

School of Pure and Applied Physics

MAHATMA GANDHI UNIVERSITY

Kottayam, Kerala

**Revised Regulations of the
Credit & Semester System
Syllabus and Scheme for Master of Science
(MSc) programme.**

With effect from 2017 Admissions

Board of Studies (BoS)

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Preamble

Credit and Semester System (CSS) of the School of Pure and Applied Physics, Mahatma Gandhi University, aims at flexibility in curriculum development, objectivity and critical approach in examination patterns and use of continuous evaluation for assessment. This is to ensure a de-stressed learning environment for students in their overall academic development. The CSS is also meant to provide meaningful common criteria as per the national pattern to transfer credits when students move from one institution to another within or outside the country. We follow the guidelines of UGC for the implementation of the CSS, which became operational in 2002-03. The CSS Regulations have been revised from time to time in accordance with the requirements of changing curricular pattern. Revisions are carried out with a view to ensuring accountability, transparency and flexibility.

Definitions of terms

‘Semester’ means a term consisting of a minimum of 90 working days including examination days distributed over a minimum of 18 weeks with 5 working days in each week

Programme refers to Master of Science (MSc) programme carried out in a time-bound academic period

Course means the curricular content for teaching and learning or seminar in a specific area or theme of knowledge

Core course means a compulsory course in a subject related to a particular programme

Elective course means an optional course, which can be selected from among a group of electives offered in a programme

Open course means a course conducted by a School/Centre/Institute other than the parent department. Every regular postgraduate student is required to choose an open course of 4 credits in the third semester

Repeat course is a course that is repeated by a student, for want of sufficient attendance in the semester in which the course was taken first by the student

Improvement course is a course for which a student registers, for improving his/ her performance in the end semester component of that particular course

Credit is the unit by which a course is measured. It is the measure of total number of hours of training received in a course during a semester; the credit number indicates the total curricular content in terms of number of hours of teaching/learning in a course during a semester.

Grade indicates the student's performance level – the level of achievement of a student in terms of the score obtained in evaluations and examinations in a course.

Grade Letter is an index of performance of a student in a particular course. It is the transformation of actual marks secured by a student in a course to percentage and then to grade; Grade letters are: O, A plus, A only, B plus, B only, C, P and F

Grade Point is the weightage allotted to a Grade Letter

Credit Point refers to the product of number of credits of a course and the grade point obtained by a student for the course

Semester Grade Point Average (SGPA) refers to the performance of the student in a given semester. SGPA is a weighted average based on the total credit points earned by a student in all the courses in the semester divided by the total number of credits offered in the semester. SGPA will be computed as and when a student completes all the required courses of a semester with a minimum required grade as per the respective curriculum.

Cumulative Grade Point Average (CGPA) refers to the performance of a student for all semesters of the programme. **CGPA** is a weighted average based on the SGPA earned by a student in all semesters of the programme and the total number of credits required in the programme.

CGPA calculated on the basis of SGPAs with the minimum required SGPAs of all the semesters may not be sufficient to obtain the minimum fixed CGPA for a pass in the programme. Students need to overcome the low SGPA of certain semesters due to low grades in courses in which they are weak, by obtaining better grades in courses of other semesters in which they are strong, so that the better SGPA scores of such semesters will enable the candidate to attain the minimum CGPA fixed for a pass in the programme.

Course code: Each course shall have a unique code number with five abbreviated components -
1. School 2. Programme (M – for M.Sc) 3. Semester number and course type in Roman Letters (C- for core course; E- for elective course; O- for open course; no separate designation may be required for practical, project and theory, as all these courses come under the head of core or elective) 4. Year of formulation/revision of syllabus; 5. Course number in Arabic numerals – as two digit number.

Important objectives of CSS

A post graduate student has a choice of selecting courses across various disciplines in different semesters of the programme.

Students get the choice of selecting courses offered by a School/Centre/Institute other than their parent School/Centre/Institute, depending on his/her interest, needs and long term goals.

Each School/Centre/Institute designs, offers and teaches a minimum of one course during Semester-III for the students admitted in other departments; such courses are designated as open courses, each of which carries minimum 4 credits.

