M.Sc. Regulations

Dr. B R Ambedkar
National Institute of Technology Jalandhar – 144011
(An Institute of National Importance)

Contents

Definitions

- NITJ/Institute: Dr. B R Ambedkar National Institute of Technology, Jalandhar

- Academic Calendar: The exact dates for the important academic events scheduled during the Academic Session shall be specified in the Academic Calendar.

- Academic year: Institutes academic year begins from July, 1 and ends on June, 30 every year.

- Candidate: Aspirant desirous to take admission in M. Sc. programme.

- CCMN- Centralized Counselling for M. Sc./M. Sc. (Tech)Admissions

- JAM- Joint Admission Test for M.Sc.

- SGPA- Semester Grade Point Average

- CGPA- Cumulative Grade Point Average (SGPA)

- BoS- Board of Studies

- SMPC: Senate Masters Programme Committee

- M.Sc. Coordinator: Faculty who mentors, advises, and is associated with the M.Sc. student in his Project work.

- HoD: Head of the Department

- Registration: Enrolment for the courses/research that a student wants to pursue during a semester as required by the Program.

- SENATE: Senate of the Institute

M.Sc. Regulations

Regulations for the Admission to M.Sc. Programme and Award of M.Sc. Degree (Regular)

1.   Eligibility Criteria for Admission

1.1 A candidate who has passed the examination for the award of Bachelor's degree in Science from a recognized university, in the concerned discipline as one of the major subjects at Bachelor's level, with first class or minimum 60% marks or 6.5 CGPA on a 10 point scale are eligible to apply for admission to M. Sc. Programme of the Institute. For admission to M. Sc. Programme in the discipline of Physics, candidates must have taken Mathematics as of one of the subjects at Bachelor's level. Relaxation of 5% marks/0.5 CGPA at Bachelor's Level shall be permissible for the candidates belonging to SC/ST/PwD categories.

1.2 Foreign national candidates who apply through Ministry of Human Resource Development, Govt. of India, or Indian Council of Cultural Relations, Govt. of India, are eligible to apply provided that they possess the same minimum qualifications as given in1.1.

2.   Admission Process

2.1 Admission to the Institute M. Sc. programmes shall be conducted at centralized level through Centralized Counselling for M. Sc./M. Sc. (Tech) CCMN based on the performance of the candidates in the Joint Admission Test for M. Sc. (JAM) each year.

2.2 The Board of Governors of the Institute on the recommendations of the Institute Senate will decide on the number of seats for various Departments/Centers/ specializations. The reservations of seats for the reserved categories candidates will be as per the Govt. of India norms.

2.3 Dean (Academic) will recommend to the Chairman Senate regarding the operational aspects of the Programme including selection of candidates, the academic calendar and other regular activities regarding the conduct of the programme. If there are any vacancies after the admission date is over, the filling of such vacancies will be decided by the Chairman of the Senate.

2.4 Regarding all matters concerning selection of candidates, the decision of the Chairman Senate or his nominee will be final.

2.5 The selected candidates should satisfy all other admission requirements stipulated in the letter of offer of admission and only then they will be admitted to M. Sc. Programmes after payment of the prescribed fee and other charges. If at any subsequent time, it is found that the candidates do not fulfill any of the stipulated requirements, Dean (Academic) may revoke his/her admission to the programme, with the approval of the Director.

3. Programme Structure

3.1 Each stream of M. Sc. Programme will have the following components:
   i) Core courses (Theory), practical and seminar/independent study
   ii) Elective courses
   iii) Project work

   In addition, the M. Sc. students may be required to give one or more seminars as per the requirements of the programme.

3.2 M. Sc. Programme will be completed in four semesters. During each M. Sc. Semester, the student will register for course work and/or Project work as specified by the Institute Senate for each programme. The curriculum for different courses should be drawn up so that minimum number of credits for successful completion of any M. Sc. Programme is not less than 90credits.

3.3 Each M. Sc. student will be required to register for all the core courses specified in the curriculum of his programme of studies.

