

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY,  
UTTAR PRADESH, LUCKNOW**

**REGULATIONS AND ORDINANCE**



**BACHELOR OF PHARMACY**

**I, II, III & IV Year**

**On PCI Guidelines**

**(Effective from the Session: 2026-27)**

**REGULATIONS & ORDINANCE**  
**GOVERNING THE DEGREE OF BACHELOR OF PHARMACY (B. PHARM.) PROGRAMME**  
**(As per Pharmacy Council of India)**

**1. Short title and commencement**

This regulation shall be called as “The Regulation for the B. Pharm. Degree Programme Choice Based Credit System (CBCS) as per National Education Policy 2020 of the Pharmacy Council of India, New Delhi”. It shall come into effect immediately upon notification by the Pharmacy Council of India. The regulations framed are subject to modification from time to time by Pharmacy Council of India.

**2. Minimum qualification for admission**

**2.1 First year B. Pharm:**

- i. A candidate shall have passed the 10+2 examination conducted by the respective State or Central Government authorities, or any equivalent examination recognized by bodies such as the Association of Indian Universities (AIU) or the Council of Boards of School Education in India (COBSE), including wings such as IGNOU and NIOS, with English as one of the subjects and with Physics and Chemistry as compulsory subjects, along with either Mathematics or Biology.
- ii. Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

**2.2. B. Pharm lateral entry (to third semester):**

Candidate shall have passed in D. Pharm. course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

**3. Duration of the Programme**

The course of study for B. Pharm shall extend over a period of eight semesters (four academic years) and six semesters (three academic years) for lateral entry students. The curricula and syllabi for the Programme shall be prescribed from time to time by Pharmacy Council of India.

**4. Medium of instruction and examinations**

Medium of instruction and examination shall be in English.

**5. Working days in each semester**

Each semester shall consist of not less than 90 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year. A break of not less than 7 days shall be provided between the semesters.

**6. Attendance and progress**

A candidate must maintain a minimum of 75% attendance in each individual course. Attendance for theory and practical components shall be considered separately. Only candidates who satisfactorily complete the prescribed course requirements shall be eligible to appear for the respective examinations.

## **7. Programme/Course credit structure**

As per the Choice Based Credit System (CBCS), certain quantum of academic work viz. theory classes, practical classes etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of the other academic, co/extra- curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

### **7.1. Credit assignment**

#### **7.1.1. Theory and Practical courses**

Courses are broadly classified as Theory, Practical, Project and Internship. Theory (T) courses consist of lecture (L) hours, while Practical (P) courses consist of hours spent in the laboratory. The Credits (C) assigned to a course dependent on the number of instructional hours per week and are calculated using a multiplier of one (1) for lecture hours, and a multiplier of one-half (1/2) for practical (laboratory) hours. For example, a theory course having three lectures per week throughout the semester carries 3 credits. Similarly, a practical course with four laboratory hours per week throughout semester carries 2 credits. If the calculated credit value results in a fraction of 0.5 or below, the lower integer value will be assigned as the credit. Every 30 hours spent on internship (I) and projects shall be considered equivalent to 1 credit.

#### **7.1.2 Minimum credit requirements**

The minimum credit points required for award of a B. Pharm. degree is 193. These credits are distributed across Theory courses, Practical courses, Internship and Project over the duration of eight semesters. The semester-wise distribution of credits is presented in Table IX. Courses generally progress in sequences, building competencies and their positioning indicate certain levels of academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

The lateral entry students shall take additional courses, namely Healthcare Psychology and Communication Skills (Theory and Practical) and Basics of Python Programming for Pharmaceutical Sciences (Theory) during Semester III, and Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory) during Semester IV of the programme. The lateral entry student shall be awarded 47 credit points, equivalent to the cumulative credits earned as per the scheme of their Diploma in Pharmacy (D. Pharm.) programme, upon successful completion of the above-mentioned courses. Out of the total 47 credits, 41 credits shall be accounted for the Diploma programme, and the remaining 6 credits shall be awarded for the above-mentioned additional courses. The 41 credits accounted for the lateral entry students shall be recorded in the Semester III marks sheet.

## **8. Academic work**

A regular record of attendance in Theory, Practical, Internship and Research Projects shall be maintained by the teaching staff of respective courses.

## **9. Course of study**

The course of study for B. Pharm shall include Semester wise Theory & Practical as given in Tables – I to VIII. The number of hours allotted to each theory and practical course in any semester shall not be less than that shown in Tables – I to VIII.

**Table-I: Course of study for semester I**

| <b>Course Code</b> | <b>Name of the course</b>                                         | <b>No. of hours<br/>per week (L/P)</b> | <b>Credit<br/>points</b> |
|--------------------|-------------------------------------------------------------------|----------------------------------------|--------------------------|
| <b>BP101T</b>      | Basics of Python Programming for Pharmaceutical Sciences (Theory) | 2                                      | 2                        |
| <b>BP102T</b>      | General Pharmacy (Theory)                                         | 3                                      | 3                        |
| <b>BP103T</b>      | Healthcare Psychology and Communication Skills (Theory)           | 1                                      | 1                        |
| <b>BP104T</b>      | Human Anatomy, Physiology and Pathophysiology I (Theory)          | 4                                      | 4                        |
| <b>BP105T</b>      | Introduction to Pharmacognosy (Theory)                            | 3                                      | 3                        |
| <b>BP106T</b>      | Pharmaceutical Inorganic and Analytical Chemistry (Theory)        | 3                                      | 3                        |
| <b>BP107P</b>      | General Pharmacy (Practical)                                      | 3                                      | 1                        |
| <b>BP108P</b>      | Healthcare Psychology and Communication Skills (Practical)        | 2                                      | 1                        |
| <b>BP109P</b>      | Human Anatomy, Physiology and Pathophysiology I (Practical)       | 3                                      | 1                        |
| <b>BP110P</b>      | Introduction to Pharmacognosy (Practical)                         | 3                                      | 1                        |
| <b>BP111P</b>      | Pharmaceutical Inorganic and Analytical Chemistry (Practical)     | 3                                      | 1                        |
| <b>Total</b>       |                                                                   | <b>30</b>                              | <b>21</b>                |