Continuous evaluation of the students in all the semesters is done through Internal Assessment as per certain common norms. The student shall do a project work during the 4th semester as a part

of the regular programme. Course content of each programme is designed to meet the ever changing requirements of the individual/industry/job market/ needs of the society.

Each course, seminar and project work is assigned a specific number of credits and the percentage of marks secured by a student is converted into grade points and credit points. The performance of a student in a semester is expressed as semester grade point average (SGPA) and the combined performance of a student in all the four semesters of the programme is expressed as cumulative grade point average (CGPA)

CSS Rules and Regulations

1. Duration of programmes:

PG Programme: The duration of the PG programme shall be a minimum of two years consisting of four semesters

2. Courses and Credits:

2.1 In all the programmes, three kinds of courses are offered; Core Courses (3-4 credits), Elective Courses (2-4 credits) and Open Elective Courses (4 credits). Core courses are offered by SPAP. Elective Courses shall be selected either from the same School/Department or from some other School/Centres/Institutes. Any course chosen generally from an unrelated discipline/subject, from Schools/ Centres/Institutes by a student other than own School, with an intention to seek broad exposure, is called an **Open** course. Students are required to take one open course in the Third semester.

2.2. Project work/dissertation work is a special course involving application of knowledge in solving/ analyzing /exploring a real life situation / problem. A project/dissertation work up to 4 credits is called minor project/dissertation.

2.3. There shall be a faculty adviser for each batch of students admitted to a programme.

Apart from general student support activities, the faculty adviser shall help students in selecting electives that are relevant to the programme for which they are admitted.

2.4. A course offered may have different components associated with the teaching-learning process of the course, namely (i) Lecture (ii) Tutorial (iii) Practicals, where: **L** stands for Lecture session. **T** stands for Tutorial session consisting participatory discussion/ self study/ desk work/ brief seminar presentations by students. **P** stands for Practical session and it consists of hands on experience/ laboratory experiments/ field studies/ case studies that equip students to acquire the much required skill of applying the theoretically learnt concepts.

2.5. In terms of credits, every one hour session per week of a semester of L amounts to 1 credit and a minimum of two hour session of T or P amounts to 1 credit per semester; maximum hours allotted for 1 credit practical course/tutorial course/seminar course shall not exceed 4 hours per week. One full semester is equivalent to 15- 20 weeks of teaching-learning –evaluation process.

2.6. The maximum duration of a semester is 90 working days. A course may have lecture component (L) or practical component (P) or tutorial component (T) or combination of any two or all the three components. The total credits earned by a student at the end of a semester upon successful completion of a course are L + T + P or as the case may be. The credit pattern of a course is indicated as L: T: P.

2.7. If a course is of 4 credits then the different credit distribution patterns in L: T: P format can be:

4: 0:0,	1 : 2 : 1,	1 : 1 : 2,	1 : 0 : 3,	1 : 3 : 0,
2 : 1:1,	2 : 2 : 0,	2 : 0 : 2,	3 : 1 : 0,	3 : 0 : 1,
0 : 2 : 2,	0 : 4 : 0,	0 : 0 : 4,	0 : 1 : 3,	0 : 3 : 1,

3. Credit Requirements:

- 3.1. The student shall acquire 84 credits for the successful completion of MSc Physics programme.
- 3.2. The 84 credits stipulated in a postgraduate programme are spread across core courses, electives, open courses, a compulsory project/dissertation and course viva. A student has to secure 68 credits for Core courses, 12 for Electives and 4 for Open elective courses.
- 3.3 The credits for the project work/dissertation is 4.
- 3.4. In excess to the minimum credits specified for Msc in Physics programme, a candidate can opt to complete during off hours, 4-10 extra credits from courses (which may include self study courses) conducted by any university Schools/Institutes/Centres to acquire **add on proficiency diploma** in that particular discipline/subject besides their masters degree; the diploma shall be awarded by the university as per the recommendation of the concerned Pass Board director.
- 3.5. The compulsory project/dissertation to be completed in the 4th semester of the programme shall be prepared by the student under the guidance of a member of the faculty or, in the case of subjects which so demand, an external guide, to be decided by the school's Faculty Council. The project shall generally be offered in the last semester, though the Faculty Council can decide to have it in one of the earlier semesters. The topic for the project shall be selected by the student in consultation with the research guide.