3.4 Each M. Sc. student will have to register for elective courses offered by the department in that particular semester from the list of courses approved by the Institute Senate. However, as student may be permitted selection of electives other than those listed by the Departments provided these have relevance to the area of specialization.

3.5 Candidates will have to successfully complete all the core courses (including laboratory. courses), elective courses, and project work appropriate as per the teaching scheme.

3.6 Each course will be assigned credits as follows:
   i)   One credit for each lecture period.
   ii)   One credit for each tutorial period.

iii)   One credit for each laboratory session of two or three hours.

iv)   Credits for seminars and Project will be as per the curriculum approved by the Institute Senate.

4.   Registration

4.1   Every student will enroll and register for the courses he/she intends to undergo during the first semester of M. Sc. Programme on a pre-specified date notified for the purpose.

4.2   In case of subsequent semesters, the registration for the courses will be done on a specified date/dates before the end semester examination of the previous semester. In this connection, there may be proper registration card, which will contain details of the core and elective courses, seminars, and Project work to be taken up in the semester along with the number of credits for each course/seminar/project work.

4.3   During the 3rd or 4th semester, students will register for the Project work in addition to theory and laboratory courses.

4.4   Late registration will be allowed with a late fee of Rs. 500/- up to one week beyond the last date specified for the registration. However, under special circumstances, the period may be relaxed by the Dean, Academic Programmes.

4.5   A student will become eligible for enrollment only if, in addition to satisfying all the academic requirements, he/she has cleared all dues to the Institute, hostel, library, etc., up to the end of the previous semesters and he/she has not been debarred from enrollment by the institute discipline committee.

4.6   A student may be allowed by Dean (Academic) to withdraw from a semester completely under extra-ordinary circumstances (e.g. medical grounds). However, withdrawal from a semester will be allowed only for a maximum continuous period of two semesters.

5.   M. Sc. Coordinator

The following criteria may be followed for Faculty/Supervisor/Co-ordinator Allotment to M.Sc. students for their project work:

(i) Faculty will research which will help students in deciding their choices for the supervisor.

(ii) Students will be required to fill all the faculty names in order of their preference.

(iii) Faculty members starting from senior-most will get to choose from students who have mentioned them as their first choice. If a particular faculty is the first preference of a student and his/her quota is filled then the student's second choice will be treated as their first choice for subsequent rounds and thereon. The respective faculty will choose one candidate at a time. In case he is entitled for additional candidate, subsequent choice will be available in the next round, subject to the availability of the candidate.

(iv) Further in case a faculty is not opted as a first choice, his turn will be kept in waiting and he shall be allowed to pick the student as soon as he surfaces as the top choice of any of the student. If still he does not get a student, he will have the choice to pick from the top choice of the student at the end of each round. Decision of Head will be binding.

(v) Each faculty will get a minimum and maximum student as explained in the following example:

Number of students = 30

Number of faculty = 8

Number of Students a faculty should get = 30/8 = 3.75 i.e. Min students will be 3 and Max students will be 4.

(vi) Faculty decision on accepting or not accepting a student will be honoured to the extent that all students are allocated a supervisor each. In case a particular student is not opted by any faculty, then allocation of supervisor will be made by Head and that will be binding.

(vii) Rolling Roaster will be applied on allocation of supervisors in the subsequent years. That means suppose Faculty 6 (Faculty at Number 6) gets 4 students (suppose that the number of students exhaust here for particular year, refer to the example at Sr No. 4) whereas Faculty 7 gets 3 then for next year allotment will start from the Faculty7.

(viii) Any unforeseen conflict will be resolved with mutual understanding; however, the decision of Head will be binding.

6. Maximum Duration of the Programme

6.1 Minimum duration of M. Sc. programme for regular candidates shall be four semesters.

6.2 For the students who do not complete their project work up to the end of 4th semester and are permitted to submit the report on the subsequent date, next date of completion of the project work and the next date of viva-voce examination will be mentioned in the grade card.

