



**BOMBAY COLLEGE OF PHARMACY
(AUTONOMOUS)**

Rules and Regulations for the Masters of Pharmacy (M. Pharm.) programme

Choice Based Credit System (CBCS)

Effective from Academic Year 2019-20

INTRODUCTION

RECOMMENDATIONS OF NATIONAL REGULATORY AUTHORITIES

The University Grants Commission (UGC), the National Assessment and Accreditation Council (NAAC), the Distance Education Council (DEC) and the National Knowledge Commission (NKC) have time and again come out with recommendations for improving the quality and effectiveness of Higher education provisions in the country. The ministry of Human Resource Development at the Central level and the Ministry of Higher & Technical Education, Government of Maharashtra have also repeatedly stressed on the need for universities to pay prompt attention to improve the quality of education. The National Knowledge Commission (NKC), in its report to the Prime Minister on 29th November 2006) has also reiterated the importance of higher education and the contribution it has made to economic development, social progress and political democracy in independent India.

An important concern voiced more strongly in recent times, is the need to develop a Choice-Based Credit System (CBCS) in tune with global trends and the adoption of a sound grading system for reflecting learner performance. This is in line with the **recommendation of the UGC** in its *Action Plan for Academic and Administrative Reforms* (Ref. UGC letters January 2008; March 2009) “..... *Curricular flexibility and learners’ mobility are issues that warrant our urgent attention. These can be addressed by introducing credit based courses and credit accumulation. In order to provide with some degree of flexibility to learners, we need to provide flexibility in course selection and also a minimum as well as a maximum permissible span of time in which a course can be completed by a learner... The Choice-Based Credit System (CBCS) imminently fits into the emerging socioeconomic milieu, and could effectively respond to the educational and occupational aspirations of the upcoming generations. In view of this, institutions of higher education in India would do well to invest thought and resources into introducing CBCS. Aided by modern communication and information technology, CBCS has a high probability to be operationalized efficiently and effectively — elevating learners, institutions and higher education system in the country to newer heights...*”.

RATIONALE FOR INTRODUCTION OF CREDIT AND GRADING SYSTEM

The UGC while outlining the several unique features of the Choice-Based Credit System (CBCS) has, in fact, given in a nutshell, the rationale for its introduction. Among the features highlighted by the UGC are: *Enhanced learning opportunities, ability to match learners’ scholastic needs and aspirations, inter-institution transferability of learners (following the completion of a semester), part-completion of an academic programme in the institution of enrolment and part-completion in a specialized (and recognized) institution, improvement in educational quality and excellence, flexibility for working learners to complete the programme over an extended period of time, standardization and comparability of educational programmes across the country, etc.*

This Choice Based Credit System enables a much-required shift in focus from teacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning, not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. It can be concluded from the above discussion that it is very much essential to implement the Choice Based Credit System in higher education in India.

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Course credit structure, examination/assessment and grading are mainly focused aspects of this manual and discussed in subsequent chapters.

DIRECTIVES OF PHARMACY COUNCIL OF INDIA

The Pharmacy Council of India (PCI) in exercise of the powers conferred to it under the sections 10 and 18 of the Pharmacy Act 1948 (8 of 1948), with the approval of the Central Government, had made the Bachelor of Pharmacy (B. Pharm.) Course Regulations, 2014 and Master of Pharmacy (M. Pharm.) Course regulations vide Gazette dated December 10, 2014. Further as per regulations 6 and 8 of the above course regulations the PCI has also prescribed the Rules and Syllabus for B. Pharm. course and Scheme and Syllabus for M. Pharm., its letter Ref 14-136/2016-PCI and Ref 14-154/2015 PCI dated December 21, 2016, with the subject heading “Statutory Scheme/Rules and syllabus for B. Pharm and M. Pharm. courses”. It is thus mandatory to implement the directives of PCI with regard to the Rules/Regulations/Syllabus for recognition and extension of approval of B. Pharm. and M. Pharm. programs of institutes/Universities by the PCI

1. ADMISSION CRITERIA

Admission to the M. Pharm. program of Bombay College of Pharmacy is as per norms of the Government of Maharashtra through the Directorate of Technical Education (DTE), the All India Council for Technical Education (AICTE, New Delhi) and PCI in force at the time of admission and as amended from time to time.

