procedural |

| Mapping of COs with POs | PO1  | PO2  | PO3  | PO4  | PO5  | PO6  | PO7  | PO8  | PO9  | PO10 | PO11 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|
| CO1                     | 3    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| CO2                     | 3    | 1    | 2    | 1    | 2    | 2    | 2    | 1    | 2    | 1    | 1    |
| CO3                     | 3    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| CO4                     | 3    | 1    | 2    | 2    | 2    | 2    | 2    | 1    | 2    | 1    | 1    |
| CO5                     | 3    | 1    | 2    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| PO Target               | 3.00 | 1.00 | 1.80 | 1.20 | 1.40 | 1.40 | 1.40 | 1.00 | 1.40 | 1.00 | 1.00 |

Signature of Course Instructor (S):

BoS Remarks:

| Session                     | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 (Decided) |
|-----------------------------|---------|---------|---------|---------|-------------------|
| % Achieved (Internal Exams) | NA      | NA      | 94.00%  | 60      | 60                |
| % Achieved (External Exams) | NA      | NA      | 77.42%  |         | 60                |

Prof.(Dr.) N. G. Raghavendra Rao

**KIET School of Pharmacy, KIET Group of Institutions**

**CO Statements and CO- PO Mapping**

|                     |                                  |  |      |         |              |          |  |
|---------------------|----------------------------------|--|------|---------|--------------|----------|--|
| Program-            | B. Pharm.                        |  |      |         | Year         | 4        |  |
| Course-             | Experimental Pharmacology* 1V-yr |  | Code | BP810ET | Semester     | 8        |  |
| Course Instructors- | Mrs. Priya Bansal                |  |      |         | Course Type- | Elective |  |

| CO No. | Statement of Course Outcome                                                                                                        | BL         | KC                                |
|--------|------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------|
|        | After completion of the course, the student will be able to                                                                        |            |                                   |
| CO1    | <b>Understand</b> various guidelines (CPCSEA, OECD), techniques (blood collection) used in various strains of animals.             | Understand | Factual & Conceptual              |
| CO2    | <b>Illustrate</b> various screening models for estimation of CNS activity (analgesic, antipyretic, antidepressant, antiepileptic). | Apply      | Factual, Conceptual<br>Procedural |
| CO3    | <b>Investigate</b> different preclinical screening models for estimation of Autonomic Nervous System activity.                     | Analyze    | Factual, Conceptual<br>Procedural |
| CO4    | <b>Examine</b> antihypertensive, diuretics, anticoagulants, antidyslipidemic activity in experimental models.                      | Analyze    | Factual, Conceptual<br>Procedural |
| CO5    | <b>Outline</b> various research methodology and biostatistics for designing and interpretation of a research study.                | Analyze    | Factual & Conceptual              |
| CO6    |                                                                                                                                    |            |                                   |

| Mapping of COs with POs |      |      |      |      |         |      |      |      |      |       |       |
|-------------------------|------|------|------|------|---------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 2    | 1    |      |         | 1    | 3    | 1    | 2    | 1     | 2     |
| CO2                     | 3    | 2    | 2    | 2    |         | 1    | 1    | 1    | 2    | 1     | 2     |
| CO3                     | 3    | 2    | 2    | 2    |         | 1    | 1    | 1    | 2    | 1     | 2     |
| CO4                     | 3    | 2    | 2    | 2    |         | 1    | 1    | 1    | 2    | 1     | 2     |
| CO5                     | 3    | 2    | 2    | 2    |         | 1    | 1    | 1    | 2    | 1     | 2     |
| CO6                     |      |      |      |      |         |      |      |      |      |       |       |
| PO Target               | 3.00 | 2.00 | 1.80 | 2.00 | #DIV/0! | 1.00 | 1.40 | 1.00 | 2.00 | 1.00  | 2.00  |

Signature of Course Instructor (s):