4. Student Admission:

Admission for MSc programme will be made by a common admission procedure (CAP) by the University on the basis of a common admission test (CAT) conducted by the CAP cell of the university.

5. Evaluation and Grading:

5.1. External & Internal Evaluation: *Evaluation of the first and third semester examinations shall be done by the faculty members themselves on the basis of continuous internal assessment and end semester examinations. Evaluation for all the courses of the second and the fourth semester examinations, except for practical examinations, shall be conducted both externally and*

internally. The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade points.

Students who secure a minimum attendance of 75% and above in a semester, and who pass the internal examinations of **all the courses of the semester** (the minimum marks required to pass in the internal examinations is 40%), alone, will be allowed to appear for the end semester examination and continue in the programme to the next higher semester.

However, failed students can approach the grievance redressal committee (the Faculty Council) in case of failure in internal examinations, and the decision of the Faculty Council in this regard will be final. Faculty Council may permit students to repeat the course in appropriate cases, but only once in a programme.

5.2. Process of Evaluation: The double valuation of answer scripts in the second and the fourth semester courses shall be done by external examiners and the concerned faculty respectively as decided by the Director.

The Director will make arrangements for the evaluation of the answer scripts. The project/dissertation shall be evaluated by two examiners, one of them the faculty member who supervised the project and the other an external examiner to be decided by the Director from a panel approved by the Vice Chancellor. The comprehensive viva-voce, must be carried out along with project evaluation in the fourth semester.

5.3. Internal Assessment: The student's attendance and classroom performance as well as the feedback received from tests, tutorials, assignments and term papers shall form the basis for internal assessment. The internal assessment will be a continuous assessment (CA) that accounts for 50% of the evaluation in both theory and practical.

5.3.1. Continuous Assessment (CA): This assessment shall be based on a predetermined transparent system involving periodic written tests, assignments and seminars in respect of theory courses and based on tests, lab skill, records/viva and attendance in respect of practical courses.

5.3.2. The percentage of marks assigned to various components for internal evaluation is as follows:

(a) Theory

Component weightage of internal marks by %

i)	Two test papers	60%
ii)	Assignments/Book review/debates	20%
iii)	Seminars/Presentation of case study	20%

(b) Practicals

Component weightage of internal marks by %

i)	Two test papers	40%
ii)	Lab skill	25%
iii)	Records/viva	25%
iv)	Attendance	10%

Tests: For each course there will be at least two class tests during a semester. Best of the marks obtained in the two tests will be counted as the internal test component of CA. The probable dates of the tests will be announced at the beginning of each semester. Marks will be displayed on the notice board. Valued answer scripts will be made available to the students for perusal within 10 working days from the date of the tests.

Assignments: Each student shall be required to do 2 assignments/book reviews for each course. Assignments/book review after valuation must be returned to the students. The teacher shall define the expected quality of the above in terms of structure, content, presentation and the like, and inform the same to the students. Punctuality in submission of assignments/records is to be given a weightage in the internal evaluation.

Seminar: Every student shall deliver one seminar as an internal component of every course and must be evaluated by the respective course teacher in terms of structure, content, presentation and interaction. The soft and hard copies of the seminar report are to be submitted to the teacher in charge.

Practical Records: All the records of continuous assessment (CA) must be kept in the department and that must be made available for verification.

Results of Internal Assessment: The results of the CA shall be displayed on the notice board within 5 working days from the last day of a semester. It should be counter signed by the candidates. *The marks awarded for various components of the CA shall not be rounded off, if it has a decimal part. The total marks of the CA shall be rounded off to the nearest whole number.*

Once the Score-Sheet for CA duly attested by the Director is forwarded to the CSS office for issue of mark lists, no further change in the grades entered in the same will be entertained. Improvement in the internal assessment grade will not be possible in any circumstance for a student after the completion of a semester programme.

5.4. End-Semester Examination: *The end semester examination will account for the remaining 50% of the evaluation which will be done by the School in accordance with the provisions in Section 5.1.*

The evaluation of the end-semester examination of the first and third semesters shall generally be done by the faculty who taught the course though SPAP can opt to have the examiner from outside the university, if the faculty council so decides. Evaluation of the 2nd and 4th semester courses based on questions set by external question paper setters shall be evaluated by two examiners; one, the external (as far as possible the question paper setter shall evaluate the examination paper as well) and the other, internal examiners.