**Table-II: Course of study for semester II**

| <b>Course Code</b> | <b>Name of the course</b>                                                     |                                                 | <b>No. of hours per week (L/P)</b> | <b>Credit points</b> |
|--------------------|-------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------|----------------------|
| <b>BP201T</b>      | Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory) |                                                 | 2                                  | 2                    |
| <b>BP202T</b>      | Biochemistry (Theory)                                                         |                                                 | 3                                  | 3                    |
| <b>BP203T</b>      | Human Anatomy, Physiology and Pathophysiology II (Theory)                     |                                                 | 4                                  | 4                    |
| <b>BP204T</b>      | Pharmaceutical Organic Chemistry (Theory)                                     |                                                 | 4                                  | 4                    |
| <b>BP205T</b>      | Pharmacognosy and Phytochemistry (Theory)                                     |                                                 | 4                                  | 4                    |
| <b>BP206T</b>      | Physical Pharmaceutics (Theory)                                               |                                                 | 3                                  | 3                    |
| <b>BP207P</b>      | Biochemistry (Practical)                                                      |                                                 | 3                                  | 1                    |
| <b>BP208P</b>      | Human Anatomy, Physiology and Pathophysiology II (Practical)                  |                                                 | 3                                  | 1                    |
| <b>BP209P</b>      | Pharmaceutical Organic Chemistry (Practical)                                  |                                                 | 3                                  | 1                    |
| <b>BP210P</b>      | Pharmacognosy and Phytochemistry (Practical)                                  |                                                 | 3                                  | 1                    |
| <b>BP211P</b>      | Physical Pharmaceutics (Practical)                                            |                                                 | 3                                  | 1                    |
| <b>BP212P SEC*</b> | BP212P SEC1                                                                   | Communication Skills                            | 2                                  | 1                    |
|                    | BP212P SEC2                                                                   | Mental Well-Being, Stress & Conflict Management |                                    |                      |
|                    | BP212P SEC3                                                                   | Fundamentals of Computer Operations             |                                    |                      |
| <b>Total</b>       |                                                                               |                                                 | <b>37</b>                          | <b>26</b>            |

**Table-III: Course of study for semester III**

| <b>Course Code</b>     | <b>Name of the course</b>                                            |                                     | <b>No. of hours per week (L/P)</b> | <b>Credit points</b> |
|------------------------|----------------------------------------------------------------------|-------------------------------------|------------------------------------|----------------------|
| <b>BP301T</b>          | Introduction to Machine Learning in Pharmaceutical Sciences (Theory) |                                     | 2                                  | 2                    |
| <b>BP302T</b>          | Environmental Sciences (Theory)                                      |                                     | 1                                  | 1                    |
| <b>BP303T</b>          | Ethics and Universal Human Values (Theory)                           |                                     | 1                                  | 1                    |
| <b>BP304T</b>          | General Pharmacology (Theory)                                        |                                     | 3                                  | 3                    |
| <b>BP305T</b>          | Heterocyclic Compounds and Stereochemistry (Theory)                  |                                     | 3                                  | 3                    |
| <b>BP306T</b>          | Pharmaceutical Dosage Forms I (Theory)                               |                                     | 3                                  | 3                    |
| <b>BP307T</b>          | Pharmaceutical Engineering (Theory)                                  |                                     | 3                                  | 3                    |
| <b>BP308T</b>          | Pharmaceutical Microbiology (Theory)                                 |                                     | 3                                  | 3                    |
| <b>BP309P</b>          | General Pharmacology (Practical)                                     |                                     | 4                                  | 2                    |
| <b>BP310P</b>          | Heterocyclic Compounds and Stereochemistry (Practical)               |                                     | 4                                  | 2                    |
| <b>BP311P</b>          | Pharmaceutical Dosage Forms I (Practical)                            |                                     | 3                                  | 1                    |
| <b>BP312P<br/>AEC*</b> | BP312P<br>AEC1                                                       | Nutraceuticals and Functional Foods | 2                                  | 1                    |
|                        | BP312P<br>AEC2                                                       | Food Analysis                       |                                    |                      |
|                        | BP312P<br>AEC3                                                       | Yoga and Life Sciences              |                                    |                      |
| <b>Total</b>           |                                                                      |                                     | <b>32</b>                          | <b>25</b>            |

**Table-IV: Course of study for semester IV**

| <b>Course Code</b> | <b>Name of the course</b>                     | <b>No. of hours<br/>per week<br/>(L/P)</b> | <b>Credit<br/>points</b> |
|--------------------|-----------------------------------------------|--------------------------------------------|--------------------------|
| <b>BP401T</b>      | Herbal Drug Technology (Theory)               | 3                                          | 3                        |
| <b>BP402T</b>      | Medicinal Chemistry (Theory)                  | 3                                          | 3                        |
| <b>BP403T</b>      | Pharmaceutical Biotechnology (Theory)         | 3                                          | 3                        |
| <b>BP404T</b>      | Social Pharmacy and Public Health (Theory)    | 2                                          | 2                        |
| <b>BP405T</b>      | Systemic Pharmacology I (Theory)              | 3                                          | 3                        |
| <b>BP406P</b>      | Herbal Drug Technology (Practical)            | 3                                          | 1                        |
| <b>BP407P</b>      | Medicinal Chemistry (Practical)               | 3                                          | 1                        |
| <b>BP408P</b>      | Pharmaceutical Biotechnology (Practical)      | 3                                          | 1                        |
| <b>BP409P</b>      | Social Pharmacy and Public Health (Practical) | 2                                          | 1                        |
| <b>BP410P</b>      | Systemic Pharmacology I (Practical)           | 3                                          | 1                        |
| <b>BP411I</b>      | Internship (Mandatory)                        | 8                                          | 4                        |
| <b>Total</b>       |                                               | <b>28</b>                                  | <b>23</b>                |

**Table-V: Course of study for semester V**

| <b>Course Code</b> | <b>Name of the course</b>                 | <b>No. of hours<br/>per week (L/P)</b> | <b>Credit<br/>points</b> |
|--------------------|-------------------------------------------|----------------------------------------|--------------------------|
| <b>BP501T</b>      | Biomedical Chemistry (Theory)             | 3                                      | 3                        |
| <b>BP502T</b>      | Industrial Pharmacognosy (Theory)         | 3                                      | 3                        |
| <b>BP503T</b>      | Innovation and Startup Ecosystem (Theory) | 2                                      | 2                        |
| <b>BP504T</b>      | Pharmaceutical Dosage Form II (Theory)    | 2                                      | 2                        |
| <b>BP505T</b>      | Pharmaceutical Quality Assurance (Theory) | 3                                      | 3                        |
| <b>BP506T</b>      | Systemic Pharmacology II (Theory)         | 3                                      | 3                        |
| <b>BP507P</b>      | Biomedical Chemistry (Practical)          | 4                                      | 2                        |
| <b>BP508P</b>      | Industrial Pharmacognosy (Practical)      | 3                                      | 1                        |
| <b>BP509P</b>      | Pharmaceutical Dosage Form II (Practical) | 3                                      | 1                        |
| <b>BP510P</b>      | Systemic Pharmacology II(Practical)       | 4                                      | 2                        |
| <b>Total</b>       |                                           | <b>30</b>                              | <b>22</b>                |



