

To,
The COE,
Central University of South Bihar
Pandharpur, Gaya,
Bihar

2/8/18.

Subject: ^{Minor} Modification in syllabus and ordinance

Respected Madam,

I want to put some modifications in syllabus and ordinance in your notice. Please replace page no. 17 to 29 in ordinance and page no. 4-6 in Syllabus due to minor corrections (changes ^{are} on page no. 17 and 4-5). Please find attached ~~copy~~ signed copies of corresponding ordinance (17-29) and syllabus (4-6) for your kind perusal.

Thanks for your concern.
with warm regards.

Jyoti chandry
Dr. Jyoti chandry
Head (IC)
Department of Chemistry
CUSB, Gaya.

14.1.2 Each Course Teacher shall design the Continuous Internal Assessment system for the course she/he offers with the approval of the Departmental Committee (DC). This approved design of Continuous Internal Assessment shall be announced to the students of the respective courses at the beginning of each semester by the concerned teacher.

14.1.3 Generally, each course shall be taught by one teacher only, who shall maintain all the records related to attendance, teaching and assessment in a systematic manner. In an exceptionally rare case, if a teacher is assisted in teaching by other teacher, the teacher (in-charge of the course) shall be responsible for coordinating teaching and assessment, including award of final grade.

14.1.4 In case a student fails to appear in any Continuous Internal Assessment, it will be taken care by the concerned Course Teacher at her/his level.

14.2. End-Semester Examination:

14.2.1 Generally, End-Semester theory question paper shall include a limited number of very short answer type questions followed by short and long questions covering the entire syllabus in such a way that the question paper ensures assessing students' knowledge, understanding, application and analysis-synthesis/reflection of the subject. Thus, a standard model format of the End-Semester Examination paper consisting of 70 points shall be as under –

Section-A: 15 very short questions of 02 points each = 30 points
(Short specific questions covering the entire syllabus to be given which should be answered in approximately 50 words by the examinee).

Section-B: 04 short questions of 05 points each = 20 points
(05 short questions to be given out of which 04 questions are to be attempted in approximately 200 words by the examinee).

Section-C: 02 long questions of 10 points each = 20 points
(03 long questions to be given out of which 02 questions are to be attempted in approximately 500 words by the examinee).

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However, a different format of the End-Semester question paper for some particular course (e.g., project, dissertation or laboratory/field work etc.) may be prescribed by the Board of Studies (BoS) of the Department which shall come into force only after the approval of the competent authority of the University.

14.2.2 The duration of the End-Semester theory examination generally shall be of three hours.

14.2.3 The DC shall appoint one or more team(s), as per the need, of preferably three faculty members in each team for moderation of question papers of End-Semester Examinations and communicate the same to the Controller of Examinations. The task of moderation shall be organized by the Controller of Examinations.

The paper setter and the moderator(s) shall ensure and certify that question paper is comprehensive to cover all important topics/themes/course and fit for assessing the mastery of the entire course. They shall also ensure and certify that not more than 10% questions from the previous year question paper have been repeated.

14.3 In exceptional cases, depending upon the nature of a particular course, a totally different mode of assessment and evaluation may be prescribed by the BoS of the Department for the course, which shall come into force only after the approval of the competent authority of the University. However, it must be reflected in the detailed syllabus of the course and be available to the students at the beginning of the semester.

14.4 Any partial or complete change in the system of examination (Assessment & Evaluation) may be recommended by the UATEC which shall be implemented only after the approval of the competent authority.

14.5 A student is required to secure a minimum of 'P' grade in the Continuous Internal Assessment and in the End-Semester Examination, taking together, in a course.

14.6 Making Evaluated Answer-scripts Available to the Students:

14.6.1 All the examination answer-scripts shall be made available to the students after evaluation by the respective teachers as per the schedule decided by the concerned teachers or the University. In case of the End-Semester Examination, the evaluated answer scripts shall be made available to the students within 7 days of the last examination for the semester. Thereafter, within a week, all the answer books along with the statement of marks shall be sent by the concerned teacher through her/his Department to the Office of the Controller of Examinations for declaration of the results.