6.3   An M. Sc. student will be allowed to submit the Project report regarding the project work, only if he has appeared in the theory papers up to the 4th semester examination. The result of the Project work shall be declared after the candidate has passed all the theory paper and the seminars.

6.4   In case the Project is rejected or the candidate is unable to complete the Project by the end of the 4th semester, he/she will be allowed to submit the same within three years from the date of admission.

7.   Minimum requirement to continue the programme

7.1   An M. Sc. student should successfully pass the 50% of the prescribed credits with CPGA not less than 5.0 at the end of 2nd semester. In case a M. Sc. student does not satisfy these requirements, he/she will have to leave the programmme.

8.   Attendance Requirements

8.1   The Institute desires 100% attendance with a provision for consideration for absence on account of late registration, sickness or other such contingencies. The attendance requirements of 75% of the scheduled classes in course are needed for appearing in the examination.

8.2   A student with less than 75% attendance in a course during a semester will be awarded 'W' grade in that course irrespective of his/her performance in the tests. The course coordinator, while awarding the grades, will take into account the consolidated attendance record for the whole semester.

8.3   The course coordinator will consolidate the attendance record for the course from the beginning of the semester up to class test-I and class test-II and also up to the end of the semester. The teacher offering the course shall notify the students having less than 75% attendance with an intimation of the same to the concerned HOD and Deputy/Assistant Registrar (Academics).

8.4   Every faculty offering a course will take attendance till three calendar days before the last instruction day in the semester. The percentage of attendance, calculated up to this instruction day, will be indicated in code number/letter as follows:

Attendance rounded	Code No/letter
95%andabove	H
85%to 94%	9

75%to 84%	8
Below 75%	L

A student who has attendance code letter L will not be allowed to sit for end semester examination in the course in which the short fall exists.

9.   Project Work

9.1   **Allocation of Project:** M.Sc. coordinator/Faculty Supervisor shall be allotted to the student as per the details mentioned in point 5 above.

9.2   **Evaluation of Project:** The evaluation of the project work will be done by an Evaluation committee:

i.   Concerned HOD
ii.   Project Guide(s)
iii.   External Examiner(s)

The External Examiner(s) shall be nominated by the Director for which the concerned HOD shall forward a panel of experts to Dean (Academic). Each candidate will have to submit the project report & make a presentation before the evaluation committee.

9.3   **Project Report & write up:** The Project report should be written in English in a specific format. It should include the following:

a) Abstract
b) Introduction
c) Literature review
d) Experimental/Theoretical work
e) Results and discussion
f) Conclusions
g) References

Further following guidelines should be followed:

➢ The Project should be typed 1.5 spaced, on both sides of the paper, of approximately 200 x 250 mm or A4 size, leaving 40 mm margin on the left-hand side. Four Hard copies of the Project, with all photographs and illustrations alongwith a soft-copy in DVD are to be submitted, one for the Department concerned, one for the Guide, one for the Central Library and one for the student.

➢ Headings of sub-divisions of the text should be in lower case capitals, left aligned and bold. Sub-headings should be in lower case capitals and placed immediately next to the margin and the text should start from the next line. Further, sub-heading should be lower case capitalized first letter only and placed next to the margin with colon. The matter would be in continuation of sub-heading.

➢ All symbols should be defined wherever they first appear and confirm to the internationally accepted symbols.

➢ Tables should also be typed on paper size 200 x 250 mm. These should be numbered serially with the work table towards the left margin followed by title at the top of the table. Figure captions should be provided at the bottom of the figure.