5.4.1. Project Work: There shall be a project/dissertation to be undertaken by all students. The dissertation entails field work, lab work, report writing, presentation and viva voce. The class hours allotted for project work may be clustered into a single slot so that students can do their work at a centre /location for a continuous period of time. However, appropriate changes can be made by the faculty council in this regard. **Project/dissertation** shall be carried out under the supervision of a teacher in the School/Centre/Institute or other research institutes or industrial establishment or university departments if they permit the students to do so, after getting permission from the department head.

In such cases, one of the teachers from the schools/centres/institutes would be the co-supervisor/internal guide and an expert from the industry/ research organization concerned shall act as supervisor/ external guide. Project/dissertation shall be submitted to the head of the

department two weeks before the commencement of the end semester examination of the final semester.

5.4.2. External Evaluation of Theory Answer Scripts: The external evaluation shall be done after the examination at the earliest, preferably in a centralized valuation. As far as possible bar coded Answer Books shall be used to ensure confidentiality. The evaluation of the answer scripts shall be done by examiners based on a well-defined scheme of valuation. There shall be double valuation system of answer books in the 2nd and 4th Semester evaluations. The final marks awarded will be the average of two. *If there is a variation of more than 10 % of the maximum marks, the answer books shall be valued by a third external examiner appointed by the director.* The final marks to be awarded shall be the **average of the nearest two** out of three awarded by the examiners.

5.4.3. External Evaluation of Practical Courses: End semester evaluation in practical courses shall be conducted and evaluated by two examiners; one internal and one external or both internal as may be decided by the faculty council. Duration of practical external examinations shall be decided by the concerned faculty council.

5.4.4. Evaluation of the project work shall be carried out at the end of the programme. *The title* and the credit with marks awarded for the project work should be entered in the grade/mark sheet approved by the university

Process of evaluation of project work:

1. The end semester evaluation of the project/dissertation shall be done both internally and externally; external evaluation shall be conducted by external examiner as per clause 5.2 paragraph-2.
2. Evaluation of the project report shall also be done under numerical mark system.

The evaluation of the project will be done at two stages:

1. Continuous Assessment (CA) (supervising teacher/s will assess the project and award internal Marks).
2. External evaluation (by external examiner).

3. Marks secured for the project will be awarded to candidates, combining the internal and external marks.
4. The internal to external component is to be taken in the ratio 1:1.

Internal Assessment of project work shall be completed within 2 weeks before the last working day of a semester. Internal Assessment marks should be published in the department/centre notice board.

Conditions of Pass in the Project:

1. Submission of the project/dissertation and viva are compulsory for internal evaluation.
2. A student shall be declared to have passed in the project/dissertation only if she/he secures minimum P grade (*40% marks of the aggregate and 40% separately for external*).

5.5. Grading System:

The grading system followed is that of relative grading on a ten-point scale. The following table indicates the performance range and the relative value of the grades (grade points) on the scale.

Letter grade	Performance	Grade point
O	Outstanding	10
A plus	Excellent	9
A only	Very good	8
B plus	Good	7
B only	Above Average	6
C	Average	5
P	Pass	4
F	Fail	0
Ab	Absent	0

5.6. **Minimum grade for passing:** The minimum for a pass is 'P' grade. The minimum CGPA is 4 and the minimum credit point requirement is 84:

5.7. **Publication of Results:** The results of the End Semester Examination (ESE) shall be published within 30 days from the date of the last examination.

5.8. **Conferment of the Degree:** A candidate shall be eligible for the conferment of the degree only after he/she has earned the minimum CGPA 4.

5.9. **Revaluation:** *The answer scripts of examinations under CSS shall have provisions for revaluation. The application for scrutiny and revaluation of answer scripts shall be submitted to the Director within 15 days from the date of publication of the results.*

5.10. *However, there is no provision for revaluation or scrutiny of answer scripts in the end semester examinations of 2nd and 4th Semesters as these have already been valued twice*

6. **Reappearance and improvement Examinations**

6.1. Candidates in the 1st and 2nd semesters, who have secured the SGPA letter grade of 'C' or 'P' in the end-semester examination can improve their grade by reappearing for all the semester courses together along with the next immediate batch provided the candidate has applied for the same and paid the required fee; in such cases a candidate will be awarded a new grade only if there is an improvement in grade in the new examination; otherwise, the candidate is eligible to retain the grade obtained in the previous examination before improvement.