In general, a learner who has passed the examination for the B. Pharm. Degree from All India Council for Technical Education or Pharmacy Council of India or Central or State Government approved institutions, with at least 55 % marks (at least 50% marks in case of SC or ST category and persons with disability belonging to Maharashtra state only.) and obtained Score in Graduate Pharmacy Aptitude Test conducted by All India Council of Technical Education may be admitted to the M. Pharm. Program (Partly by Papers and Partly by Research). However, the rules/regulations and qualifications for admission will be those in effect at the day and time of admission.

The branches of Pharmaceutical Sciences to which the learner can register as a post-graduate student are:

1. Pharmaceutical Chemistry
2. Pharmacology
3. Pharmaceutics
4. Pharmacognosy and Phytochemistry
5. Pharmaceutical Analysis

2. COURSE CREDIT STRUCTURE

As the requirements for a particular degree (undergraduate or postgraduate), a certain quantum of academic work measured in terms of credits is laid down in general. Learner earns credits every semester by satisfactorily clearing courses/other academic activities. 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 activities is dependent upon the quantum of work expected to be put in for each of the other activity per week.

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2.1 Credit Assignment

2.1.1 Theory and Laboratory Courses:

Courses are broadly classified as *Theory courses* and *Laboratory Courses*. Theory courses consist of lecture (L) and /or tutorial (T) hours. Laboratory courses consist of practical hours and may have attached tutorial hours in special cases. Credit (CR) for a course is dependent on the number of hours of instruction per week in that course and is obtained by using a multiplier of one (1) for lecture and tutorial hours, and a multiplier of half (1/2) for laboratory hours. Thus, for example, a theory course having **four** lectures and **one** tutorial per week throughout the semester carries a credit of **5**. Similarly, a laboratory course having **two** laboratory hours per week throughout semester carries a credit of **1**.

For example –

Theory course

L	T	=	CR
3	1		4

Laboratory course

P	T	=	CR
4	0		2

2.1.2 Seminars

Seminar is a requirement for M. Pharm. Seminar is a course wherein under the guidance of a faculty member a learner is expected to do an in-depth study in a specialized area by doing survey of published technical literature, understanding different aspects of the problem. While doing this, the learner is expected to critically analyze works of various authors /researchers, learn the investigation methodologies, study concepts, techniques and the results presented in these papers, and present a seminar. It is mandatory to give a seminar presentation before a panel constituted for the purpose as mentioned in syllabus / curriculum manual, in order to earn the prescribed credits as indicated in the curriculum.

2.1.3 Projects/Dissertations

Dissertation / Project is a mandatory requirement in the post-graduate program. The Dissertation/Project is spread over an one year duration normally starting from the third semester and ending with the fourth semester. These are essentially research and development projects, where a learner trains him/herself, under the guidance of supervisor/s, in in-depth analysis of pharmacy related research area and attempts a solution to the issue under investigation. Literature survey, problem analysis and problem definition, extensive experimental/modeling work, and analysis of results typically form various components of the Dissertation/Project work. Dissertation carries **a total of 48** credits.

2.2 Minimum Credit Requirements

The minimum credit required for award of a M. Pharm. degree is **96**. The credits are distributed semester wise as shown in the structure and syllabus manual of each program. Courses generally progress in sequences, building

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competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester wise schedule of courses given in the syllabus manual of respective program.

2.3 Course/Subject codes

In the syllabus manual a subject code is assigned for each course. The subject code consists of eight characters appropriately separated by underscore marks. First three are alphabets and indicate the program (MPH for M. Pharm.), the next alphabet indicates if course is either core/compulsory (C) or choice based/elective (E). A fifth character is an Arabic numeral and indicates the semester. The sixth and seventh characters are Arabic numerals and indicate the course numbers of the given semester. The eighth character is an alphabet that indicates a theory (T) or Laboratory (L) or Seminar (S) or Project/Dissertation (D).

