

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
INSTITUTE OF SCIENCE AND TECHNOLOGY, HYDERABAD  
(AUTONOMOUS)  
ACADEMIC REGULATIONS FOR THE AWARD OF FULL TIME M.Sc DEGREE  
(WITH EFFECT FROM THE ACADEMIC YEAR 2017-18)**

The M.Sc Degree of Jawaharlal Nehru Technological University Hyderabad shall be conferred on candidates who are admitted to the respective programs and fulfil all the requirements for the award of the Degree.

**1. ELIGIBILITY FOR ADMISSIONS:**

Admission to the above program shall be made subject to the eligibility, qualifications and specialization prescribed by the University from time to time.

Admission shall be made on the basis of the merit rank obtained by the qualifying candidate at an Entrance Test conducted by JNTUH on the basis of any other order of merit approved by the University, subject to reservations as prescribed by the Government from time to time.

**2. AWARD OF M. Sc. DEGREE:**

- 2.1 A student shall be declared eligible for the award of the M.Sc degree, if he/she pursues a course of study and completes it successfully for not less than two academic years and not more than four academic years.
- 2.2 A student, who fails to fulfill all the academic requirements for the award of the degree within four academic years from the year of his/her admission, shall forfeit his seat in M.Sc course.
- 2.3 The student shall register for all 100 credits and secure all the 100 credits.
- 2.4 The minimum instruction days in each semester are 90.
- 2.5 A candidate shall be deemed to have secured the credits assigned to a subject if he / she has put atleast 65% of attendance; and secured the minimum academic requirement in the subject.
- 2.6 In order to qualify for the award of the Post-Graduate Degree, the candidate shall earn all the prescribed credits, as per the course structure.

**3. COURSE OF STUDY:**

A. The following specializations are offered at present for the M. Sc course of study.

1. Biotechnology
2. Microbiology
3. Organic Chemistry
4. Analytical Chemistry
5. Environmental Science and Technology
6. Environmental Biotechnology
7. Satellite Metrology & Weather Informatics
8. Nano Science and Technology

9. Water and Environmental Technology  
and any other course as approved by the authorities of the University from time to time.

**4.0 . Departments offering M.Sc Programmes with specializations are mentioned below:**

CENTRE FOR BIOTECHNOLOGY	Biotechnology Microbiology
CENTRE FOR CHEMICAL SCIENCE AND TECHNOLOGY	Organic Chemistry Analytical Chemistry
CENTRE FOR ENVIRONMENT SCIENCE	Environmental Science and Technology Environmental Biotechnology
CENTRE FOR EARTH AND ATMOSPHERE AND WEATHER MODIFICATION TECHNOLOGIES	Satellite Metrology & Weather Informatics
CENTRE FOR NANOSCIENCE TECHNOLOGY	Nano Science and Technology
CENTRE FOR WATER RESOURCES	Water and Environmental Technology

## 5.0 ATTENDANCE

The programmes are offered on a unit basis with each subject being considered a unit.

- 5.1 Attendance in all classes (Lectures/Laboratories etc.) is compulsory. The minimum required attendance in each theory / Laboratory etc. is 75% including the days of attendance in sports, games, NCC and NSS activities for appearing for the End Semester examination. A student shall not be permitted to appear for the Semester End Examinations (SEE) if his attendance is less than 75%.
- 5.2 Condonation of shortage of attendance in each subject up to 10% (65% and above and below 75%) in each semester shall be granted by the College Academic Committee.
- 5.3 Shortage of Attendance below 65% in each subject shall not be condoned.
- 5.4 Students whose shortage of attendance is not condoned in any subject are not eligible to write their end semester examination of that subject and their registration shall stand cancelled.
- 5.5 A prescribed fee shall be payable towards condonation of shortage of attendance.
- 5.6 A Candidate shall put in a minimum required attendance at least three (3) theory subjects in I Year I semester for promoting to I Year II Semester. In order to qualify for the award of the M.Sc. Degree, the candidate shall complete all the academic requirements of the subjects, as per the course structure.
- 5.7 A student shall not be promoted to the next semester unless he satisfies the attendance requirement of the present Semester, as applicable. They may seek readmission into that semester when offered next. If any candidate fulfills the attendance requirement in the present semester, he shall not be eligible for readmission into the same class.

## 6 EVALUATION

The performance of the candidate in each semester shall be evaluated subject-wise, with a maximum of 100 marks for theory and 100 marks for practicals, on the basis of Internal Evaluation and End Semester Examination.