**Table-VI: Course of study for semester VI**

| <b>Course Code</b>     | <b>Name of the course</b>                           |                                                          | <b>No. of hours per week (L/P)</b> | <b>Credit points</b> |
|------------------------|-----------------------------------------------------|----------------------------------------------------------|------------------------------------|----------------------|
| <b>BP601T</b>          | Advanced Pharmacognosy (Theory)                     |                                                          | 3                                  | 3                    |
| <b>BP602T</b>          | Biopharmaceutics and Pharmacokinetics (Theory)      |                                                          | 3                                  | 3                    |
| <b>BP603T</b>          | Intellectual Property Rights (Theory)               |                                                          | 2                                  | 2                    |
| <b>BP604T</b>          | AI applications in Pharmaceutical Sciences (Theory) |                                                          | 2                                  | 2                    |
| <b>BP605T</b>          | Pharmaceutical Analysis (Theory)                    |                                                          | 3                                  | 3                    |
| <b>BP606T</b>          | Pharmaceutical Jurisprudence (Theory)               |                                                          | 3                                  | 3                    |
| <b>BP607T<br/>AEC*</b> | BP607T<br>AEC1                                      | Green Chemistry                                          | 1                                  | 1                    |
|                        | BP607T<br>AEC2                                      | Materiovigilance and Hemovigilance                       |                                    |                      |
|                        | BP607T<br>AEC3                                      | Scientific Writing                                       |                                    |                      |
|                        | BP607T<br>AEC4                                      | Drug Store and Business Management                       |                                    |                      |
|                        | BP607T<br>AEC5                                      | Career Building in Cultivation of Medicinal Plants       |                                    |                      |
|                        | BP607T<br>AEC6                                      | Active Pharmaceutical Ingredients and Excipient Sciences |                                    |                      |
| <b>BP608P</b>          | Biopharmaceutics and Pharmacokinetics (Practical)   |                                                          | 3                                  | 1                    |
| <b>BP609P</b>          | Pharmaceutical Analysis (Practical)                 |                                                          | 4                                  | 2                    |
| <b>BP610P<br/>SEC*</b> | BP610P<br>SEC1                                      | Computer-Aided Drug Design                               | 2                                  | 1                    |
|                        | BP610P<br>SEC2                                      | Analytical Method Development and Validation             |                                    |                      |
|                        | BP610P<br>SEC3                                      | Principles of Preclinical Studies                        |                                    |                      |

|                        |                        |                                                                       |           |           |
|------------------------|------------------------|-----------------------------------------------------------------------|-----------|-----------|
| <b>BP611P<br/>VAC*</b> | BP611P<br>VAC1         | Professional Skills                                                   | 2         | 1         |
|                        | BP611P<br>VAC2         | Process Analytical Technology (PAT)<br>and QbD in Formulation Science |           |           |
| <b>BP612I</b>          | Internship (Mandatory) |                                                                       | 8         | 4         |
| <b>Total</b>           |                        |                                                                       | <b>28</b> | <b>26</b> |

**Table-VII: Course of study for semester VII**

| <b>Course Code</b>    | <b>Name of the course</b>                   |                                                      | <b>No. of hours per week (L/P)</b> | <b>Credit points</b> |
|-----------------------|---------------------------------------------|------------------------------------------------------|------------------------------------|----------------------|
| <b>BP701T</b>         | Biostatistics Research methodology (Theory) |                                                      | 3                                  | 3                    |
| <b>BP702T</b>         | Cosmetics and Cosmeceuticals (Theory)       |                                                      | 2                                  | 2                    |
| <b>BP703T</b>         | AI in Clinical applications (Theory)        |                                                      | 2                                  | 2                    |
| <b>BP704T</b>         | Modern Analytical Techniques (Theory)       |                                                      | 3                                  | 3                    |
| <b>BP705T</b>         | Pharmacovigilance (Theory)                  |                                                      | 3                                  | 3                    |
| <b>BP706T</b>         | Pharmacy Practice (Theory)                  |                                                      | 3                                  | 3                    |
| <b>BP707T</b>         | Regulatory Affairs (Theory)                 |                                                      | 2                                  | 2                    |
| <b>BP708T<br/>AEC</b> | BP708T<br>AEC1                              | Current Good Manufacturing Practices (cGMP)          | 1                                  | 1                    |
|                       | BP708T<br>AEC2                              | Pharmaceutical Automation                            |                                    |                      |
|                       | BP708T<br>AEC3                              | Modern Techniques in Cellular Biology                |                                    |                      |
|                       | BP708T<br>AEC4                              | Medical Devices                                      |                                    |                      |
|                       | BP708T<br>AEC5                              | Transformation of Food Waste into Medicinal Products |                                    |                      |
|                       | BP708T<br>AEC6                              | Biosimilars, Vaccines & Macromolecules               |                                    |                      |
| <b>BP709P</b>         | Modern Analytical Techniques (Practical)    |                                                      | 3                                  | 1                    |
| <b>BP710RP</b>        | Research Project                            |                                                      | -                                  | 6                    |
| <b>Total</b>          |                                             |                                                      | <b>22</b>                          | <b>26</b>            |

**Table-VIII: Course of study for semester VIII**

| <b>Course Code</b>     | <b>Name of the course</b>                                                        |                                               | <b>No. of hours<br/>per week (L/P)</b> | <b>Credit<br/>points</b> |
|------------------------|----------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------|--------------------------|
| <b>BP801T</b>          | Ethical Considerations and Translational Applications of AI in Pharmacy (Theory) |                                               | 2                                      | 2                        |
| <b>BP802T</b>          | Clinical Pharmacotherapeutics (Theory)                                           |                                               | 2                                      | 2                        |
| <b>BP803T</b>          | Industrial Pharmacy and Facility Design (Theory)                                 |                                               | 3                                      | 3                        |
| <b>BP804T</b>          | Pharmaceutical Management (Theory)                                               |                                               | 2                                      | 2                        |
| <b>BP805T</b>          | Sterile Dosage Forms and Novel Drug Delivery System (Theory)                     |                                               | 3                                      | 3                        |
| <b>BP806T<br/>AEC*</b> | BP806T AEC1                                                                      | Pharmaceutical Packaging                      | 2                                      | 2                        |
|                        | BP806T AEC2                                                                      | Supply Chain Management                       |                                        |                          |
|                        | BP806T AEC3                                                                      | Industrial Safety and Waste Management        |                                        |                          |
|                        | BP806T AEC4                                                                      | Traditional Healing Practices of India        |                                        |                          |
|                        | BP806T AEC5                                                                      | Futuristic Pharma through AR/VR: Pharma 4.0   |                                        |                          |
|                        | BP806T AEC6                                                                      | Herbal Cosmetics for Industry Perspective     |                                        |                          |
| <b>BP807P</b>          | Pharmaceutical Marketing Skills (Practical)                                      |                                               | 2                                      | 1                        |
| <b>BP808P</b>          | Sterile Dosage Forms and Novel Drug Delivery System (Practical)                  |                                               | 4                                      | 2                        |
| <b>BP809P<br/>VAC*</b> | BP809P VAC1                                                                      | Cleaning Validation                           | 2                                      | 1                        |
|                        | BP809P VAC2                                                                      | Basic Training in Aseptic Handling Techniques |                                        |                          |
|                        | BP809P VAC3                                                                      | Impurity Profiling                            |                                        |                          |
| <b>BP810RP</b>         | Research Project                                                                 |                                               | -                                      | 6                        |
| <b>Total</b>           |                                                                                  |                                               | 22                                     | 24                       |

**Table-IX: Total Credits per Semester**

| Semester           | Total Credits |
|--------------------|---------------|
| I                  | 21            |
| II                 | 26            |
| III                | 25            |
| IV                 | 23            |
| V                  | 22            |
| VI                 | 26            |
| VII                | 26            |
| VIII               | 24            |
| <b>Grand Total</b> | <b>193</b>    |

**Note:** Earning total credits [193] as mentioned above are mandatory for award of the degree. However, the University has the liberty to offer additional courses as per its mandate or may also offer additional credits through various MOOCs upon approval of the academic council.