6.2. Candidates in the 1st or 2nd semesters who have secured a letter grade of 'P', 'F' or 'Ab' in any of the courses can reappear for exams course-wise along with the next immediate batch provided the candidate has applied for the same and paid the required fee.

6.3. Candidates in the 3rd semester, who have secured the SGPA letter grade of 'C' or 'P' in the end-semester examination can improve their grade by reappearing for all the semester courses together, along with the next immediate batch provided the candidate has applied for the same and paid the required fee; in such cases a candidate will be awarded a new grade only if there is an improvement in grade in the new examination; otherwise, the candidate is eligible to retain the grade obtained in the previous examination before improvement.

6.4. Candidates in the 3rd semester who has obtained letter grade of 'P', 'F' or 'Ab' in any of the courses can reappear for exams course-wise in a supplementary examination along with the 4th semester examinations provided the candidate has applied for the same and paid the required fee (fee for supplementary examination of any course shall be full semester examination fee irrespective of number of courses involved).

- 6.5. After completing a semester programme (all courses with 'P' or above grade) students will not have the facility of course-wise improvement and they will now have to reappear for all the courses constituting the entire semester. 1st and 2nd semester SGPA cannot be *improved* after the completion of the 4th semester. Only 3rd and 4th semester SGPA can be *improved* after the completion of a programme. The marks/grades awarded for internal assessment and that for the project/dissertation cannot be improved
- 6.6. Improvement of the 3rd or 4th semester must be done within a period of one year, that is, by reappearing for the third semester examinations at the following semester and the fourth semester examinations along with the immediate lower batch. If the improvement is meant to obtain minimum CGPA requirement, a candidate has the option to decide which semester (3rd or 4th) is to be improved; however, the grade given to the candidate shall be that obtained for the entire semester improvement examination.
- 6.7. Candidates who could secure the grade of only 'F' or 'Ab' in a course in the 3rd /4th semester examinations will be given two additional chances for course-wise reappearance even after the completion of the programme; but it has to be done within a period of two years after the completion. In such cases a candidate has to apply for the same as a supplementary exam and pay the required fee (*Fee for supplementary examination of any course shall be full semester examination fee irrespective of number of courses involved*).
- 6.8. In the case of students who discontinued studies during a semester or on completion of a semester of the programme for genuine reasons, with the prior permission of the director, he/she can be permitted to complete the programme by taking the required number of courses within a maximum period of eight continuous semesters including the period of his/her programme, provided an amount equivalent to the semester fees for all the intervening semesters have been *regularly* paid and provided he/she has not been removed from the rolls by issuing a Transfer Certificate.

In all cases of discontinuation and readmissions, candidates must submit applications countersigned by the HoD to the CSS section and obtain the required statutory order for the same. Candidates who are readmitted to repeat a course must follow the then existing syllabus for the said programme and will have no assurance to do the repeat course in the same syllabus which he/she had attempted initially for the course. They need to attend classes along with new batch of students and should obtain the required percentage of attendance as usual.

7. Issue of Grade Card: Grade card will be given to the student at the end of each semester that will indicate the grades he/she has obtained as well as the semester grade point average (SGPA) which is the weighted average of the numerical value (grade point) obtained by him/her in the semester. Weighted average is calculated by dividing the sum of the product of

the grade point or numerical value obtained for each course and the credits that it carries by the total number of credits earned. The Cumulative Grade Point Average (CGPA) for the whole programme will be calculated in the same way, which will also be indicated in the Grade Card. **Minimum SGPA in all semesters is not an assurance to minimum CGPA for the entire programme.**

8. 1. Percentage Equivalence of Grade:

Range of % of Marks	Grade Letter	Grade Point
95 - ≤100	O	10
85 - <95	A plus	9
75 - <85	A only	8
65 - <75	B plus	7
55 - <65	B only	6
45 - <55	C	5
40 - <45	P	4
<40	F	0
Absent	Ab	0

8.2: Calculation of Semester Grade Point Average (SGPA):

Credit Points for the Course = No. of Credits assigned for the course x Grade Point secured for that course.