*Priya Bansal*

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                      |  |      |              |          |     |  |
|---------------------|----------------------|--|------|--------------|----------|-----|--|
| Program-            | B. Pharm.            |  |      |              | Year     | 4   |  |
| Course-             | Elective Project (s) |  | Code | BP814PW      | Semester | 8   |  |
| Course Instructors- | Mr. Debaprasad Ghosh |  |      | Course Type- |          | Lab |  |

| CO No. | Statement of Course Outcome                                                                                                         | BL         | KC                      |
|--------|-------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|
|        | After completion of the course, the student will be able to                                                                         |            |                         |
| CO1    | Understand the rationale behind performing project work in a specific elected area of pharmacy.                                     | Understand | Factual, Conceptual     |
| CO2    | Acquire expertise in data mining, literature reviewing, and processing for a particular research area of pharmacy.                  | Apply      | Conceptual, Procedural. |
| CO3    | Analyze the implementation of available knowledge and technology to cater the needs under consideration.                            | Analyze    | Conceptual, Procedural. |
| CO4    | Evaluate the potential role of new findings and their conversion into suitable solutions for the current pharmaceutical challenges. | Evaluate   | Conceptual, Procedural. |
| CO5    | Develop novel theories, ideas, products, analytical methods, procedures, and techniques in a specific elected area in pharmacy.     | Create     | Conceptual, Procedural. |

| Mapping of COs with POs |      |      |      |      |         |      |      |         |      |         |       |
|-------------------------|------|------|------|------|---------|------|------|---------|------|---------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5    | PO 6 | PO 7 | PO 8    | PO 9 | PO 10   | PO 11 |
| CO1                     | 3    | 1    | 2    | -    | -       | 1    | 1    | -       | 1    | -       | 2     |
| CO2                     | 3    | 1    | 2    | -    | -       | 1    | 1    | -       | 1    | -       | 2     |
| CO3                     | 3    | 2    | 2    | 3    | -       | 1    | 1    | -       | 1    | -       | 2     |
| CO4                     | 3    | 2    | 2    | 1    | -       | 1    | 1    | -       | 2    | -       | 2     |
| CO5                     | 3    | 1    | 2    | 2    | -       | 1    | 1    | -       | 2    | -       | 2     |
| PO Target               | 3.00 | 1.40 | 2.00 | 2.00 | #DIV/0! | 1.00 | 1.00 | #DIV/0! | 1.40 | #DIV/0! | 2.00  |

*Debaprasad Ghosh*

**Signature of Course Instructor (s):**

**KIET School of Pharmacy, KIET Group of Institutions**  
**CO Statements and CO- PO Mapping**

|                     |                           |  |      |              |          |   |
|---------------------|---------------------------|--|------|--------------|----------|---|
| Program-            | B. Pharm.                 |  |      | Year         | 4        |   |
| Course-             | Report on Industrial Tour |  | Code | BP815P       | Semester | 8 |
| Course Instructors- | Mr. Debaprasad Ghosh      |  |      | Course Type- | Lab      |   |

| CO No.                                                      | Statement of Course Outcome                                                                                                                                     | BL         | KC                                  |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------|
| After completion of the course, the student will be able to |                                                                                                                                                                 |            |                                     |
| CO1                                                         | Identify the layout of a pharmaceutical industry and the various sections and departments.                                                                      | Remember   | Factual, Conceptual.                |
| CO2                                                         | Understand how a pharmaceutical industry operates and the different roles and responsibilities of various personal involved.                                    | Understand | Factual, Conceptual.                |
| CO3                                                         | Acquire the knowhow about the different equipments that are being used inside an industry for the manufacturing and testing of pharmaceuticals.                 | Apply      | Conceptual, Procedural.             |
| CO4                                                         | Analyze various approval procedures, rules and regulations required to be followed inside a pharmaceutical industry.                                            | Analyze    | Factual, Conceptual and Procedural. |
| CO5                                                         | Compare the differences and similarities between the institutional theoretical and practical based learnings with that of the industrial day to day activities. | Evaluate   | Factual, Conceptual and Procedural. |