## **10. Programme Committee and Internal Examination Committee**

### **10.1 Programme Committee**

1. The B. Pharm. Programme shall have a Programme Committee constituted by the Head of the Institution/Principal in consultation with all the Heads of the Departments and reconstituted annually.
2. The composition of the Programme Committee shall be as follows:
  - The Principal/HOI shall serve as the Chairperson
  - One senior teacher from any department shall act as the B. Pharm. Coordinator
  - One teacher from each department offering B. Pharm. courses and
  - Four student representatives of the programme (one from each academic year), nominated by the Head of the Institution.
3. The Programme Committee shall meet at least twice in every semester to perform the following duties.
4. Duties of the Programme Committee (not limited to):
  - i. Periodically reviewing the progress of classes and attendance.
  - ii. Discussing problems concerning the curriculum, syllabus, and conduct of classes.
  - iii. Communicating its recommendations on academic matters to the Head of the Institution, with such communications being duly recorded.
  - iv. Periodically reviewing and monitoring the attainment of Programme Outcomes and Course Outcomes along with Bloom's Taxonomy Levels and/or Miller's Pyramid.
  - v. Encouraging the use of ICT tools and providing e-learning resources for higher- order learning.
  - vi. Ensuring effective implementation of participative, problem-based, experiential learning, and innovative pedagogical approaches for effective outcomes.

## 10.2 Internal Examination Committee

1. The B. Pharm. Programme shall have an Internal Examination Committee constituted by the Principal / HOI in consultation with all the Heads of the Departments and may be reconstituted as and when necessary.
2. The composition of the Internal Examination Committee shall be as follows:
  - Principal / HOI – Chairperson
  - B. Pharm Programme Coordinator – Member Secretary
  - One senior faculty member from each department involved in B. Pharm. teaching Members
  - Examination Cell In-charge – Member
3. The Committee shall meet periodically, before each Sessional Examination (Internal Assessment) and before the end-semester examination.
4. Duties of the Internal Examination Committee (not limited to):
  - i. Plan and approve the internal assessment calendar for all semesters.
  - ii. Ensure uniformity, transparency, and fairness in continuous assessment, sessional, and practical examinations.
  - iii. Moderation of sessional question papers and assessment tools in alignment with programme and course outcomes, incorporating Bloom's Taxonomy Levels and/or Miller's Pyramid.
  - iv. Monitor the conduct and evaluation of theory, practical, internship, and project assessments.
  - v. Ensure compliance with PCI regulations, university ordinances, and NEP-2020 assessment reforms.
  - vi. Promote outcome-based, skill-oriented, and innovative assessment methods.
  - vii. Review, moderate, and finalize internal assessment marks prior to submission to the university.
  - viii. Address student grievances related to internal assessments in a timely and structured manner.
  - ix. Maintain proper records, reports, and minutes related to internal examinations and assessments.
  - x. Recommend remedial measures and academic support as and when required.
  - xi.

## 10.3 Scheme for credit-based marks distribution for assessment

The general scheme for credit wise marks distribution is as given below. The detailed scheme for internal assessment and end semester examinations is given in Table – X (a-h).

| Credits | Maximum Marks | Internal Assessment | External Assessment |
|---------|---------------|---------------------|---------------------|
| 4       | 100           | 40                  | 60                  |
| 3       | 75            | 30                  | 45                  |
| 2 or 1  | 50            | 20                  | 30                  |

## 11. End semester examinations

The End Semester Examinations for each theory and practical course through semesters I to VIII shall be conducted by the university (Table-X).

**Table-Xa: Semester I**

| <b>Course Code</b> | <b>Name of the Course</b>                                         | <b>No. of hours/week (L/P)</b> | <b>Continuous Mode (Marks)</b> | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>End Sem Exam Duration</b> | <b>Total Marks</b> | <b>Credit points</b> |
|--------------------|-------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|------------------------------|--------------------|----------------------|
| BP101T             | Basics of Python Programming for Pharmaceutical Sciences (Theory) | 2                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr                       | 50                 | 2                    |
| BP102T             | General Pharmacy (Theory)                                         | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                         | 75                 | 3                    |
| BP103T             | Healthcare Psychology and Communication Skills (Theory)           | 1                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr                       | 50                 | 1                    |
| BP104T             | Human Anatomy, Physiology and Pathophysiology I (Theory)          | 4                              | 20                             | 20                            | 1 Hr                      | 40                    | 60                        | 3 Hr                         | 100                | 4                    |
| BP105T             | Introduction to Pharmacognosy (Theory)                            | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                         | 75                 | 3                    |
| BP106T             | Pharmaceutical Inorganic and Analytical Chemistry (Theory)        | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                         | 75                 | 3                    |
| BP107P             | General Pharmacy (Practical)                                      | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                         | 50                 | 1                    |
| BP108P             | Healthcare Psychology and Communication Skills (Practical)        | 2                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3Hr                          | 50                 | 1                    |
| BP109P             | Human Anatomy, Physiology and Pathophysiology I (Practical)       | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                         | 50                 | 1                    |
| BP110P             | Introduction to Pharmacognosy (Practical)                         | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                         | 50                 | 1                    |
| BP111P             | Pharmaceutical Inorganic and Analytical Chemistry (Practical)     | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                         | 50                 | 1                    |
| <b>Total</b>       |                                                                   | <b>30</b>                      | <b>135</b>                     | <b>135</b>                    | <b>21 Hr</b>              | <b>270</b>            | <b>405</b>                | <b>27</b>                    | <b>675</b>         | <b>21</b>            |