SGPA indicates the performance of a student in a given Semester. SGPA is based on the total **credit points** earned by a student in all the courses divided by the total number of credits assigned to the courses taken in the semester required in a Semester. **Note: SGPA is computed only if the candidate passes in all the required courses (gets a minimum required grade for a pass in all the required courses as per the specific curriculum). Securing of SGPA in all semesters may not enable students to have minimum required CGPA for a pass in the programme.**

$$\text{SGPA} = \frac{\text{Total credit points earned by the student from all the required courses of a Semester}}{\text{Total credits of all courses required in the semester}}$$

8.3. Calculation of Cumulative Grade Point Average (CGPA)

CGPA refers to the Cumulative Grade Point Average weighted across all the semesters (4 Semesters). CGPA is obtained by dividing the total number of credit points earned by the student in all the semesters by the total number of required credits of all the Semesters as per curriculum.

$$\text{CGPA} = \frac{\text{Total Credit Points of Semesters - 1 + 2 + 3 + 4}}{\text{Total Credits of Semesters - 1 + 2 + 3 + 4}}$$

OR

$$\text{SGPA of I Semester} \times \text{Total Credits of I Sem}] + [\text{SGPA of II Semester} \times \text{Total Credits of II Sem}] \\ + [\text{SGPA of III Semester} \times \text{Total Credits of III Sem}] + [\text{SGPA of IV Semester} \times \text{Total Credits of IV Sem}]$$

$$\text{Total Credits of I Semester} + \text{Total credits of II Semester} + \text{Total credits of III Semester} + \text{Total credits of IV Semester}$$

This formula shall be printed on the Grade Card issued to the student with a note that it could be used to convert the grades into mark-percentages. (The details of the grading system as indicated in section 11.1 & 11.2 above shall also be printed on the Grade Card).

Conversion of SGPA/CGPA to Grade

10	O
9.0 - <10	A plus
8.0 - <9	A only
7.0 - <8	B plus
6.0 - <7	B only
5.0 - <6	C
4.0 - <5	P
<4	F
Absent	Ab

Conversion of CGPA to percentage

Equivalent Percentage = $\frac{\text{CGPA obtained}}{10} \times 100$

Maximum CGPA (=10)

9. Position Certificate: The position certificate shall be given for the 1st five positions. Students who have completed the course by availing of the improvement examinations for a course or reappearance for a course will not be eligible for position certificate.

If Rank certificate in a prescribed format is demanded by institutions for awarding a specific fellowship/scholarship such as for DST Inspire Fellowship etc, the rank certificate may be given for such students as a special case in the prescribed format.

10. Registration of student enrolment with the CSS: The list of students registered for each semester programme should be forwarded to the CSS along with original certificates (Degree Certificate + SSLC) immediately after closing the admission of first semester programme.

11. Consolidation and Declaration of Results:

All work pertaining to the examinations shall be held in the School under the direct control and supervision of the director. The director will, in consultation with the Faculty Council directly control the internal/external examinations and evaluations or nominate a teacher as the chief examiner who will assist him/her in the matter. *The marks awarded for internal assessment will be displayed in the School's notice board at the end of each semester.*

If a student has any complaint regarding the marks received in internal assessment, he/she should report it to the concerned faculty member within 3 working days from the date of publication of the same on the notice board. Thereafter, complaints against internal marks will not be entertained under any circumstance.

The tabulated grade sheets will be forwarded after each end-semester examination to the office of the controller of examinations. The CSS section in the Controller's office will check the Grade card forwarded from the school and notify the results after consolidating them and issue statement of credits. On completion of the final semester a consolidated Grade Card showing the details of all the courses taken will be prepared. The consolidated Grade Card containing the details of all the courses with their titles, credits, grades obtained, the total credits earned, the SGPA and the CGPA will be issued to students.

The CSS Committee will also prepare a uniform examination schedule for all the programmes in the university. A common admission schedule for all the Departments in the University will also be prepared by the Academic Advisory Committee. All other work pertaining to the CSS will be conducted at the University Departments/Schools of Teaching and Research.