For example -

MPH_C_101_T indicates a M. Pharm. core course of semester one and a theory course

MPH_E_205_T indicates a M. Pharm. elective course of semester two and a theory course

MPH_C_209_L indicates a M. Pharm. core course of semester two and a laboratory course

MPH_C_304_D indicates a M. Pharm. core course of semester three and a project/dissertation

3. EXAMINATION / ASSESSMENT AND GRADING

Semester wise performance assessment of every registered learner is to be carried out through various modes of examinations, in both theory and laboratory classes. These include Internal Assessment and End Semester Examination. Internal Assessment includes one mid semester test/examination (15%) and overall semester attendance (5%). Normally weightage of Internal Assessment and End Semester Examination is 20% (15% + 5% as above) and 80%, respectively.

3.1 Attendance

Attendance for all Theory classes, Tutorial classes, Practical sessions, Seminar and Project/Dissertation is compulsory. A minimum 80 % attendance is compulsory for keeping the term.

For class attendance the allotment of marks are as follows: For 90% or more attendance the complete - 5% marks, for 85-89% attendance - 4% marks, for 80-84% - 3% marks and for below 80% attendance zero marks, should be given.

3.2 Modes of Assessment/Evaluation

3.2.1 Modes of Evaluation for Theory Courses

Various modes of assessment used for rating learners' performance in a theory course include Internal Assessment and End Semester Examination. Relative weightage for Internal Assessment is typically 20 per cent. This will consist of mid semester test/examination for 15% marks (generally one hour duration) and 5% for attendance.

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The end semester examination will be held as per the schedule and the relative weightage for this would be 80 per cent. It will normally be of 3 hours duration and will cover the full syllabus of the course. **The end semester examination is mandatory.** The **grade** for **theory courses** can be **awarded** only after **successful completion** of both **Internal Assessment** and **End Semester Examination** as per the curriculum manual of the M. Pharm. program.

The End Semester Examinations in Semesters I and II of the M. Pharm. degree, and the *viva-voce* examination of the thesis at the end of Semester IV for the M. Pharm. Degree course will be conducted by Bombay College of Pharmacy.

A time-table and question papers for all the theory examinations of Semesters I and II will be prepared/set by examiners and paper-setters appointed by Board of Studies of Bombay College of Pharmacy.

The assessment and moderation of the answer booklets for the examinations in Theory courses in Semesters I and II will be carried out by examiners and paper-setters appointed by Board of Studies of Bombay College of Pharmacy.

3.2.2 Modes of Evaluation for Laboratory Courses

As indicated earlier examinations include Internal Assessment and End Semester Examination. Internal Assessment includes one mid semester test/examination (15%) and overall semester attendance (5%). Normally weightage of Internal Assessment and End Semester Examination is 20% (15% + 5% as above) and 80%, respectively.

The mid semester test (15% of overall marks) should include the assessment based on regular supervision of the learner’s work and the quality of their work as prescribed through laboratory journals (this should be about 1/3 rd of the 15% marks for internal assessment, rounded off to the nearest whole number). It is obligatory to maintain a laboratory journal as prescribed by the course instructor. Final submission/examination for laboratory courses will normally be held before the end semester examination.

The evaluation and the End Semester Examination will be conducted by examiners and paper-setters appointed by the Board of Studies of Bombay College of Pharmacy

Scheme of assessment for Practical -

Internal assessment (Continuous mode of evaluation)	End Semester Examination	Total for Practical
20% marks	80% marks	100% marks

For the Practical, continuous assessment should be carried out and for each practical, a proper record of the same is to be preserved by the concerned faculty for the purpose of inspection as and when required. It is obligatory to maintain a laboratory journal as prescribed by the course instructor. Of the 20% marks reserved for internal assessment, 10% marks may be allotted to an oral/practical examination conducted mid-semester, 5% marks for the laboratory handbook (journal) cum overall performance of practicals over the semester and 5% marks for attendance.

