

60-1156

**ORDINANCE OF CURRICULUM AND CREDIT FRAMEWORK
FOR B.TECH PROGRAMMES UNDER NEP 2020**

**WITH EFFECT FROM
THE
SESSION 2025-26**



**MAHARSHI DAYANAND UNIVERSITY
ROHTAK (HARYANA)**

67-1157-

Undergraduate Programmes of study leading to the award of respective Certificates/Diplomas/Degrees shall be offered and conducted by the respective Departments/Centres/Institutes established by the University. This Ordinance pertains to Bachelor's in Engineering/ Bachelor's in Technology programmes with provision of Academic Bank of Credits and 'Multiple Entry and Exit' options at various stages w.e.f. the Academic Session: 2025-26 and thereafter.

A key focus of the programme is to develop competencies that enable students to tackle real-world challenges. It emphasizes a hands-on approach through practical training, Internships, and project-based learning. By equipping students with critical thinking, problem-solving skills, and an entrepreneurial mindset, the curricula under the B.E./B.Tech programmes prepare them to contribute meaningfully to the nation's development.

NEP 2020 advocates that a holistic and multidisciplinary education would aim to develop all capacities of human beings -intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner. Such a holistic approach is required at the undergraduate level. The holistic four-year undergraduate education with multiple entry and exit provisions will help in matching the undergraduate education to international standards and will facilitate student mobility for higher studies, research and employability across the globe. The Curriculum and Credit Framework for B.Tech. programmes is developed with the following features

- i. Opportunity for learners to choose the courses of their interest in all disciplines
- ii. Provision of multiple entry and exit options with a UG Certificate or UG Diploma or B.E/B.Tech Vocational or B.E/B.Tech or B.E/B.Tech - Minor/ Honor's Degree depending on the number of credits earned
- iii. Flexibility for students to move among the institutions through the implementation of Academic Bank of Credits (ABC)
- iv. Flexibility to switch to alternative modes of learning (Offline, ODL, Online, and Hybrid modes) as per the guidelines of AICTE
- v. Versatile curricular framework for holistic development of Engineering graduates.

62
-1158-

1. Definition of Keywords:

a) Definition of Credit:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
1 Hr. Practical (P) per week	0.5 credits
2 Hours Practical (Lab) per week	1 credit

b) Structure of the Undergraduate Engineering program:

Sr No	Category
1	Humanities and Social Sciences including Management courses
2	Basic Science Courses
3	Engineering Science courses
4	Program Core Courses (Branch specific)
5	Professional Elective courses relevant to chosen specialization/branch
6	Open Elective Courses (from Humanities, Technical Emerging or other Subjects)
7	Project work, Seminar and Internship in Industry or elsewhere
8	Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition] etc. (non-credit)

63

- 1159 -

c) Course code and definition:

Course code	Definitions
L	Lecture
T	Tutorial
P	Practical
HSMC	Humanities & Social Science Courses
BSC	Basic Science Courses
ESC	Engineering Science Courses
PCC	Program Core Courses
PEC	Program Elective Courses
OEC	Open Elective Courses
MC	Mandatory Courses
PROJ/SEM	Employment Enhancement Courses (Project/Summer Internship/Seminar)

d) Course-level coding scheme

A three-digit number (odd numbers are for the odd semester courses and even numbers are for even semester courses) is used as a suffix with the Course Code for identifying the level of the course. Digit at the hundred's place signifies the year in which the course is offered.

e.g. 101, 102 ... etc. for the first year.

201, 202 Etc. for second year.

301, 302 ... for the third year.

401, 402 ... for the fourth year.

The code may start with the implementation year.

e) Course Level/Duration/System:

The following option will be made available to the students joining the chosen Engineering Program with multiple entry and exit:

64-1160-

- A. One year: Undergraduate Certificate in the chosen branch of Engineering
- B. Two years: Undergraduate Diploma in the chosen branch of Engineering
- C. Three years: Bachelor of Vocational in chosen branch of Engineering (B.Voc.)
- D. Four years: Bachelor of Engineering / Bachelor of Technology (B.E/B.Tech) in chosen branch of Engineering.

The Total number of credits for four-year B.Tech programs shall be 163. To get a minor/honours degree, a student needs to earn an extra 18-20 credits. For exit at different levels, a student needs to earn an extra 6-8 credits.

For example:

Level	Semester	Exit Option	Credits	Additional credits for exit students	List of Exit Courses
4.5	Sem 1&2	U.G Certificate	42	6-8	Chosen from the List Provided by the concerned branch.
5.0	Sem 3&4	U.G Diploma	42	6-8	-Do-
5.5	Sem 5&6	B.E/B.Tech Vocational	44	6-8	-Do-
6.0	Sem 7&8	B.E/B.Tech	40	---	
		B.E/B.Tech with Minor/ Honor's	18	---	

1065 - 1161 -

f) Structure of Awards

No. of Credits	Internal Awards	External Awards / Theory
1	5	20
2	15	35
3	25	50
4	30	70

g) Concept of Minor Degree

All branches of Engineering and Technology shall offer Elective Subjects in the Emerging/ Multidisciplinary/ Region Specific Areas as specified in the Approval Process Handbook (APH) of AICTE.