- 6.1 For the theory subjects 75 marks shall be awarded for the performance in the Semester End Examination and 25 marks shall be awarded for Continuous Internal Evaluation (CIE). The Continuous Internal Evaluation shall be made based on the average of the marks secured in the two Mid Term-Examinations conducted, one in the middle of the Semester and the other, immediately after the completion of Semester instructions. Each mid-term examination shall be conducted for a total duration of 120 minutes with Part A as compulsory question (10 marks) consisting of 5 sub-questions carrying 2 marks each, and Part B with 3 questions to be answered out of 5 questions, each question carrying 5 marks. The details of the Question Paper pattern for End Examination (Theory) are given below:
- The Semester End Examination will be conducted for 75 marks. It consists of two parts. i).Part-A for 25 marks, ii). Part-B for 50 marks.
  - Part-A is a compulsory question consisting of 5 questions, one from each unit and carries 5 marks each.
  - Part-B to be answered 5 questions carrying 10 marks each. There will be two questions from each unit and only one should be answered.
- 6.2 For practical subjects, 75 marks shall be awarded for performance in the Semester End Examinations and 25 marks shall be awarded for day-to-day performance as Internal Marks.
- 6.3 For conducting laboratory end examinations of all PG Programmes, one internal examiner and one external examiner are to be appointed by the Principal of the College and the same to be informed to the Director of Evaluation in two weeks before for commencement of the lab end examinations. The external examiner should be selected from outside the College concerned but within the cluster. No external examiner should be appointed from any other College in the same cluster/any other cluster which is run by the same Management.
- 6.4 There shall be one seminar presentations during II year III semester. For seminar, a student under the supervision of a faculty member, shall collect the literature on a topic and critically review the literature and submit it to the department in a report form and shall make an oral presentation before the Departmental Academic Committee consisting of Head of the Department, Supervisor and two other senior faculty members of the department. For each Seminar there will be only internal evaluation of 50 marks. A candidate has to secure a minimum of 50% of marks to be declared successful. If he fails to fulfill minimum marks, he has to reappear during nthe supplementary examinations.
- 6.5 There shall be a Comprehensive Viva-Voce in II year IV Semester. The Comprehensive Viva-Voce is intended to assess the students' understanding of various subjects he has studied during the M.Sc. course of study. The Head of the Department shall be associated with the conduct of the Comprehensive Viva-Voce through a Committee. The Committee consisting of Head of the Department, one senior faculty member and an external examiner. The external examiner shall be appointed by the Director of Evaluation. For this, the Director shall submit a panel of 3 examiners. There are no internal marks for the Comprehensive Viva-Voce and evaluates for maximum of 100

- marks. A candidate has to secure a minimum of 50% of marks to be declared successful. If he/she fails to fulfill minimum marks, he has to reappear during the supplementary examinations.
- 6.6 A candidate shall be deemed to have secured the minimum academic requirement in a subject if he secures a minimum of 40% of marks in the Semester End Examination and a minimum aggregate of 50% of the total marks in the Semester End Examination and Continuous Internal Evaluation taken together.
- 6.7 In case the candidate does not secure the minimum academic requirement in any subject (as specified in 6 .6) he has to reappear for the Semester End Examination in that subject.
- 6.8 A candidate shall be given one chance to re-register for the subjects if the internal marks secured by a candidate is less than 50% and failed in that subject for maximum of two subjects and should register within four weeks of commencement of the class work. In such a case, the candidate must re-register for the subjects and secure the required minimum attendance. The candidate's attendance in the reregistered subject(s) shall be calculated separately to decide upon his eligibility for writing the Semester End Examination in those subjects. In the event of the student taking another chance, his Continuous Internal Evaluation (internal) marks and Semester End Examination marks obtained in the previous attempt stands cancelled.
- 6.9 In case the candidate secures less than the required attendance in any subject, he shall not be permitted to write the Semester End Examination in that subject. He shall reregister for the subject when next offered.

## 7 Examinations and Assessment - The Grading System

- 7.1 Marks will be awarded to indicate the performance of each student in each Theory Subject, or Lab / Practicals, or Seminar, or Project, etc., based on the % marks obtained in CIE + SEE (Continuous Internal Evaluation + Semester End Examination, both taken together) as specified in Item 6 above, and a corresponding Letter Grade shall be given.
- 7.2 As a measure of the student's performance, a 10-point Absolute Grading System using the following Letter Grades (UGC Guidelines) and corresponding percentage of marks shall be followed:

<i>% of Marks Secured (Class Intervals)</i>	<i>Letter Grade (UGC Guidelines)</i>	<i>Grade Points</i>
80% and above ( ≥ 80% , ≤ 100% )	O (Outstanding)	10
Below 80% but not less than 70% ( ≥ 70% , < 80% )	A <sup>+</sup> (Excellent)	9
Below 70% but not less than 60% ( ≥ 60% , < 70% )	A (Very Good)	8
Below 60% but not less than 55% ( ≥ 55% , < 60% )	B <sup>+</sup> (Good)	7
Below 55% but not less than 50% ( ≥ 50% , < 55% )	B (above Average)	6
Below 50% ( < 50% )	F (FAIL)	0
<b>Absent</b>	<b>Ab</b>	<b>0</b>