14.6.2 If a student is not satisfied with the evaluation of her/his answer script, s/he must submit a written objection to the concerned Head of the Department (offering the course) within 8 days from the last examination for the semester. Such complaint shall be looked after by a panel of three faculty members, including the concerned teacher, to be nominated by the concerned Head of the Department, whose decision shall be final. The revised points, if any, shall be submitted by the panel to the concerned Head of Department who shall further submit it to the Controller of Examinations. This complete process of grievance redressal by the panel and the further submission of marks by the Head of Department, generally, should not take more than 7 days from the date of receipt of the grievance. However, in case of any controversy, the matter shall be referred to the Vice-Chancellor for final decision and action.

14.6.3 Once evaluated answer books are submitted to the Controller of Examinations, there shall be no re-evaluation/re-totaling thereafter.

14.7 Letter Grades and Grade Points:

An absolute grading system shall be adopted to grade the students.

14.7.1. Under the absolute grading system, points shall be converted to grades based on pre-determined class intervals.

14.7.2. In the End-Semester theory or practical examinations, the examiner shall award the points and these points after adding the points of Continuous Internal Assessment shall be further converted into Grades/Grade points in accordance with the provisions of this ordinance.

14.7.3. Detail Grade Sheet issued by the Controller of Examinations office at the end of the semester shall carry points /percentage and equivalent grades (numerical and letter) both.

14.7.4. The 10-point Grading System, with the Letter Grades as given under shall be followed:

Letter Grade	Numerical Grade Point	Class Interval (in %)
O (Outstanding)	10	Above 90 and \leq 100
A+ (Excellent)	9	Above 80 and \leq 90
A (Very Good)	8	Above 70 and \leq 80
B+ (Good)	7	Above 60 and \leq 70
B (Above Average)	6	Above 50 and \leq 60
C (Average)	5	Above 45 and \leq 50
P (Pass)	4.5	40 to 45
F (Fail)	0	< 40
Ab (Absent)	0	Absent

Note:

- (i) F= Fail, and the students graded with 'F' in a Programme or Course shall be required to re-appear in the examination.
- (ii) The minimum qualifying points for a course shall be 4.5 (i.e., 'P' grade).
- (iii) The students shall have to qualify in the Continuous Internal Assessment and the End-Semester examinations taking together.
- (iv) Before awarding numerical grade to the points obtained in a course, only the total of Continuous Internal Assessment and End-Semester Examination shall be rounded off to remove the decimal point. Thus, no separate rounding off shall be done of the points obtained in different components of Continuous Internal Assessment and End-Semester Examination.
- (v) There shall be rounding off of SGPA/CGPA up to two decimal points.
- (vi) The SGPA/CGPA obtained by a student shall be out of a maximum of 10 points.
- (vii) In order to be eligible for the award of the M.Sc. Degree of the University, a student must obtain CGPA of 4.50 at the end of the Programme x.
- (viii) Provided that the student who is otherwise eligible for the award of the M.Sc. Degree but has secured a CGPA of less than 4.50 at the end of the minimum permissible period of semesters may be allowed by the Department to repeat the same course(s) or other courses of the same type in lieu thereof in the extra semesters provided in Clause 11 related to the duration of Programme.

- (ix) The Cumulative Grade Point Average (CGPA) obtained by a student shall be classified into the following division/Class:

CGPA	Class/ Division
Above 9	Outstanding
Above 8 to 9	First Class (With Distinction)
6 to 8	First Class
5.5 to < 6	High-Second Class
5 to < 5.5	Second Class
4.5 to < 5	Third Class