| Mapping of COs with POs |      |      |      |      |      |      |      |      |      |       |       |
|-------------------------|------|------|------|------|------|------|------|------|------|-------|-------|
|                         | PO1  | PO2  | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 |
| CO1                     | 3    | 2    | 1    | -    | -    | -    | 1    | -    | -    | -     | 2     |
| CO2                     | 3    | 2    | 2    | 2    | 1    | 1    | 2    | 1    | -    | -     | 2     |
| CO3                     | 3    | 2    | 2    | 3    | -    | 1    | -    | -    | -    | -     | 2     |
| CO4                     | 3    | 2    | 2    | -    | 1    | 1    | 2    | 1    | 1    | 2     | 2     |
| CO5                     | 3    | 2    | 1    | 2    | -    | 1    | 1    | -    | -    | -     | 2     |
| PO Target               | 3.00 | 2.00 | 1.60 | 2.33 | 1.00 | 1.00 | 1.50 | 1.00 | 1.00 | 2.00  | 2.00  |

*Debaprasad Ghosh*

Signature of Course Instructor (s):

# Outcome Based Education (OBE)

## Activity Calendar 2022-23 (Even Semester)

| S. No.                                                                | Activity                                                                                                                                                                                                   | Target Completion for 8 <sup>th</sup> & 6 <sup>th</sup> Sem | *Target Completion for 4 <sup>th</sup> & 2 <sup>nd</sup> Sem | Responsibility             |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|----------------------------|
| <b>A. In-house Awareness Workshop</b>                                 |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 1                                                                     | In-house 5 days' workshop on awareness of OBE practices                                                                                                                                                    | 12 – 16 Jun 2023                                            | 7 – 11 Aug 2023                                              | Office of Dean-A           |
| <b>B. Expert Lectures</b>                                             |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 1                                                                     | Expert lecture on OBE by invited resource person                                                                                                                                                           | 24 Jun 2023                                                 | 26 Aug 2023                                                  | Office of Dean A           |
| <b>C. Preparedness for NBA compliance visit</b>                       |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 1                                                                     | Filling the NBA compliance by Civil Engineering Dept.                                                                                                                                                      | 06 Feb 2023                                                 |                                                              | CE Dept.                   |
| Preparedness of Civil Engineering Department for NBA compliance visit |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 2                                                                     | 1 <sup>st</sup> Round – Visit by OBE Team for verification of files as per NBA compliance and files as per list given by NBA                                                                               | 08 April 2023                                               |                                                              | CE Dept.                   |
|                                                                       | 2 <sup>nd</sup> Round – Visit by Joint Director & Dean - A for Presentation and Supporting Documents                                                                                                       | 1 week before the visit                                     |                                                              |                            |
|                                                                       | 3 <sup>rd</sup> Round – Mock Drill by Director - General Ambience of the Department, Presentation and all files verification                                                                               |                                                             |                                                              |                            |
| <b>D. Review and Modification of Dept. Vision, Mission and PEOs</b>   |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 1                                                                     | Review and modification of Vision, Mission and PEOs in alignment with Institute's revised statements by all the departments                                                                                | 31 Mar 2023                                                 |                                                              | All Depts.                 |
| <b>E. Regular OBE Practices</b>                                       |                                                                                                                                                                                                            |                                                             |                                                              |                            |
| 1                                                                     | Uploading of Departmental Vision, Mission and PEOs (Revised) on NBA module of KIET ERP                                                                                                                     | 07 Apr 2023                                                 |                                                              | Dept. NBA Coordinator      |
| 2                                                                     | Uploading of POs & PSOs/ APOs on NBA module of KIET ERP                                                                                                                                                    |                                                             |                                                              |                            |
| 3                                                                     | Uploading of Prepared Lesson plan as per OBE guidelines                                                                                                                                                    | 13 Feb 2023                                                 | 10 Apr 2023                                                  | Course – Faculty Member    |
| 4                                                                     | Conducting OBE awareness classes in the beginning of Semester. 1-2 lectures need to be scheduled in Lesson plan (1 lectures may also be conducted after completion of each unit/CO for students' response) | 13 – 15 Feb 2023                                            | 10 – 12 Apr 2023                                             | Course – Faculty Member    |
| 5                                                                     | Course Outcome (CO) Formation & CO-PO mapping and approval from BOS of the Department and uploading on KIET ERP                                                                                            | 22 Feb 2023                                                 | 21 Apr 2023                                                  | Course In charge/Dept. BOS |
| 6                                                                     | Study of PO gaps & corrective actions suggested during previous even semester and planning of implementation during the semester                                                                           |                                                             |                                                              | Dept. NBA Coordinator      |
| 7                                                                     | Study of action suggested during previous even semester to minimize CO gaps and planning of implementation during the semester                                                                             |                                                             |                                                              | Course – Faculty Member    |
| 8                                                                     | Uploading the COs and CO-PO mapping on NBA module of KIET ERP                                                                                                                                              |                                                             |                                                              | CO Coordinator             |
| 9                                                                     | Percent marks target finalization and approval from                                                                                                                                                        | 28 Feb 2023                                                 | 29 Apr 2023                                                  | All Heads of               |