➢ References cited in the text should be indicated by the author's name and the year of publication in parenthesis. They should be numbered and typed at the end of the paper in the alphabetical order. The title of the work referred to should be within inverted commas. References should be given in the following form:

Fan, W, Gordon, MD & Pathak, R (2000) "Personalization of search engine services for effective retrieval and knowledge management", Proc. 21st International Conference on Information Systems, 20-34

Mukhopadhyay, A, Monica Puri Sikka and Vinay Kumar Midha (2018) 'Speciality dressings for managing difficult to heal wounds' in Advanced Textiles for Wound Care, 2nd Edition, Eds. S Rajendran, Woodhead Publishing Limited, Cambridge, 391-421

Sikka MP, Ghosh S, Mukhopadhyay A. (2016) Mathematical modelling to predict the sub-bandage pressure on a conical limb for multi-layer bandaging. Med Eng Phys.38(9),917-21

Terzaghi K (1943), Theoretical Soil Mechanics", John Wiley and Sons, Inc, New York,210

9.4   (i) Exclusion of material while checking plagiarism:

A. All quoted work reproduced will require necessary permission and/or attribution from the Journal/Author.

B. All references, bibliography, table of content, preface and acknowledgments.

C. All generic terms, laws, standard symbols and standards equations.

D. Matches up to 11 consecutive words.

E. All material (i.e. figures/images and tables) which is referred/cited from the original source.

F. Material/s published by student/supervisor from their own thesis/dissertation/self-publications/self-publications/duplication.

G. Standard experimental and theoretical methods.

(ii) Acceptance Level/reasonable duplication:

A. Introduction and literature review portion up to25%.

B. Remaining material upto10%.

At the time of submission, the report obtained from Turnitin to be attached with the Thesis/Dissertation and should be verified by the Supervisor.

10. **Academic System**

The academic system at NIT Jalandhar is framed on credit-based semester examination system. The credit system envisages a continuous evaluation of student's performance, and provides flexibility for academic progress at an optimum pace based on individual ability and convenience, subject to the constraint of the minimum requirements for continuation in the academic programme.

The student is awarded a letter grade from the prescribed grading system I each course registered by him. For each pass grade, the students accumulate the course credits as earned credits. The academic performance of the student is indicated in terms of the number of credits that he/she earns and the weighted grade point average. A specified number of credits that he/she earns and the weighted grade point average. A specified minimum number of credits should be acquired on semester or session basis in order to qualify for continuation the academic programme and for the award of M.Sc. degree.

10.1 Grades

The grading system, the evaluation in terms of marks is replaced by the award of letter grades. The structure and guidelines for award of grades are given as under:

Grade	Point	Description of performance	Recommended cut off Marks*
S	10	Outstanding	90
A	09	Excellent	80
B	08	Very Good	70
C	07	Good	60
D	06	Average	50
E	05	Marginal	40
U	-	Unsuccessful	-

I	-	Incomplete	-
W	-	Withheld due to shortage of attendance or withdrawal	-
NP	-	Audit Pass	-
NF	-	Audit Fail	-

*Subject to confirmation based on standard deviation, if the sample size is greater than 20, and is flexible to the recommendations of the individual course coordinators with proper justification.

The grades will be awarded to a student in each registered course, based on his/her performances evaluated through a prescribed scheme of evaluation. In theory courses, the evaluation is weighted on class tests, assignment and end semester examinations in prescribed proportions. The recommended weightage for class tests is 40%, for assignments 10% and for end semester's examination is 50%. The credits for the course in which a student has obtained "E" (minimum passing grade for a course) or a higher grade will be considered as credits earned by him/her. For the other (elective) course in which U or W grade have been obtained, the student may take the same course or any other course from the same category when it is offered next. Further, 'U' grade secured in any course stay permanently on the grade card. The weightage of these grades is not counted in the calculation of the SGPA and CGPA.

An 'I' grade denotes incomplete performance in any course due to absence at the end of semester. Upon completion of all course requirements, the 'I' grade is converted to a regular grade.

These grades (NP and NF) are awarded in a course that the student opts to audit. Audit applications are allowed during the first four weeks of a semester. The audit pass (NP) grade is awarded if a minimum 'E' grade is obtained in the course and attendance is above 75% in the classes. If either of these requirements is not fulfilled the audit fail (NF) grade is awarded. In courses, where NP grade is obtained, the corresponding course credits are considered in the calculation of SGPA or CGPA.