14.8. Re-appear in the End-Semester Examination:

- 14.8.1 Once a student has fulfilled the attendance requirements in a course as per the provisions mentioned in this ordinance but has failed to score minimum grade required to qualify the Course or failed to appear in the End-Semester Examination of the course, may be allowed to re-appear in the End-Semester Examination, in such course, in the extra semesters provided under the Clause 11 on duration of Programme.
- 14.8.2. Such student may avail the chance to re-appear only within the maximum duration of the Programme. The re-appearance shall be permitted only in the End-Semester Examination of the concerned course(s) and the marks obtained by the student in the Continuous Internal Assessment conducted earlier for the particular course(s) shall be carried forward to be added with the marks obtained by her/him in the latest End-Semester Examination of the respective course(s).
- 14.8.3. The re-appear examination of even semesters shall be conducted along with the End-Semester Examinations of even semesters. Similarly, the re-appear examinations of odd semesters shall be conducted along with the End-Semester Examinations of odd semesters.
- 14.8.4. The re-appear examination shall be based on the syllabi of the course in force at the time of initial registration to the course.
- 14.8.5 A student who is re-appearing for the End-Semester Examination as per the clause 14.8.1 above; can re-appear in the subsequent semester(s), whenever the examination of a particular course is held, on payment of Rs. 2000/- (may be revised time to time by the University) per course in addition to the prescribed semester fee of the semester in which she/he has been promoted/provisionally promoted, if applicable, within the maximum permissible duration for the Programme.

Shiv Chandra
Anuja Rajan

14.8.6 A student who has got the Migration/Transfer Certificate issued from the University shall not be allowed to re-appear in the End-Semester Examination.

14.9 Re-appear in the End-Semester Examination for Improvement of Grade(s):

14.9.1 If a student wishes to improve her/his grade(s) in any course (s), s/he can re-appear in the End-Semester Examination in the subsequent odd/even semester(s), whenever the examination of the particular course(s) is held, on payment of Rs. 2000/- (may be revised time to time by the University) per course in addition to the prescribed semester fee of the semester in which she/he has been promoted/provisionally promoted, if applicable, within the maximum permissible duration for the Programme of study of the student.

14.9.2 A student may improve her/his points/grade by reappearing in the End-Semester Examination of a course as per the provisions of reappearing mentioned above. In such cases points obtained by the student in the Continuous Internal Assessment of the particular course shall be carried forward to the subsequent End-Semester Examination of the course. However, in such case, the points/grades obtained on the basis of latest appeared End-Semester Examination shall be considered for calculation of final CGPA of the Programme.

14.9.3 The re-appear examination of a course for improvement of grade shall be based on the syllabi of the course in force at the time of initial registration to the course.

14.9.4 A student who has got the Migration/Transfer Certificate issued from the University shall not be allowed to re-appear in any examination for improvement of grade.

14.10 Repeating course(s):

14.10.1 A student having attendance shortage in any course may repeat the course by taking re-admission in that course in subsequent odd/even semester(s), whenever the course is being offered, within the maximum permissible duration of the Programme.

14.10.2 If a student repeats a course she/he has to fulfill all the desired requirements afresh including attendance, Continuous Internal Assessment and the End-Semester Examination. In such case the course content shall be based on the syllabi of the course in force at the time of repeat of the course. However, at the time of repeating, if the same course is not being offered by the Department due to any reason, the student may choose any other course of similar nature and credits from the available courses on recommendation of the Mentor and approval of the concerned Head of Department.

14.10.3 If a student repeats a course, she/he has to submit a fee of Rs. 3000/- (may be revised time to time by the University) per course in addition to the prescribed semester fee of the semester in which she/he has been promoted/provisionally promoted, if applicable.

14.11 Promotion Rules:

14.11.1 A student shall be declared as **'Promoted'** to the next semester when s/he earns 'P' Grade or above in the last concluded semester examination, maintaining the spirit and pattern of semester system and covering the mandatory components, such as Continuous Internal Assessment and End-Semester Examinations in all the courses for which s/he was registered till date.

14.11.2 A student shall be **'Provisionally Promoted'** to the next semester if she/he secures less than 'P' grade in **maximum three courses** out of the total courses registered by her/him till date.