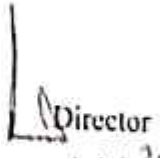
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|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------|
|     | Director through Dept. BOS, if any deviation from guidelines                                                                                                                                                           |                                                        |                                                        | Dept / Dept BOS                           |
| 10  | Uploading the percent target marks on NBA module of KIET ERP                                                                                                                                                           |                                                        |                                                        | CO Coordinator                            |
| 11  | Observation of CO gaps after CT1 & CT2 and planning of implementation of actions during the semester                                                                                                                   | 31 Mar 2023                                            | 27 May/ 24 Jun 2023 (CT1/CT2)                          | Course - Faculty Member                   |
| 12  | Observation of overall CO (internal) gaps after PUE and suggesting actions for next even semester                                                                                                                      | 19 May 2023                                            | 22 Jul 2023                                            | Course - Faculty Member                   |
| 13  | Creating surveys and filling the survey Questions and POs (SQ-PO) mapping on ERP for indirect attainment                                                                                                               | Before the survey                                      | As applicable                                          | Dept. NBA Coordinator                     |
| 13a | Semester wise Curriculum Feedback Survey (Students/ Faculty). ATR in the current semester based on corresponding previous semester, Analysis from all the Dept. and proposed Actions for next semester to be prepared. | 1 week before PUE                                      | During PUE                                             | Dept. NBA / Class Coordinator             |
| 13b | Graduate Exit Survey (Final Year Students)                                                                                                                                                                             | 1 week before PUE                                      |                                                        | Dept. OBE Coordinator / Class Coordinator |
| 13c | Alumni Survey                                                                                                                                                                                                          | Continuous/ during Alumni meet                         | Before ESE                                             | Dept. NBA / Alumni Coordinator            |
| 13d | Employer/ Industry Feedback Survey                                                                                                                                                                                     | Continuous/ during campus drive                        |                                                        | Dept. NBA/ Placement Coordinator          |
| 13e | Any Other Survey                                                                                                                                                                                                       | As per requirement                                     |                                                        | Dept. NBA Coordinator                     |
| 14  | Observation of overall PO (direct & indirect) gaps (Semester wise) after ESE and action suggested for next corresponding Semester                                                                                      | In 1 <sup>st</sup> week of next corresponding semester | In 2 <sup>nd</sup> week of next corresponding semester | Dept. NBA Coordinator                     |

\*Tentative dates should be interpreted as per commencement of even semester for 4<sup>th</sup> and 2<sup>nd</sup> semester

  
Associate Dean - OBE

  
6/2/2023  
Dean - Academics

Approved

  
Director  
06 Feb 23