W' grade is awarded in a course where the student has opted to withdraw from the course. Withdrawal from a course is permitted until one week after the class test-I.

10.2 Grade Point Averages

The performance of a student will be evaluated in terms of two indicates, viz, the Semester Grade Point Average (SGPA) which is the Grade Point Average for a semester and Cumulative Grade Point Average (CGPA) which is the Grade Point Average for all the completed semesters at any point of time. The SGPA is calculated on the basis of grades obtained in all courses, except audit courses, registered for in the semester.

$$SGPA = \frac{\sum (\text{Course credit x Grade point}) \text{ except audit course}}{\sum \text{Course credits except audit courses}}$$

The CGPA is calculated on the basis of all pass grades, expect audit courses obtained in all completed semester

$$CGPA = \frac{\sum (\text{Course credit x Grade point}) \text{ for courses with pass grade except audit courses}}{\sum (\text{Course credits}) \text{ of courses with pass grade except audit courses}}$$

10.3 Summer Contact Course and Additional Carry Course Pattern

For students having U/W Grade: A student having U/W grade in a subject can opt for:

(a) A student with W grade can carry his/her backlogs as an additional carry subject with the regular semester examinations subject to the condition that he/she will not take more than 30 credits in a regular semester. There will be no limit of credits for additional carry subject for a student having U grade in his/her subjects. Evaluation pattern shall be the same and there will be no change in the Grade obtained by the student if appeared in regular semester examinations.

(b) A student can apply for a maximum of 3 courses as Summer Course as a special chance. Only one paper of 100 marks with a time duration of 3 hours shall be conducted by the course coordinator. The students with U grade will not be required to attend any classes. The students with W grade will be required to attend the classes during the Summer Course. The candidates during Summer Course shall be awarded one grade less than the actual grade obtained and the maximum Grade awarded shall be B.

11.   Discipline

11.1   Every M. Sc. student is required to observe proper discipline and decorous behaviour both inside and outside the campus. He/she should not indulge in any activity, which will tend to lower the prestige of the institute.

11.2   Any act of indiscipline on the part of M.Sc. student, which is reported to Dean (Academic), will be referred to the Discipline Committee of the Senate from time to time. The Committee will investigate the charges. If the charges are substantiated, it will recommend suitable punishment for the same to the Director.

12.   Award of M.Sc. Degree

12.1   An M. Sc. student will be eligible for the award of M.Sc. degree:

(i)   If he/she has successfully completed all the core course/elective course, Project work and any other requirement of the curriculum as required by the institute Senate.

(ii)   If he/she has earned the required credits as applicable on the respective batches and approved by the Institute's Senate.

(iii)   If he/she has obtained a minimum CGPA of 6.0 in the entire course.

(iv)   If he/she has paid all the institute dues including hostel dues, library dues, etc.

(v)   No disciplinary action is pending against him/her.

12.2   The award of M.Sc. degree will be approved by the Board of Governors of the institute on the recommendations of the institute Senate.

Improvement in CGPA

Those students whose CGPA is below 6.5 can apply for improvement in their CGPA. However, such students can apply for a maximum of 6 subjects with course fee of Rs. 5000/- per subject. Only two such chance can be availed by a student. This scheme shall be applicable from PG-2018 batch onwards. Only improved result will be considered in these cases.

13. **Senate Masters Programme Committee:**

The Senate Masters Programme Committee (SMPC) shall have the following constitution:

1. Dean Academic   Chairman

2. Associate Dean –Academic (PG)   Member Secretary

3. HoD/UG Coordinator from four Academic Departments   Member

   (one from Sciences and three from allied Engineering Departments/Management,

   to be nominated by Chairman, Senate)

4. Six Additional Members

i. Immediate former Chairman, SMPC*   Member

   (if not otherwise a member, *first time, to be nominated by Chairman, Senate)

ii. Associate Dean-Academic (UG)   Member

iii. Two Nominees of Chairman, Senate   Member

   (from Senate Members)

iv. Two Students (one Male and one Female),   Member

   One from M. Tech. and one from other Masters Programme

   (to be nominated by the Dean Academic)