14.11.3 A student shall be deemed as **'Failed'** in a semester when she/he gets below 'P' Grade in **more than three courses** or does not appear in the End-Semester Examination of **more than three courses**, after fulfilling the attendance requirements as per this ordinance, out of the total courses registered by her/him till date. In such case(s), a student has to re-appear in the End-Semester Examination of the course(s) in subsequent odd/even semester(s) within the maximum permissible duration of the Programme on payment of Rs. 2000/- (may be revised time to time by the University) per course. Since, such student does not need to attend the classes of the course(s) again; the marks of Continuous Internal Assessment obtained by her/him in the course(s) earlier shall be carried forward to be added with the marks obtained by her/him in the latest End-Semester Examination of the respective course(s).

14.11.4 A student shall also be deemed as **'Failed'** in a semester when she/he failed to appear in the End-Semester Examinations of more than three courses due to the attendance criteria mentioned in 18.4 of this ordinance. Such student has to repeat the courses in the subsequent odd/even semester(s), whenever the courses are being offered, within the maximum permissible duration of the Programme, on payment of the prescribed fees as per the clause 14.10.3.

14.11.5 Under no circumstances, any student shall be permitted to register in a new course if she/he is having less than 'P' Grade in more than three courses.

14.11.6 A student shall be declared to have passed the Programme of study and award of the degree if she/he has secured the required credits with at least 'P' grade.

14.11.7 The re-examination of End-Semester Examination of the failed or provisionally promoted students shall be as per the clauses/sub-clauses under 14.8 above. However, only in a case where a student of final semester (within the minimum prescribed duration of the Programme) fails to appear or to achieve 'P' grade in maximum three courses including all backlogs after the result declaration of final semester, the Department may ask the concerned course Teacher(s) to conduct re-examination of End-Semester Examinations of such course(s) within a month from commencement of the next semester relaxing the condition of odd/even semester as given in 14.8.3 the student shall have to pay a fee of Rs. 2000/- per course.

14.11.8 If a candidate is repeating a course in an academic session, whatever may be the reason, it shall not be counted in the total number of seats and shall not affect the fresh intake of the M.Sc. Programme in that academic session.

14.12 Minimum Credit Requirements:

For a two-year M.Sc. Degree Programme, the credit requirements shall be 96 credits, including core and elective courses as prescribed in the detailed syllabus attached with this ordinance and regulations. A minimum of 8 credits and maximum of 16 credits shall be from elective courses offered by other Department(s).

15. Computation of SGPA and CGPA:

The University shall follow the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

15.1. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student in a particular semester and sum of the number of credits of all the courses undergone by a student in that semester, i.e.,

$$SGPA (S_i) = \frac{\sum (C_i \times G_i)}{\sum C_i}$$

Where, C_i is the number of credits of the i^{th} course and G_i is the grade point scored by the student in the i^{th} course.

15.2. The CGPA is also calculated in the same manner taking into account all

the considerable courses as per the provision laid down in this ordinance out of the total courses undergone by a student over all the semesters of a Programme, i.e.,

$$CGPA = \sum (C_i \times G_i) / \sum C_i$$

Where, C_i is the number of credits of the i^{th} course (which is to be considered for the award of the PG Degree) and G_i is the grade point scored by the student in the i^{th} course.

15.3. The SGPA and CGPA shall be rounded off to 2 decimal points.

15.4. Since, the calculation of CGPA is not based on all the courses undergone by student, rather it is governed by other provisions laid down in this ordinance like, clause 7.2.3, 13.5 etc., the CGPA may differ from the corresponding calculations based on SGPA only.

16. Illustration of Computation of SGPA and CGPA:

16.1. Illustration for computing SGPA:

Course	Credit	Grade Letter	Grade Point	Credit Point
Course I	3	A	8	3 x 8 = 24
Course II	4	B+	7	4 x 7 = 28
Course III	3	B	6	3 x 6 = 18
Course IV	3	O	10	3 x 10 = 30
	Total credits for the semester = 13			Total Credit points Earned = 100

Thus, SGPA = $100/13 = 7.69$

16.2 Illustrations for computing CGPA:

Courses Considered for the Award of the Degree	Completed in the month (Year)	Credit	Grade Letter	Grade Point	Credit Point
Course I	Dec 2018	4	A	8	4 x 8 = 32
Course II	Dec 2018	4	B+	7	4 x 7 = 28