3.2.3 Modes of Evaluation for Seminars

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The evaluation of Seminar will be conducted by PG teachers recognized and approved as research guides by the University of Mumbai. Scheme of assessment for Seminar in the M. Pharm. program

Internal assessment	Scientific content	Presentation, communication skills etc	Discussion and defense	Report	Total
	20	15	15	50	100

Every learner will deliver a Seminar preferably on the subject on which he will write his dissertation i.e. thesis. This will be evaluated according to above Table by a Committee consisting of the Principal, the Head and faculty of the Department in which the student has enrolled for his research work. Faculty from other departments is also encouraged to attend the Seminars and may give their assessment of the seminar delivered by the learner.

3.2.4 Modes of Evaluation for Projects/Dissertation

M. Pharm. Dissertation: For **evaluation of Dissertation**, a learner has to submit 2 copies hard bound Dissertation/Thesis reports to the respective section of Bombay College of Pharmacy.

Writing the thesis

The thesis will be typed using Times New Roman font, size 11, 1.5 line spacing, with all headings/subheadings in bold.

The thesis will be of maximum 125 pages and composed in the following manner

Chapter 1 – Introduction. This should be limited to about 30 pages and will describe all background information of the research described in the thesis.

Chapter 2 – Aims and objectives, limited to 2 pages.

Chapter 3 – Plan of Work, limited to 4 pages

Chapter 4 – Experimental. This section should preferably include only the optimized experiments from which the inferences and conclusions were drawn.

Chapter 5 – Results and Discussion, this should constitute 40 to 50 pages of the thesis.

Chapter 6 – References. This should be in ACS format. Refer to Ch. 14 *In The ACS Style Guide*; Coghill, A., et al.; American Chemical Society: Washington, DC, 2006.

If any deviations are found in the style of writing the thesis, the thesis is liable to be rejected.

NOTE: UNIVERSITY GRANTS COMMISSION (PROMOTION OF ACADEMIC INTEGRITY AND PREVENTION OF PLAGIARISM IN HIGHER EDUCATIONAL INSTITUTIONS) REGULATIONS, 2018 New Delhi, the 23rd July, 2018, shall be applicable to the research work and thesis arising out of the research project. The details of the regulations may be accessed at www.ugc.ac.in.

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Scheme of assessment for Thesis

Assessment	External Examiner	Internal (Guiding Teacher)	Total
	50%	50%	100%

The *viva voce* examination on the thesis submitted by the learner will be done according to Table 4. Both the external examiner and PG teacher shall jointly examine the student on the research work compiled in the thesis and will separately allot marks based on the following parameters:

- a). Literature Survey (10 marks)
- b). Presentation (8 marks)
- c). Methodology (7 marks)
- d) Results and Discussion (10 marks) and
- e) *Viva-voce* (15 marks)

The assessment of the thesis submitted at the end of Semester IV will done by both the internal (guiding) teacher and an external examiner (appointed by the Board of Studies) with established competence in the field or may be any recognized research guide from another recognized university. It is proposed that every learner will submit a synopsis of the research work carried out by him/her during Semesters III and IV which forms the content of the thesis. A learner will be permitted to submit his/her synopsis no earlier than 20 months (after 20 months) from the beginning of the M. Pharm. program as instructed by the Government/Regulatory Authority for the respective year, BUT will have to submit the final thesis by the end of 24 months from the beginning of the M. Pharm program as instructed by the Government/Regulatory Authority. The time between submission of synopsis and thesis should be at least one month. The learner must submit his thesis to the University in a format as prescribed by Board of Studies of Bombay College of Pharmacy. The Board of Studies of Bombay College of Pharmacy will take all steps to conduct the *viva-voce* examination at the earliest after the submission of the thesis. It is expected that only the synopsis of the thesis submitted by the learner will be forward by Board of Studies of Bombay College of Pharmacy to the external examiner at least one week before the conduct of the *viva-voce* examination. Only at the time of the *viva-voce* examination, the external examiner will be presented the thesis submitted by the candidate for the award of the degree. However, if the examiner wishes a complete copy of the thesis prior to the *viva-voce* the thesis will be sent to the said examiner