12. Issue of Certificates:

On completion of a semester (when results are ready) the Director/Coordinators of all programmes shall forward tabulated grade sheets along with the minutes of the pass board meeting showing details to the CSS Section; in the case of final semester, consolidated details of all semesters showing total number of candidates registered, appeared and passed in the prescribed format shall also be furnished

Grade cards to all students who have undergone the courses under the CSS are issued by the office of the Controller of Examinations through SPAP. Consolidated grade cards are also issued. Fee for the issue of grade cards will be announced by the University from time to time.

CSS regulations of the University will be binding on any issue which is not mentioned above.

Chair Person of BoS

School of Pure and Applied Physics - SCHEME

	COURSE CODE	NAME OF PAPERS	Credits
	SEMESTER- I		
1	SPAPMIC1701	BASIC ELECTRONICS	4
2	SPAPMIC1702	MATHE MATICAL PHYSICS-I	4
3	SPAPMIC1703	CLASSICAL MECHANICS	4
4	SPAPMIC1704	CLASSICAL ELECTRO DYNAMICS	4
5	SPAPMIC1705	PRACTICAL –I [#]	4
	Total		20
	SEMESTER - II		
1	SPAPMIIC1706	QUANTUM MECHANICS- I	4
2	SPAPMIIC1707	MATHE MATICAL PHYSICS- II	4
3	SPAPMIIC1708	STATISTICAL PHYSICS	4
4	SPAPMIIC1709	SOLID STATE PHYSICS	4
5	SPAPMIIC1710	PRACTICAL -II [#]	4
	Total		20
	SEMESTER - III		
1	SPAPMIIC1711	QUANTUM MECHANICS- II	4
2	SPAPMIIC1712	COMPUTATIONAL METHODS IN PHYSICS	4
3	SPAPMIIC1713	LASERS AND SPECTROSCOPY	4
4	SPAPMIIC1714	PRACTICAL-III [#]	2
5	SPAPMIIE17xx *	ELECTIVE - I	4
6	SPAPMIIO17yy *	OPEN COURSE	4
	Total		22
	SEMESTER - IV		
1	SPAPMIVC1715	NUCLEAR AND PARTICLE PHYSICS	4
2	SPAPMIVC1716	ADVANCED PRACTICAL [#]	4
3	SPAPMIVC1717	PROJECT	4
4	SPAPMIVC1618	VIVA	2
4	SPAPMIVE17xx *	ELECTIVE - II	4
5	SPAPMIVE17xx *	ELECTIVE - III	4
	Total		22

		Grand Total	84
	<ul style="list-style-type: none"> • * xx represents elective course with course codes SPAPM IIIE1750 to SPAPM IVE1779 • * yy represents open course with course codes SPAPM IIIO1780 to SPAPM IVO1789 • # Syllabus will be decided by the department council based on the availability of facilities 		
	ELECTIVE COURSES		
1	SPAPMZZE1751*	BASIC ASTRONOMY	4
2	SPAPMZZE1752	X-RAY CRYSTALLOGRAPHY	4
3	SPAPMZZE1753	LASER PLASMA	4
4	SPAPMZZE1754	PLASMA_PHYSICS	4
5	SPAPMZZE1755	X-RAY CHARACTERISATION METHODS	4
6	SPAPMZZE1756	MULTIFERROIC MATERIALS AND APPLICATIONS	4
7	SPAPMZZE1757	STAR GALAXIES AND COSMOLOGY	4
8	SPAPMZZE1758	GENERAL THEORY OF RELATIVITY	4
9	SPAPMZZE1759	THEORETICAL PHYSICS	4
10	SPAPMZZE1760	NANOMAGNETISM	4
11	SPAPMZZE1761	APPLIED PHOTONICS	4
12	SPAPMZZE1762	ADVANCED SOLID STATE PHYSICS	4
13	SPAPMZZE1763	PHYSICS OF MESOSCOPIC SYSTEMS	4
14	SPAPMZZE1764	NANOPHOTONICS	4
	OPEN COURSES		
1	SPAPMIII O81	Introduction to Mathematical Science	4
2	SPAPMIII O82	Physics of Nanomaterials	4

* ZZ represents III/IV :- a given elective, may be offered in semester III/IV as per the availability of teachers.