**Table-Xb: Semester II**

| <b>Course Code</b> | <b>Name of the Course</b>                                                     | <b>No. of hours/week (L/P)</b> | <b>Continuous Mode (Marks)</b> | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit points</b> |
|--------------------|-------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP201T             | Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory) | 2                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP202T             | Biochemistry (Theory)                                                         | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP203T             | Human Anatomy, Physiology and Pathophysiology II (Theory)                     | 4                              | 20                             | 20                            | 1 Hr                      | 40                    | 60                        | 3 Hr                 | 100                | 4                    |
| BP204T             | Pharmaceutical Organic Chemistry (Theory)                                     | 4                              | 20                             | 20                            | 1 Hr                      | 40                    | 60                        | 3 Hr                 | 100                | 4                    |
| BP205T             | Pharmacognosy and Phytochemistry (Theory)                                     | 4                              | 20                             | 20                            | 1 Hr                      | 40                    | 60                        | 3 Hr                 | 100                | 4                    |
| BP206T             | Physical Pharmaceutics (Theory)                                               | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP207P             | Biochemistry (Practical)                                                      | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP208P             | Human Anatomy, Physiology and Pathophysiology II (Practical)                  | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP209P             | Pharmaceutical Organic Chemistry (Practical)                                  | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP210P             | Pharmacognosy and Phytochemistry (Practical)                                  | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP211P             | Physical Pharmaceutics (Practical)                                            | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP212P             | SEC* – Elective 1 (Practical)                                                 | 2                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| <b>Total</b>       |                                                                               | <b>37</b>                      | <b>160</b>                     | <b>160</b>                    | <b>24 Hr</b>              | <b>320</b>            | <b>480</b>                | <b>32.5 Hr</b>       | <b>800</b>         | <b>26</b>            |

\* Only one elective course shall be selected

**Table-Xc: Semester III**

| <b>Course Code</b> | <b>Name of the Course</b>                                            | <b>No. of hours/week (L/P)</b> | <b>Continuous Mode (Marks)</b> | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit points</b> |
|--------------------|----------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP301T             | Introduction to Machine Learning in Pharmaceutical Sciences (Theory) | 2                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP302T             | Environmental Science (Theory)                                       | 1                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 1                    |
| BP303T             | Ethics and Universal Human Values (Theory)                           | 1                              | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 1                    |
| BP304T             | General Pharmacology (Theory)                                        | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP305T             | Heterocyclic Compounds and Stereochemistry (Theory)                  | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP306T             | Pharmaceutical Dosage Forms I (Theory)                               | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP307T             | Pharmaceutical Engineering (Theory)                                  | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP308T             | Pharmaceutical Microbiology (Theory)                                 | 3                              | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP309P             | General Pharmacology (Practical)                                     | 4                              | 10                             | 10                            | 4 Hr                      | 20                    | 30                        | 4 Hr                 | 50                 | 2                    |
| BP310P             | Heterocyclic Compounds and Stereochemistry (Practical)               | 4                              | 10                             | 10                            | 4 Hr                      | 20                    | 30                        | 4 Hr                 | 50                 | 2                    |
| BP311P             | Pharmaceutical Dosage Forms I (Practical)                            | 3                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP312P             | AEC* – Elective 2 (Practical)                                        | 2                              | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| <b>Total</b>       |                                                                      | <b>32</b>                      | <b>145</b>                     | <b>145</b>                    | <b>22 Hr</b>              | <b>360</b>            | <b>435</b>                | <b>28.5 Hr</b>       | <b>725</b>         | <b>25</b>            |

\* Only one elective course shall be selected



**Table-Xd: Semester IV**

| <b>Course Code</b> | <b>Name of the Course</b>                     | <b>No. of hours/week (L/P)</b> | <b>Continuous Mode (Marks)</b>    | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit points</b> |
|--------------------|-----------------------------------------------|--------------------------------|-----------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP401T             | Herbal Drug Technology (Theory)               | 3                              | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP402T             | Medicinal Chemistry (Theory)                  | 3                              | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP403T             | Pharmaceutical Biotechnology (Theory)         | 3                              | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP404T             | Social Pharmacy and Public Health (Theory)    | 2                              | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP405T             | Systemic Pharmacology I (Theory)              | 3                              | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP406P             | Herbal Drug Technology (Practical)            | 3                              | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP407P             | Medicinal Chemistry (Practical)               | 3                              | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP408P             | Pharmaceutical Biotechnology (Practical)      | 3                              | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP409P             | Social Pharmacy and Public Health (Practical) | 2                              | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP410P             | Systemic Pharmacology I (Practical)           | 3                              | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP411I             | Internship (Mandatory)                        | 8                              | Refer Section 22 of the ordinance | —                             | —                         | —                     | 100                       | 4 Hr                 | 100                | 4                    |
| <b>Total</b>       |                                               | <b>28</b>                      | <b>120</b>                        | <b>120</b>                    | <b>20 Hr</b>              | <b>240</b>            | <b>460</b>                | <b>28.5</b>          | <b>700</b>         | <b>23</b>            |

**Table-Xe: Semester V**

| <b>Course Code</b> | <b>Name of the Course</b>                  | <b>No. of hours per week (L/P)</b> | <b>Continuous Mode (Marks)</b> | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit Points</b> |
|--------------------|--------------------------------------------|------------------------------------|--------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP501T             | Biomedical Chemistry (Theory)              | 3                                  | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP502T             | Industrial Pharmacognosy (Theory)          | 3                                  | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP503T             | Innovation and Startup Ecosystem (Theory)  | 2                                  | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP504T             | Pharmaceutical Dosage Forms II (Theory)    | 2                                  | 10                             | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP505T             | Pharmaceutical Quality Assurance (Theory)  | 3                                  | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP506T             | Systemic Pharmacology II (Theory)          | 3                                  | 15                             | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP507P             | Biomedical Chemistry (Practical)           | 4                                  | 10                             | 10                            | 4 Hr                      | 20                    | 30                        | 4 Hr                 | 50                 | 2                    |
| BP508P             | Industrial Pharmacognosy (Practical)       | 3                                  | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP509P             | Pharmaceutical Dosage Forms II (Practical) | 3                                  | 10                             | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP510P             | Systemic Pharmacology II (Practical)       | 4                                  | 10                             | 10                            | 4 Hr                      | 20                    | 30                        | 4 Hr                 | 50                 | 2                    |
| <b>Total</b>       |                                            | <b>30</b>                          | <b>120</b>                     | <b>120</b>                    | <b>20 Hr</b>              | <b>240</b>            | <b>360</b>                | <b>25 Hr</b>         | <b>600</b>         | <b>22</b>            |