Course III	June 2019	4	B	6	4 x 6 = 24
Course IV	June 2020	4	O	10	4 x 10 = 40
		Total credits for the semester =16			Total Credit points earned= 124

Thus, CGPA= 124/16= 7.75

Note: Formula to calculate percentage from CGPA/SGPA= CGPA or SGPA x 10; and formula to calculate percentage to CGPA or SGPA = Percentage/10,

e.g., In case of example mentioned in Table 16.2, the percentage of CGPA = 7.75 x 10 = 77.50%

- 16.3. Transcript (Format):** Based on the above, letter grades, grade points, and the SGPA, the Transcripts/Detail Grades Certificates (DGCs) shall be issued to the candidates for each semester and a consolidated transcript on completion of the Programme indicating the performance in all the courses considered for calculating the CGPA. Along with the CGPA, the percentage of marks obtained in the Programme shall be reflected in this consolidated transcript on the basis of the CGPA. However, this system may be changed by the University at any point of time without prior notice to the stakeholders as per the need.

17. Removal of Student Name from the Programme:

The name of a student falling under any one of the following categories shall automatically stand removed from the rolls of the University:

- (a) A student who has failed to fulfill the minimum grade point requirements prescribed for the Programme during the maximum duration of the Programme.
- (b) A student who has already exhausted the maximum duration allowed for completion of the Programme and has not fulfilled the requirements for the award of the degree.
- (c) A student who is found to be involved in misconduct, forgery, indiscipline or any other objectionable conduct, upon recommendation of the Disciplinary Committee/ Proctorial Board or any other procedure deemed fit by the University.
- (d) A student who has failed to attend the classes as stipulated under the clause of attendance requirements in this ordinance.

18. Attendance Rules:

- 18.1 A student is required to attend 100% of the classes held in a course in the specific semester in order to be eligible to appear in the End-semester examination of that particular course.
- 18.2 Waiving of attendance-deficit up to a maximum of 25% is permissible to accommodate following situations:
- (a) Representing the University in any inter-collegiate, inter-University, local, national or international events; (b) Participating in an activity of the University with prior permission of the Competent Authority; (c) Participation in NCC/NSC/NSS Camps duly supported by certificate. (d) Participation in Educational Excursions, which form a part of teaching in any subject, conducted on working days duly certified by the concern Course Teacher/ Head of Department /Dean; and (e) to cover all unforeseen reasons like illness, hospitalization, personal engagements elsewhere or other personal reasons which compel a student to absent herself/himself from attending the classes.
- 18.3 Hence, it shall be mandatory/compulsory to every student to have attendance in 75% classes held in particular course. No waiver, for whatsoever reason, shall be given. Accordingly, no application requesting waiver below 75% attendance shall be entertained by the University. However, a further relaxation up to 10% or the days spent (whichever is lesser) on the basis of situations mentioned under a, b & c of Clause 18.2 above (not on the basis of d of Clause 18.2) may be considered by the Vice-Chancellor on the recommendation of the Head/In charge of the Department. In any other situation no appeal can be made for this purpose even to the Vice-Chancellor.
- 18.4 A student, however, shall not be allowed to appear in the End-Semester Examination of the courses which are not covered under above mentioned clauses 18.1, 18.2 and 18.3. Such a student shall be permitted to repeat the courses in the subsequent odd/even semester(s), whenever the courses are being offered, within the maximum permissible duration of the Programme, on payment of the prescribed fees as per the clause 14.10.3. However, in the first semester, for repeating the courses, it shall be mandatory for a student to have minimum 40% attendance in aggregate (taken together all the courses registered by her/him in the semester). If a student does not put in at least 40% of aggregate attendance in the first semester, she/he shall have to leave the Programme without claiming refund of any fees, and her/his admission shall be treated as cancelled.
- 18.5 The attendance of a newly admitted candidate shall be counted from the date of her/his admission/registration or date of beginning of classes, whichever is later. In the case of promoted candidates, attendance shall be

counted from the date on which respective class begins. However, if a new student is admitted late after the commencement of the classes, s/he must get herself/himself registered in the desired courses following the due procedure within 5 working days after the admission failing which her/his attendance shall be counted after 5 working days from the date of admission.