- 7.3 A student obtaining F Grade in any Subject shall be considered 'failed' and is be required to reappear as 'Supplementary Candidate' in the Semester End Examination (SEE), as and when offered. In such cases, his Internal Marks (CIE Marks) in those Subjects will remain the same as those he obtained earlier.
- 7.4 A student not appeared for examination then 'Ab' Grade will be allocated in any Subject shall be considered 'failed' and will be required to reappear as 'Supplementary Candidate' in the Semester End Examination (SEE), as and when offered.
- 7.5 A Letter Grade does not imply any specific Marks percentage and it will be the range of marks percentage.
- 7.6 In general, a student shall not be permitted to repeat any Subject/ Course (s) only for the sake of 'Grade Improvement' or 'SGPA/ CGPA Improvement'.
- 7.7 A student earns Grade Point (GP) in each Subject/ Course, on the basis of the Letter Grade obtained by him in that Subject/ Course. The corresponding 'Credit Points' (CP) are computed by multiplying the Grade Point with Credits for that particular Subject/ Course.

**Credit Points (CP) = Grade Point (GP) x Credits .... For a Course**

- 7.8 The Student passes the Subject/ Course only when he **gets GP ≥ 6 (B Grade or above)**.
- 7.9 The Semester Grade Point Average (SGPA) is calculated by dividing the Sum of Credit Points ( $\Sigma CP$ ) secured from ALL Subjects/ Courses registered in a Semester, by the Total Number of Credits registered during that Semester. SGPA is rounded off to TWO Decimal Places. SGPA is thus computed as

$$\text{SGPA} = \{ \sum_{i=1}^N C_i G_i \} / \{ \sum_{i=1}^N C_i \} \dots \text{For each Semester,}$$

where 'i' is the Subject indicator index (takes into account all Subjects in a Semester), 'N' is the no. of Subjects 'REGISTERED' for the Semester (as specifically required and listed under the Course Structure of the parent Department),  $C_i$  is the no. of Credits allotted to the  $i^{\text{th}}$  Subject, and  $G_i$  represents the Grade Points (GP) corresponding to the Letter Grade awarded for that  $i^{\text{th}}$  Subject.

7.10 The Cumulative Grade Point Average (CGPA) is a measure of the overall cumulative performance of a student over all Semesters considered for registration. The CGPA is the ratio of the Total Credit Points secured by a student in ALL registered Courses in ALL Semesters, and the Total Number of Credits registered in ALL the Semesters. CGPA is rounded off to TWO Decimal Places. CGPA is thus computed from the I Year Second Semester onwards, at the end of each Semester, as per the formula

$$\text{CGPA} = \{ \sum_{j=1}^M C_j G_j \} / \{ \sum_{j=1}^M C_j \} \dots \text{for all S Semesters registered}$$

**(ie., upto and inclusive of S Semesters,  $S \geq 2$  ),**

where 'M' is the TOTAL no. of Subjects (as specifically required and listed under the Course Structure of the parent Department) the Student has 'REGISTERED' from the 1<sup>st</sup> Semester onwards upto and inclusive of the Semester S ( obviously  $M > N$  ), 'j' is the Subject indicator index (takes into account all Subjects from 1 to S Semesters),  $C_j$  is the no. of Credits allotted to the  $j^{\text{th}}$  Subject, and  $G_j$  represents the Grade Points (GP) corresponding to the Letter Grade awarded for that  $j^{\text{th}}$  Subject. After registration and completion of I Year I Semester however, the SGPA of that Semester itself may be taken as the CGPA, as there are no cumulative effects.

- 7.11 For Calculations listed in Item 7.6 – 7.10, performance in failed Subjects/ Courses (securing F Grade) will also be taken into account, and the Credits of such Subjects/ Courses will also be included in the multiplications and summations.

## 8 EVALUATION OF DISSERTATION WORK:

Every candidate shall be required to submit thesis or dissertation after taking up a topic approved by the Project Review Committee.