The evaluation will be done by a pair of examiners (research guide and external examiner), appointed by Board of Studies of Bombay College of Pharmacy, based on the report and a *viva-voce*. The *viva-voce* will be conducted in the College. Final Grade reports are to be sent on completion of the *viva-voce* to the exam section of Bombay College of Pharmacy. The criteria of evaluation of Dissertation are given in the curriculum manual.

Any late submission of synopsis or thesis will result in the learner requiring to keep terms for the next semester and any subsequent semester/s till the learner finishes his/her degree.

The submission of synopsis and the holding of the viva voce examination shall be done independent of the fact whether the student has successfully cleared semester I and Semester II. However, the result of the viva

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voice of M. Pharm. Examination will be declared only if/after the student has successfully cleared Semester I and Semester II examinations

3.3 Grading of Performance

3.1 Letter Grade and Grade Point Allocation

The Choice Based Credit System will be effective from the academic year 2019-2020. In every course, based on the combined performance in all assessments in a particular semester as per the curriculum/syllabus, the student is awarded a letter grade. These letter grades not only indicate a qualitative assessment of the learner’s performance but also carry a quantitative (numeric) equivalent called the Grade Point. The letter grades and their equivalent grade point applicable for are given below:

Percentage of Marks Obtained	Letter Grade	Grade Points	Performance
90.00 to 100.00	O+	10	Brilliant
80.00 – 89.99	O	9	Outstanding
70.00 – 79.99	A	8	Excellent
60.00 – 69.99	B	7	Good
50.00 – 59.99	C	6	Average
40.00 – 49.99	D	5	Pass
Less than 40.00	F	0	Fail

For a learner who remains **absent** in any form of **evaluation/examination, letter grade** allocated to him/her should be **AB** and corresponding **grade point** should be assigned as **zero**. S/he should reappear for the said evaluation/examination in due course.

3.2 SGPI/ CGPI Calculation

3.2.1 Semester Grade Performance Index (SGPI)

The performance of a learner in a semester is indicated by a number called Semester Grade Performance Index (SGPI). The SGPI is the weighted average of the grade points obtained in all the courses by the learner during the semester. For example, if a learner passes five courses (Theory/labs./Projects/ Seminar etc.) in a semester with credits C₁, C₂, C₃, C₄ and C₅ and learners grade points in these courses are G₁, G₂, G₃, G₄ and G₅ respectively, then learners’ SGPI is equal to:

$$SGPI = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4G_4 + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

The SGPI is calculated to two decimal places. The SGPI for any semester will take into consideration the “**F** or **AB**” grade awarded in that semester. For example if a learner has failed or absent in course 4, the SGPI will then be computed as:

$$SGPI = \frac{C_1G_1 + C_2G_2 + C_3G_3 + C_4 * ZERO + C_5G_5}{C_1 + C_2 + C_3 + C_4 + C_5}$$

3.2.2 Cumulative Grade Performance Index (CGPI)

The CGPA is calculated for Semesters I to IV to two decimal places and is indicated in final grade report card and is the weighted average of the grade points obtained in all the courses by the learner during Semesters I to IV.

The CGPA will reflect the **failed status** in case of **F grade(s)**, till the course(s) is/are **passed**. When the **course(s)** is/are **passed** by obtaining a **pass grade** on subsequent examination(s) the **CGPA** will only reflect the **new grade** and not the **fail grades** earned earlier.