**Table-Xf: Semester VI**

| Course Code  | Name of the Course                                  | No. of hours per week (L/P) | Continuous Mode (Marks)           | Sessional Exam (Marks) | Sessional Duration | Internal Total | End Semester Marks | Exam Duration  | Total Marks | Credit Points |
|--------------|-----------------------------------------------------|-----------------------------|-----------------------------------|------------------------|--------------------|----------------|--------------------|----------------|-------------|---------------|
| BP601T       | Advanced Pharmacognosy (Theory)                     | 3                           | 15                                | 15                     | 1 Hr               | 30             | 45                 | 2 Hr           | 75          | 3             |
| BP602T       | Biopharmaceutics and Pharmacokinetics (Theory)      | 3                           | 15                                | 15                     | 1 Hr               | 30             | 45                 | 2 Hr           | 75          | 3             |
| BP603T       | Intellectual Property Rights (Theory)               | 2                           | 10                                | 10                     | 1 Hr               | 20             | 30                 | 1.5 Hr         | 50          | 2             |
| BP604T       | AI Applications in Pharmaceutical Sciences (Theory) | 2                           | 10                                | 10                     | 1 Hr               | 20             | 30                 | 1.5 Hr         | 50          | 2             |
| BP605T       | Pharmaceutical Analysis (Theory)                    | 3                           | 15                                | 15                     | 1 Hr               | 30             | 45                 | 2 Hr           | 75          | 3             |
| BP606T       | Pharmaceutical Jurisprudence (Theory)               | 3                           | 15                                | 15                     | 1 Hr               | 30             | 45                 | 2 Hr           | 75          | 3             |
| BP607T       | AEC* – Elective 3 (Theory)                          | 1                           | 10                                | 10                     | 1 Hr               | 20             | 30                 | 1.5 Hr         | 50          | 1             |
| BP608P       | Biopharmaceutics and Pharmacokinetics (Practical)   | 3                           | 10                                | 0                      | 3 Hr               | 20             | 30                 | 3 Hr           | 50          | 1             |
| BP609P       | Pharmaceutical Analysis (Practical)                 | 4                           | 10                                | 10                     | 4 Hr               | 20             | 30                 | 4 Hr           | 50          | 2             |
| BP610P       | SEC* – Elective 4 (Practical)                       | 2                           | 10                                | 10                     | 3 Hr               | 20             | 30                 | 3 Hr           | 50          | 1             |
| BP611P       | VAC* – Elective 5 (Practical)                       | 2                           | 10                                | 10                     | 3 Hr               | 20             | 30                 | 3 Hr           | 50          | 1             |
| BP612I       | Internship (Mandatory)                              | 8                           | Refer Section 22 of the ordinance | –                      | –                  | –              | 100                | 4 Hr           | 100         | 4             |
| <b>Total</b> |                                                     | <b>28</b>                   | <b>130</b>                        | <b>130</b>             | <b>20 Hr</b>       | <b>260</b>     | <b>490</b>         | <b>29.5 Hr</b> | <b>750</b>  | <b>26</b>     |

\* Only one elective course shall be selected

**Table-Xg: Semester VII**

| <b>Course Code</b> | <b>Name of the Course</b>                       | <b>No. of hours per week (L/P)</b> | <b>Continuous Mode (Marks)</b>    | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit Points</b> |
|--------------------|-------------------------------------------------|------------------------------------|-----------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP701T             | Biostatistics and Research Methodology (Theory) | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP702T             | Cosmetics and Cosmeceuticals (Theory)           | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP703T             | AI in Clinical Applications (Theory)            | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP704T             | Modern Analytical Techniques (Theory)           | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP705T             | Pharmacovigilance (Theory)                      | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP706T             | Pharmacy Practice (Theory)                      | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP707T             | Regulatory Affairs (Theory)                     | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP708T             | AEC* – Elective 6 (Theory)                      | 1                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 1                    |
| BP709P             | Modern Analytical Techniques (Practical)        | 3                                  | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP710RP            | Research Project                                | –                                  | Refer Section 21 of the Ordinance | –                             | –                         | –                     | 150                       | 4 Hr                 | 150                | 6                    |
| <b>Total</b>       |                                                 | <b>22</b>                          | <b>110</b>                        | <b>110</b>                    | <b>11 Hr</b>              | <b>220</b>            | <b>480</b>                | <b>21 Hr</b>         | <b>700</b>         | <b>26</b>            |

\* Only one elective course shall be selected

**Table-Xh: Semester VIII**

| <b>Course Code</b> | <b>Name of the Course</b>                                                        | <b>No. of hours per week (L/P)</b> | <b>Continuous Mode (Marks)</b>    | <b>Sessional Exam (Marks)</b> | <b>Sessional Duration</b> | <b>Internal Total</b> | <b>End Semester Marks</b> | <b>Exam Duration</b> | <b>Total Marks</b> | <b>Credit Points</b> |
|--------------------|----------------------------------------------------------------------------------|------------------------------------|-----------------------------------|-------------------------------|---------------------------|-----------------------|---------------------------|----------------------|--------------------|----------------------|
| BP801T             | Ethical Considerations and Translational Applications of AI in Pharmacy (Theory) | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP802T             | Clinical Pharmacotherapeutics (Theory)                                           | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP803T             | Industrial Pharmacy and Facility Design (Theory)                                 | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP804T             | Pharmaceutical Management (Theory)                                               | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP805T             | Sterile Dosage Forms and Novel Drug Delivery System (Theory)                     | 3                                  | 15                                | 15                            | 1 Hr                      | 30                    | 45                        | 2 Hr                 | 75                 | 3                    |
| BP806T             | AEC* – Elective 7 (Theory)                                                       | 2                                  | 10                                | 10                            | 1 Hr                      | 20                    | 30                        | 1.5 Hr               | 50                 | 2                    |
| BP807P             | Pharmaceutical Marketing Skills (Practical)                                      | 2                                  | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP808P             | Sterile Dosage Forms and Novel Drug Delivery System (Practical)                  | 4                                  | 10                                | 10                            | 4 Hr                      | 20                    | 30                        | 4 Hr                 | 50                 | 2                    |
| BP809P             | VAC* – Elective 8 (Practical)                                                    | 2                                  | 10                                | 10                            | 3 Hr                      | 20                    | 30                        | 3 Hr                 | 50                 | 1                    |
| BP810RP            | Research Project                                                                 | –                                  | Refer Section 21 of the Ordinance | –                             | –                         | –                     | 150                       | 4 Hr                 | 150                | 6                    |
| <b>Total</b>       |                                                                                  | <b>22</b>                          | <b>100</b>                        | <b>100</b>                    | <b>16 Hr</b>              | <b>200</b>            | <b>450</b>                | <b>24 Hr</b>         | <b>650</b>         | <b>24</b>            |

\* Only one elective course shall be selected

### 11.2. Internal assessment: Continuous internal assessment and sessional examination

The marks allocated for Continuous mode of Internal assessment and Sessional examination shall be awarded as per the scheme given below.