18.6 In a case of changed registration as per the clause 13.3 of this ordinance the total classes held for calculating percentage of attendance in the newly registered course for a particular student shall be counted from the fresh registration in that particular course.

18.7 Monthly records of attendance of students in each of the courses taught by a teacher is to be prepared and submitted by the concerned teacher to the Office of the Head/In charge of the Department (HoD) and the Controller of Examinations' (CoE) office by the 10th day of the next month after displaying it to the students in the course and taking their signatures. The teacher will keep the original record of attendance with her/him and submit it finally to both the offices with her/his remarks regarding the eligibility of a student for appearing in the end semester examination within three working days after the last class or teaching day in the semester, whichever is later. Any failure in compliance in this matter must be informed by the concerned teacher to the Head of Department and the Controller of Examinations with justification.

18.8 There shall be an Attendance Monitoring Committee in the Department under the Chairmanship of the Head or her/his nominee for proper monitoring of attendance records and taking suitable action(s) as per the requirements.

19. Programme Structure:

The M.Sc. Programme shall be of two year duration divided into four semesters. A student is required to earn at least 96 credits within the stipulated time as per the details given in Annexure-1.

(ANNEXURE WILL CONTAIN THE FOLLOWING ALONG WITH THE DETAILED SYLLABUS)

The Courses and Credit Load (In the provided format along with specific scheme of examination, if any):

Semester-wise Distribution of Courses:

20. Power to Relax and Amendments

20.1 All the above clauses are subject to the amendments, as and when required, as per the decisions pertaining to rules, regulations and norms of the University Statutory Bodies and other Regulatory Bodies etc., from time to time.

20.1.1 Notwithstanding what is contained in the foregoing clauses of this ordinance, the Academic Council may, in exceptional circumstances consider at its discretion and for reasons to be recorded, relax any of the provisions except those prescribing CGPA requirements.

20.2 Notwithstanding anything stated in this ordinance, for any unforeseen issues arising, and not covered by this ordinance, or in the event of differences of interpretation, the Vice-Chancellor may take a decision, after obtaining the opinion/advice, if required, of UATEC. The decision of the Vice-Chancellor shall be final.

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COURSE STRUCTURE

(Minimum Core/Electives Credits = 56/40)

FIRST SEMESTER (ODD SEMESTER)

Code No.	Title	Theory/Practical (Hrs/Week)	Total Marks	Credits
MSCHE1001C04	Group Theory, Bonding and Metal-Ligand Equilibrium	4	100	4
MSCHE1002C04	Bonding, Stereochemistry and Reaction Mechanism (I)	4	100	4
MSCHE1003C04	Basic Concepts of Physical Chemistry	4	100	4
MSCHE1004C04	Inorganic Chemistry Lab	8	100	4
Departmental Elective	One or more courses to be selected from the elective basket for odd semesters	4	100	4
Open Elective (Inter-School or Inter-Department or SWAYAM elective)	One or more courses to be selected from the elective basket for odd semester	4	100	4

SECOND SEMESTER (EVEN SEMESTER)

Code No.	Title	Theory/Practical (Hrs/Week)	Total Marks	Credits
MSCHE2001C04	Photochemical and magnetic properties of complexes and nuclear chemistry	4	100	4
MSCHE2002C04	Reaction Mechanism (II), Pericyclic and Photochemical Reactions	4	100	4
MSCHE2003C04	Quantum Mechanics and Statistical Thermodynamics	4	100	4
MSCHE2004C04	Physical Chemistry Lab	8	100	4
Departmental Elective	Two or more courses to be selected from the elective basket for even semesters	4	100	4

Jinish Chandra
Anuja Bhanu

THIRD SEMESTER (ODD SEMESTER)