The CGPA is calculated as:

$$CGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + \dots + C_i * ZERO + \dots + C_nG_n}{C_1 + C_2 + C_3 + \dots + C_i + \dots + C_n}$$

Where, C_i is the Credits for course i and G_i is the grade for course i . Even if a learner has **failed** in a course **more than once**, the course will figure **only once** in the **numerator** as well as the **denominator**. At the end of Semester IV or in subsequent attempts the learner has appeared for examination for n number of courses including the **backlog course i** and has cleared all the courses including the **backlog course**, the CGPA at the end of Semester IV is calculated as,

$$CGPA = \frac{C_1G_1 + C_2G_2 + C_3G_3 + \dots + C_i * G_i + \dots + C_nG_n}{C_1 + C_2 + C_3 + \dots + C_i + \dots + C_n}$$

3.2.3 Semester Grade Report

At the end of each semester, the current semester grade report, which reflects the performance of the learner in that semester, is prepared and issued to the learner. The Grade Card will reflect the letter grade obtained by the learner, credit points of the individual courses of a particular semester, calculation of SGPA for each semester. The CGPA will be calculated for all the successfully completed courses of M. Pharm. Program. (refer section 3.3).

This report includes the fail grades as awarded. SGPA will be calculated and reflected in the current semester grade report only if the learner has passed in all heads (refer section 3.3). SGPA will not be calculated and reflected in the current semester grade report if the learner does not pass in all heads of passing. When the learner obtains a grade of D or higher on subsequent attempts a new semester grade report will be issued to the learner. The existing system of displaying the carried forward marks/grades and the marks/grades obtained in the current attempt must be used. The abbreviations for the same shall be displayed in the Grade Card as a footnote. (Refer to circular no. UG/181 of 2002 dated 24.04.2002).

3.3 Heads of Passing

Internal Assessment (IA) and End Semester Examination (ESE) should be two separate heads for passing.

3.4 Promotion of Learner and Award of Grades

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A learner will be declared **PASS** and eligible for **grade** in a particular course of **M. Pharm.** program if,

- A learner secures **at least 40% marks in each head of passing** mentioned above.

OR

- If learner **fails** in **Internal Assessment** but secures **equal to or more than 50% in total (Internal Assessment + End Semester Examination)** in that course.

3.5 Carry Forward of Marks

In case of a learner who does not fulfill criteria mentioned in section 3.4 and fails in the **Internal Assessment** and/or **End Semester Examination** in one or more courses:

- A learner who **PASSES** in the **Internal Assessment** but **FAILS** in the **End Semester Examination** of the course 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.
- A learner who **PASSES** in the **End Semester Examination** but **FAILS** in the **Internal Assessment** of the course shall **reappear** for the **Mid-semester test/examination** of that course. The marks for attendance component of internal assessment shall be carried over. Further, his/her marks of the **End Semester Examination** shall also be **carried over** and he/she shall be entitled for grade obtained by him/her on passing.

3.6 Reexamination of Internal Assessment and End Semester Examination

Re-examination for **mid-semester test/examination component of the Internal Assessment** should be completed before the commencement of next semester theory examination.

Example: A learner who is supposed to reappear for mid-semester test/examination component of Internal Assessment in semester-I course will appear for the reexamination before commencement of End Semester Examination of semester - II.

Re-examination of mid-semester test/examination component of Internal Assessment will be based on single test/examination having same marks as of original assessment. Records should be maintained properly for all the re-examinations as well as Internal Assessments.

Reexamination of End Semester Examination will be conducted as per the schedule planned by Bombay College of Pharmacy.

3.7 Allowed to Keep Terms (ATKT):

No student shall be admitted to any examination unless he/she fulfills the norms of attendance. ATKT rules are applicable as follows:

A student shall be eligible to carry forward all the courses of I, and II.

A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to IV semesters within the stipulated time period as per the norms.

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Note: Grade AB should be considered as failed and treated as one head for deciding ATKT. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

3.8 ADDENDUM

Wherever an issue has not been covered by these Autonomy Rules of the College, the Rules and Statutes of the University of Mumbai would apply, as long as the latter does not go against the spirit of the College Autonomy arrangements.