Jurisdiction of SMPC:

The proposed Senate Masters Programme Committee (SMPC) shall have jurisdiction in recommending the following matters concerning the postgraduate programme of the Institute:

1. The recommendation of new PG programmes

2. The recommendation of new courses

3. Recommendation for desirable modification of courses already approved

4. The credit value of courses

5. The admission of qualified students to candidacy for degrees

6. The formation of rules governing the evaluation and disposal of Dissertation/Project

7. Recommendations for granting of degrees

8. in such other related matters as may be referred to it by the Senate

   The functions of the Senate Masters Programme Committee (SMPC) consist primarily of general policy determination, coordination and review, but the Senate shall retain the power of final review. In the discharge of its responsibilities, the Committee shall make full use of the appraisals and recommendations of the various academic departments/centers concerned while recommending a case to the Senate. This Committee shall take up the matters related to Masters Programme referred by concerned BoS of various Departments.

   The tenure of committee and the Chairperson, SMPC shall normally be of two years.

15. **Depository**:

Digital Content Creation

Each M.Sc. student enrolled with the Institute must be aware that he/she has to submit the electronic copy of the Project Report to the Institute library in PDF/Postscript format within two weeks of his/her defense. In this regard the following guidelines are proposed:

1. The student is notified about his/her supervisor(s) within a week of his/her enrolment.

2. Within 3 months of supervisor allotment, the student has to submit a form "Student Undertaking for Thesis Work" to the Office of Dean (Academic) forwarded through his/her supervisor and Head of Department.

3. The student will carry out his/her Project Report and other requirements of the M. Sc. degree as per Institute regulations/ rules.

4. Before submission of the Project Report, if third party copyrighted matter is to be included in the Project Report, the student must have obtained a written consent from the copyrighted matter owner(s). It is the responsibility of the student to obtain the relevant consent(s) and if the student has not done so at the time of Thesis submission, such cases need to be approved by the Supervisor.

5. On successful completion of the presentation before the evaluation committee, the student has to submit the "Electronic Dissertation Submission Form" within two weeks of the presentation.

   Further, the student has to specify any one of the access level for his/her Project Report as per following norms: (i) Unrestricted Internet Access – It provides open and immediate digital access to the Project Report immediately for submission to National Digital Library, NDLI through IDR, Institute Digital Repository OR (ii) Access Restricted to NITJ Intranet for Limited Period – It provides restricted digital access to NITJ intranet users for specific period, up to a maximum of six months. After this period, the Project Report will be submitted to National Digital Library, NDLI through IDR, Institute Digital Repository OR (iii) Totally Restricted Access for Limited Period – It withhold access to the entire Project Report for specific period, up to a maximum of six months. After this period, the Project Report will be submitted to National Digital Library, NDLI through IDR, Institute Digital Repository. However, due to some reason, if a student needs a further extension to withhold access to the Project Report for up to another six months, such extension will need to be approved by the Dean (Academic).

For the already existing Project Report the access will be restricted to NITJ Intranet users, after receiving the consent form duly signed by the student, supervisor and the head of the department. However, last three-year Project Report will be submitted to National Digital Library, NDLI through IDR, Institute Digital Repository after receiving the consent form duly signed by the student, supervisor and the head of the department.

GENERAL

Notwithstanding anything contained in these Regulations, all categories shall be governed by the rules and procedures framed by the Senate, and in force from time to time. Any doubt or dispute about the interpretation of these Regulations shall be referred to the Director whose decision shall be final. Eligibility for admission to M.Sc. programmes in different disciplines may, from time to time, be reviewed, approved by the Senate, and implemented.

All exceptions and issues not covered above may be referred by the Director to the Senate Masters Programme Committee (SMPC). Recommendations of the SMPC are to be put up to the Director for consideration and to be implemented only if approved.