Code No.	Title	Theory/Practical (Hrs/Week)	Total Marks	Credits
MSCHE3001C04	Carbohydrates, Hetrocyclic Compounds, Organometallic Reagents and Synthetic	4	100	4
MSCHE3002C04	Project-I and Scientific Activities	-	100	2+ 2 = 4
MSCHE3003C04	Organic Chemistry Lab	8	100	4
Departmental Elective	Two or more courses to be selected from the elective basket for odd semesters	4	100	4
Open Elective (Inter-School or Inter-Department or SWAYAM elective)	One or more courses to be selected from the elective basket for odd	4	100	4

FOURTH SEMESTER (EVEN SEMESTER)

(Common to students of all branches)

Code No.	Title	Theory/Practical (Hrs/Week)	Total Marks	Credits
Chemistry Specialisaton				
MSCHE4001C12	Project-II	-	100	12
Departmental Elective	Three or more courses to be selected from the elective basket for even semesters	4	100	4

ELECTIVES COURSES

(Minimum 40 Credits[#])

Code No.	Title of the Paper	Teaching/contact Hrs/week	Total Marks	Credits
Elective-Basket for 1st Semester (Odd Semester)				
<ul style="list-style-type: none"> At least one elective has to be choosen. 				
MSCHE1001E04	Supramolecular Chemistry	4	100	4
MSCHE1002E04	Chemistry of Biomolecules	4	100	4
MSCHE1003E04	Green Chemistry I: Solvents & Synthesis	4	100	4
SWAYAM Elective*				
<p>[#] Few courses have to be taken from SWAYAM portal and from other schools/departments Students will also be encouraged to take a self study/skill-based course available on SWAYAM portal. No credit will be awarded for this as it would be a zero-credit course. * SWAYAM Courses will be reviewed and announced by the department periodically.</p>				
Elective-Basket for 2nd Semester (Even Semester)				
<ul style="list-style-type: none"> At least two electives have to be choosen. 				

MSCHE2001E04	Solid State and Structural Chemistry	4	100	4
MSCHE2002E04	Advanced Instrumental Techniques-I	4	100	4
MSCHE2003E04	Green Chemistry II: Catalysis	4	100	4
MSCHE2004E04	Nucleoside, Advances in Nucleic Acid and Proteins	4	100	4
MSCHE2005E04	Chemistry of Natural Products	4	100	4
Elective-Basket for 3rd Semester (Odd Semester)				
• At least two electives have to be chosen.				
MSCHE3001E04	Atom Dynamics in Solid and Advanced Magnetochemistry	4	100	4
MSCHE3002E04	Surface Phenomena, Chemical Dynamics and Spectroscopy	4	100	4
MSCHE3003E04	Chemistry of Materials	4	100	4
MSCHE3004E04	Advanced Photochemistry	4	100	4
MSCHE3005E04	Medicine and Agrochemicals	4	100	4
MSCHE3006E04	Nano Chemistry	4	100	4
Elective-Basket for 4th Semester (Even Semester)				
• At least three electives have to be chosen.				
MSCHE4001E04	Reaction mechanism, Organometallics and Advanced Bioinorganic Chemistry	4	100	4
MSCHE4002E04	Applications of spectroscopy techniques to inorganic systems	4	100	4
MSCHE4003E04	Advanced Inorganic Materials	3 (L)+2 (P) = 5	100	3+1 = 4
MSCHE4004E04	Dynamic Stereochemistry, reagents and Retrosynthetic analysis	4	100	4
MSCHE4005E04	Medicinal, combinatorial and Organometallic reagents in Organic synthesis	4	100	4
MSCHE4006E04	Spectroscopy and catalysis in Organic synthesis	3 (L)+2 (P) = 5	100	3+1 = 4
MSCHE4007E04	Advanced Quantum Mechanics and Surface Chemistry	4	100	4
MSCHE4008E04	Applied Electrochemistry	4	100	4
MSCHE4009E04	Lasers in Chemistry	4	100	4
MSCHE4010E04	Green Energy Systems	4	100	4
MSCHE4011E04	Advanced Instrumental Techniques-II	4	100	4

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Anya Rajan*