**Table–XI: Scheme for awarding internal assessment: Continuous mode and Sessional**

#### a. Theory

##### **Theory – Internal assessment pattern of marks distribution**

| <b>Theory</b>      |                   | <b>Internal assessment pattern of marks distribution</b> |                                                                              |                                                                                                                                     |                                                               |
|--------------------|-------------------|----------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Credit Type</b> | <b>Max. Marks</b> | <b>Total</b>                                             | <b>Attendance</b><br>(Refer Table–XII) and<br>Student–Teacher<br>Interaction | <b>Academic Activities</b><br>(Average of any three: quiz, assignment, open book test, field work, group discussion, seminar, etc.) | <b>Sessional</b><br>(Average of two tests)<br>Duration 1 Hour |
| 4                  | 100               | 40                                                       | 10                                                                           | 10                                                                                                                                  | 20                                                            |
| 3                  | 75                | 30                                                       | 7.5                                                                          | 7.5                                                                                                                                 | 15                                                            |
| 2 or 1             | 50                | 20                                                       | 05                                                                           | 05                                                                                                                                  | 10                                                            |

#### b. Practical

##### **Practical – Internal assessment pattern of marks distribution**

| <b>Theory</b>      |                   | <b>Internal assessment pattern of marks distribution</b> |                                                                              |                                                            |                                                                               |
|--------------------|-------------------|----------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Credit Type</b> | <b>Max. Marks</b> | <b>Total</b>                                             | <b>Attendance</b><br>(Refer Table–XII) and<br>Student–Teacher<br>Interaction | <b>Based on Practical Records, Regular viva voce, etc.</b> | <b>Sessional</b><br>(Average of two tests) Duration – As per allotted hours#) |
| 2 or 1             | 50                | 20                                                       | 05                                                                           | 05                                                         | 10                                                                            |

# For practical courses (core as well as elective), those having four hours per week shall have a four-hour duration for the sessional and end-semester examinations. Practical courses with less than four hours per week shall have a three-hour duration for the sessional and end-semester examinations.

**Table–XII: Guidelines for the allotment of marks for attendance**

| <b>Percentage of Attendance</b> | <b>Theory</b>   |                 |                      | <b>Practical</b> |
|---------------------------------|-----------------|-----------------|----------------------|------------------|
|                                 | <b>4 Credit</b> | <b>3 Credit</b> | <b>2 or 1 Credit</b> |                  |
| 90 – 100                        | 4               | 3.5             | 2                    | 2                |
| 85 – 89                         | 3               | 2.5             | 1.5                  | 1.5              |
| 75 – 84                         | 2               | 1.5             | 1                    | 1                |
| Less than 75                    | 0               | 0               | 0                    | 0                |

### 11.2.1. Sessional Exams

Two Sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s)/University. The scheme of question paper for theory and practical Sessional examinations is given in Table XIII– XIV below.

**Table–XIII: Internal Assessment Question Paper Pattern (Theory)**

| Type of questions                                               | 4 Credit Course                              | 3 Credit Course             | 2 or 1 Credit Course        |
|-----------------------------------------------------------------|----------------------------------------------|-----------------------------|-----------------------------|
| I. Multiple Choice Questions (MCQs) Or Objective Type Questions | 4×1 Mark each or 2×2 Marks each (Compulsory) | 2×1 Mark each (Compulsory)  | 2×1 Mark each (Compulsory)  |
| II. Short Answers                                               | 2×3 Marks each (2 out of 3)                  | 2×3 Marks each (2 out of 3) | 1×3 Marks each (1 out of 2) |
| III. Long Answers                                               | 1×10 Marks each (1 out of 2)                 | 1×7 Marks each (1 out of 2) | 1×5 Marks each (1 out of 2) |
| <b>Max. Marks</b>                                               | 20                                           | 15                          | 10                          |
| <b>Duration</b>                                                 | 1 Hour                                       | 1 Hour                      | 1 Hour                      |

**Table–XIV: Internal Assessment Question Paper Pattern (Practical)**

| Type of questions | 2 or 1 Credit Course                |
|-------------------|-------------------------------------|
| Synopsis          | 2                                   |
| Major Experiment  | 4                                   |
| Minor Experiment  | 2                                   |
| Viva voce         | 2                                   |
| <b>Max. Marks</b> | 10                                  |
| <b>Duration</b>   | As per the allotted hours in scheme |

The average marks of two Sessional exams shall be computed for internal assessment as per the requirements given in Table – XI.

### 11.3. End semester Examination

The End semester Theory and practical examination shall be conducted as per the scheme given in Table XV– XVI as per the credits allotted.

**Table–XV: End Semester Question Paper Pattern (Theory)**

| Type of questions                                               | 4 Credit Course                                | 3 Credit Course               | 2 or 1 Credit Course        |
|-----------------------------------------------------------------|------------------------------------------------|-------------------------------|-----------------------------|
| I. Multiple Choice Questions (MCQs) Or Objective Type Questions | 20×1 Mark each or 10×2 Marks each (Compulsory) | 10×1 Mark each (Compulsory)   | 10×1 Mark each (Compulsory) |
| II. Short Answers                                               | 5×4 Marks each (5 out of 7)                    | 5×4 Marks each (5 out of 7)   | 5×2 Marks each (5 out of 7) |
| III. Long Answers                                               | 2×10 Marks each (2 out of 3)                   | 2×7.5 Marks each (2 out of 3) | 2×5 Marks each (2 out of 3) |
| <b>Max. Marks</b>                                               | 60                                             | 45                            | 30                          |
| <b>Duration</b>                                                 | 3 Hours                                        | 2 Hours                       | 1.5 Hours                   |

**Table–XVI: End Semester Question Paper Pattern (Practical)**

| Type of questions | 2 or 1 Credit Course                  |
|-------------------|---------------------------------------|
| Synopsis          | 7.5                                   |
| Major Experiment  | 10                                    |
| Minor Experiment  | 5                                     |
| Viva voce         | 7.5                                   |
| <b>Max. Marks</b> | 30                                    |
| <b>Duration</b>   | As per the allotted hours in scheme # |

# For practical courses (core as well as elective), those having four hours per week shall have a four-hour duration for the sessional and end-semester examinations. Practical courses with less than four hours per week shall have a three-hour duration for the sessional and end-semester examinations.

## **12. Promotion and award of grades**

**12.1. Promotion:** A student shall be declared PASS and eligible to receive a grade in a course of the B.Pharm. programme if he/she secures at least 50% marks in that particular course, including internal assessment. For example, to be declared PASS and to receive a grade, the student must secure a minimum of 50 marks out of a total of 100, inclusive of internal assessment marks (continuous internal assessment and sessional examination marks) and the end-semester theory examination marks as applicable

**12.2. Grace Marks and Moderation:** Grace marks shall be awarded to the students as per the norms of the University, with due emphasis on promoting learner progression.

## **13. Carry forward of internal assessment marks**

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However, his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

## **14. Improvement of internal assessment**

A student shall have the opportunity to improve his/her performance only once in the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed within that particular semester only. The re-conduct of sessional examinations for failed candidates shall be conducted only once for the purpose of improving their sessional marks, without changing their continuous internal assessment.

## **15. End semester supplementary examinations**

Supplementary examination should be completed within 2 months of publishing results of regular end semester examination. The proposed end semester examinations to be conducted as per the schedule below.



**Table–XVI: Tentative schedule of end semester examinations**

| Semester            | For Regular Examination |
|---------------------|-------------------------|
| I, III, V and VII   | November / December     |
| II, IV, VI and VIII | May / June              |

**16. Academic progression**

Students are permitted to progress to the next semester even if they fail a course. However, to appear for the Semester VIII end semester examination, a student must have successfully completed all courses up to Semester VII. The final CGPA shall be awarded only after successful completion of all courses from Semester I to Semester VIII within the maximum duration prescribed by PCI. Lateral entry students shall successfully complete all courses from Semester III to Semester VII before appearing for the Semester VIII end semester examination

**17. Grading of performance****17.1. Letter grades and grade points allocations:**

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table – XVII.