- 8.1 A Project Review Committee (PRC) shall be constituted with Director as chair person Heads of all the Departments which are offering the M.Sc programmes and two other senior faculty members.
- 8.2 Registration of Project Work: A candidate is permitted to register for the project work after satisfying the attendance requirement of all the subjects (theory and practical subjects).
- 8.3 After satisfying 8.2, a candidate has to submit, in consultation with his /her project supervisor, the title, objective and plan of action of his project work to the Departmental Committee for its approval. Only after obtaining the approval of Departmental Committee the student can initiate the Project work.
- 8.4 If a candidate wishes to change his supervisor or topic of the project he/she can do so with the approval of the Departmental Committee. However, the Departmental Committee shall examine whether the change of topic/supervisor leads to a major change of his/her initial plans of project proposal. If so, his/her date of registration for the project work starts from the date of change of Supervisor or topic as the case may be.
- 8.5 A candidate shall submit status report (in a bound-form) in two stages at least with a gap of 3 months between them.
- 8.6 The work on the project shall be initiated in the beginning of the second year and the duration of the project is for two semesters. A candidate is permitted to submit Project Thesis only after successful completion of theory and practical course with the approval of PRC not earlier than 40 weeks from the date of registration of the project work. For the approval of PRC the candidate shall submit the draft copy of the thesis to the Director (through Head of the Department) and shall make an oral presentation before the PRC.
- 8.7 Three copies of the Project Thesis certified by the supervisor shall be submitted to the Institute.
- 8.8 The thesis shall be adjudicated by one examiner selected by the Director. For this, Head of the Department shall submit a panel of 5 examiners, who are eminent in that field with the help of the concerned guide.
- 8.9 If the report of the examiner is not favourable, the candidate shall revise and resubmit the Thesis, in the time frame as described by PRC. If the report of the examiner is unfavorable again, the thesis shall be summarily rejected.
- 8.10 If the report of the examiner is favourable, viva-voce examination shall be conducted by a board consisting of the supervisor, Head of the Department and the examiner who adjudicated the Thesis. The Board shall jointly report candidates work as:
- A. Excellent
  - B. Good
  - C. Satisfactory
  - D. Unsatisfactory

Head of the Department shall coordinate and make arrangements for the conduct of viva-voce examination.

If the report of the viva-voce is unsatisfactory, the candidate will retake the viva-voce examination after three months. If he fails to get a satisfactory report at the second viva-voce examination, he will not be eligible for the award of the degree.

## 9 AWARD OF DEGREE AND CLASS

After a student has satisfied the requirements prescribed for the completion of the programmes and is eligible for the award of M. Sc. Degree he shall be placed in one of the following three classes based on CGPA:

Class Awarded	% of marks to be secured
First Class with Distinction	$\geq 7.75$
First Class	$6.75 \leq \text{CGPA} < 7$
Second Class	$6.00 \leq \text{CGPA} < 6.75$

A student with final CGPA (at the end of the PGP)  $< 6.00$  will not be eligible for the Award of Degree.

## 10 WITH-HOLDING OF RESULTS:

If the candidate has not paid any dues to the university or if any case of in-discipline is pending against him, the result of the candidate will be withheld and he will not be allowed into the next higher semester. The issue of the degree is liable to be withheld in such cases.

## 11 TRANSITORY REGULATIONS:

Candidate who have discontinued or have been detained for want of attendance or who have failed after having undergone the course are eligible for admission to the same or equivalent subjects as and when subjects are offered, subject to 5.5 and 2.0

## 12 GENERAL:

6.1 The academic regulations should be read as a whole for purpose of any interpretation.

6.2 In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.

6.3 The University may change or amend the academic regulations and syllabus at any time and the changes and amendments made shall be applicable to all the students with effect from the date notified by the University.

6.4 Wherever the word he, him or his occur, it will also include she, her and hers.

6.5 There shall be no transfers within the constituent colleges of Jawaharlal Nehru Technological University.

## MALPRACTICES RULES

### DISCIPLINARY ACTION FOR IMPROPER CONDUCT IN EXAMINATIONS

	<b>Nature of Malpractices/Improper conduct</b>	<b>Punishment</b>
	<i>If the candidate:</i>	
1. (a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which he is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(b)	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2.	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that Semester/year.  The Hall Ticket of the candidate is to be cancelled and sent to the University.



3.	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from examination hall. The candidate is also debarred and forfeits the seat. The performance of the original candidate who has been impersonated, shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4.	Smuggles in the Answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class-work and all University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.
5.	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.
6.	Refuses to obey the orders of the Chief	In case of students of the college, they shall

	<p>Superintendent/Assistant – Superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the College campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.</p>	<p>be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.</p>
7.	<p>Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.</p>	<p>Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project-work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class-work and all University examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.</p>
8.	<p>Possess any lethal weapon or firearm in the examination hall.</p>	<p>Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical</p>

		examinations and project-work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.
9.	If student of the college, who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the colleges expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project-work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.  Person(s) who do not belong to the College will be handed over to police and, a police case will be registered against them.
10.	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project-work and shall not be permitted for the remaining examinations of the subjects of that semester/year.
11.	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/year examinations.
12.	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the University for further action to award suitable punishment.	