**Table–XVII: Letter grades and grade points equivalent to percentage of marks and performance**

| Percentage of Marks Obtained | Letter Grade | Grade Point | Performance |
|------------------------------|--------------|-------------|-------------|
| 90.00 – 100                  | O            | 10          | Outstanding |
| 80.00 – 89.99                | A            | 9           | Excellent   |
| 70.00 – 79.99                | B            | 8           | Good        |
| 60.00 – 69.99                | C            | 7           | Fair        |
| 50.00 – 59.99                | D            | 6           | Average     |
| Less than 50                 | F            | 0           | Fail        |
| Absent                       | AB           | 0           | Fail        |

A student who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

**18. The Semester Grade Point Average (SGPA)**

The performance of a student in a semester is indicated by a number called ‘Semester Grade Point Average’ (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester.

$$SGPA = \frac{C1G1 + C2G2 + C3G3 + C4G4 + C5G5}{C1 + C2 + C3 + C4 + C5}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester.

**19. Cumulative Grade Point Average (CGPA)**

The CGPA is calculated with the SGPA of all the VIII semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all VIII semesters and their courses.

$$CGPA = \frac{C1S1 + C2S2 + C3S3 + C4S4 + C5S5 + C6S6 + C7S7 + C8S8}{C1 + C2 + C3 + C4 + C5 + C6 + C7 + C8}$$

### **CGPA To Percentage Conversion**

It is mandatory for Examining Authority to mention both, marks and SGPA and/or CGPA scores, in the marksheets. The conversion factor for calculation of CGPA into percentage should be 10.0 uniformly.

### **Credit Record and Transfer Mechanism**

The Examining Authority shall be responsible for creation and verification of Academic Bank of Credits ID, uploading and maintenance of semester wise credits/grades and award in the ABC and National Academic Depository (NAD) to facilitate the credit transfer and redemption as per guidelines of statutory bodies.

### **20. Declaration of class**

The classification of the degree shall be determined based on the Cumulative Grade Point Average (CGPA) obtained by the candidate, as indicated below:

- First Class with Distinction: **CGPA of 7.50 and above**
- First Class: **CGPA of 6.00 to 7.49**
- Second Class: **CGPA of 5.00 to 5.99**

### **21. Project work**

All students shall undertake a project under the supervision of a teacher and submit a report, preferably with the involvement of an external mentor from Industry, Hospital, NABL or CDSCO-approved labs, or an Allied/Interdisciplinary field. The project shall be carried out in groups not exceeding three members. The project report must be submitted in triplicate as a typed and bound copy of no less than 25 pages. Internal and external examiners appointed by the University shall evaluate the project during the practical examinations of the respective semester(s), and students shall be evaluated in groups. Additionally, students are permitted the option to pursue a continuous research theme initiated in the seventh semester and extending through the eighth semester. Under this provision, the specific project milestones achieved by the conclusion of the seventh semester shall undergo formal evaluation by the appointed examiners during that semester's final examination.

The projects shall be evaluated as per the criteria given in **Table XVIII** and **Table XIX** below.

**Table - XVIII: Evaluation of Dissertation Book**

| Sl. No. | Evaluation Criteria               | Maximum Marks |
|---------|-----------------------------------|---------------|
| 1       | Objectives of the work undertaken | 10            |
| 2       | Methodology adopted               | 20            |
| 3       | Results and discussion            | 20            |
| 4       | Conclusion and outcome            | 10            |
|         | <b>Total</b>                      | <b>60</b>     |

**Table XIX. Evaluation of Dissertation Presentation**

| Sl. No. | Evaluation Criteria        | Maximum Marks |
|---------|----------------------------|---------------|
| 1       | Presentation of work       | 40            |
| 2       | Communication skills       | 20            |
| 3       | Question and answer skills | 30            |
|         | <b>Total</b>               | <b>90</b>     |

*Explanation:* The 60 marks assigned to the dissertation book shall be same for all the students in a group. However, the 90 marks assigned for presentation shall be awarded based on the performance of individual students in the given criteria.

## **22. Internship**

Every candidate shall be required to complete a minimum of 240 hours of practical training, spread over a period of two semesters, in a Pharmaceutical/ Cosmetics/ Medical Devices/ Food Industry, or in a Hospital/Community Pharmacy, or any other relevant field as per the prescribed course content. He/she has to submit two internship reports which will be evaluated separately.

**Certificate and Report submission:** 75 Marks

**Presentation and Discussion:** 25 Marks

**Total:** 100 Marks

## **23. Industry/Field Visits and other Co-curricular Activities.**

It shall be compulsory for pharmacy Institutions to organize industrial/field visit and other co-curricular activities to promote holistic learning through participative, problem-based, experiential and innovative pedagogical methods. Students shall submit individual reports, which shall be assessed in continuous evaluation mode as part of any core course each year, as decided by the Programme Committee.

### **23.1 Industry/Field Visits**

It shall be compulsory for students to undertake at least one industrial/field visit during each year to facilities involved in the manufacturing of active pharmaceutical ingredients, excipients, pharmaceutical formulations, medical devices, food, cosmetics, government/ NABL approved drug and medical device testing laboratories or NABH accredited hospital. It shall be assured by the institutions that the facilities chosen for a particular year shall not be repeated.

### **23.2 Memorandum of Understanding (MoU)**

A formal and legally valid Memorandum of Understanding (MoU) must be executed (minimum 10) between the pharmacy Institution and pharmaceutical Industry/ government/NABL approved drug and medical device testing laboratories/ NABH accredited hospital. Out of those MoUs, 5 must be with the pharmaceutical industries.

### **23.3 Co-curricular Activities**

It shall be compulsory for the pharmacy institution to adopt a village or a ward in the panchayath/municipal corporation and engage in community service activities. The community services shall include (but not limited to) prescription survey, awareness of rational drug use, patient counselling services or activities as per the prescribed course content.

### **24. Award of Ranks**

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the B. Pharm Programme shall not be eligible for award of ranks. Moreover, the candidates should have completed the B. Pharm Programme in minimum prescribed number of years (i.e., four years) for the award of Ranks.

### **25. Award of Degree**

Candidates who fulfil the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

### **26. Duration for Completion of the Programme**

The maximum period permitted for completion of the Programme shall be twice the prescribed duration of the Programme. Any student who fails to complete the Programme within this stipulated period shall be required to discontinue the course.

### **27. Re-admission after Break of Study**

A candidate seeking re-admission to the programme after a break in studies must obtain approval from the university by paying the prescribed condonation fee. Condonation will not be granted if the break in study exceeds two years or if the student fails to complete the programme within the maximum permitted duration ( $N \times 2$ ).