A. Undergraduate Degree Subjects in Emerging / Multidisciplinary/ Region Specific Areas shall be allowed as specialization from the same department. The minimum additional Credits for such areas shall be in the range of 18-20 (including credit transferred from the SWAYAM platform) and the same shall be mentioned in the degree certificate, as specialization in that particular area. For example, doing extra credits for Cyber Security in Computer Science and Engineering shall earn B.E./B.Tech. (Hons.) Computer Science and Engineering with specialization in Cyber Security.

B. Minor specialization may be allowed in any Undergraduate Degree Courses where a student of another Department shall take the minimum additional Credits in the range of 18-20 and get a degree with a minor from another Department.

h) Semester/Academic Year

A semester comprises 90 working days, and an academic year is divided into two semesters.

i) Academic Bank of Credit (ABC)

An academic service mechanism to facilitate students to become its academic account holders, thereby paving the way for seamless student mobility between or within degree-granting Higher Educational Institutions through a formal system of credit recognition, credit accumulation, credit transfers and credit redemption to promote distributed and flexible teaching-learning. ABC will digitally store the academic credits earned by students from HEIs registered with ABC for awarding degrees/diplomas/certificates taking into account credits earned by students. ABC

will ensure the opening, closure and validation of Academic Bank Accounts, credit verification, credit accumulation, credit transfer, and redemption for students.

j) Academic Bank Account

An individual account with the Academic Bank of Credits opened and operated by a student, to which all academic credits earned by the Student from course(s) of study are deposited, recognized, maintained, accumulated, transferred, validated or redeemed for the purposes of the award of degree/diploma/certificates etc. by an awarding institution.

k) Credit Point

It is the product of the grade point and the number of credits for a course.

l) Grade Point

It is a numerical weight allotted to each letter grade on a 10-point scale.

m) Letter Grade

It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.

n) Semester Grade Point Average (SGPA)

It is a measure of performance of the work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

o) Cumulative Grade Point Average (CGPA)

It is a measure of the overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

2. Eligibility and Examinations

2.1. Eligibility

2.1.1. Admissions in first year:

A person who has passed 10+2 examination from the Board of School Education, Bhiwani or equivalent or any other examination recognized by M. D. University, Rohtak, as equivalent thereto, shall be eligible for admission in B.E./B.Tech. 1st year. Other

67-1163-

conditions, such as rank in national level entrance examination, percentage of marks in the qualifying examinations, subject(s) combination, etc., shall be notified by AICTE/HSTES, Panchkula, applicable at the time of admission.

2.1.2. Lateral Entry Admissions:

Lateral Entry in the Third Semester shall be open to candidates who have passed Diploma in Engineering / B.Sc. as approved by the State Board of Technical Education, Haryana or equivalent and eligibility laid down by AICTE/HSTES, Panchkula, applicable at the time of admission.

2.1.3. Admission to second degree program after completion of 1st B.E/B.Tech degree:

Admissions to an additional degree in B.Tech./B.E. in the 3rd semester shall be open to candidates who have passed 4-year B.Tech./B.E. Programme (AICTE approved) in any discipline with at least 50% marks in aggregate.

2.1.4. Admission to Working Professional Courses (in 2nd year):

Admission in B.Tech. programme For working professionals shall be open to the candidates with at least 2 years of work experience who have passed Diploma in Engineering of a minimum duration of 3 years from State Board of Technical Education, Haryana or equivalent / B.Sc. or any other examination recognized as equivalent thereto by the M.D.U. Rohtak with 50% marks in aggregate (45% in case of SC/ST of Haryana) or the rules laid down by AICTE/HSTES Panchkula applicable at the time of admission. Other conditions like Distance/ Turnover of Company For Working Professionals will be applicable as per AICTE norms.

2.1.5 Branch sliding:

A candidate shall be given an opportunity to slide his/her branch in the 2nd year on the basis of the merit of the 1st semester result, depending on the availability of vacant positions in the respective branch of engineering as per the rules laid by the University from time to time.

68-1164-

Note: Candidates placed under compartment/re-appear in the qualifying examination shall not be eligible for admission.

2.2. Examinations:

The duration of the B.Tech Programmes shall be four academic years, divided into eight semesters. The examination for the first, third, fifth, seventh and eighth semesters shall ordinarily be held in the month of December/January and for the second, fourth, sixth, eighth and seventh semesters, in the month of May/June on such dates as may be notified by the Controller of Examinations.

2.2.1. A supplementary examination for 1st, 2nd, 3rd, 4th, 5th and 6th semesters shall be held along with their regular 1st, 2nd, 3rd, 4th, 5th and 6th semesters examinations. However, the supplementary examination for 7th and 8th semesters shall be held simultaneously.

2.2.2 The examination schedule containing the dates of receipt of examination forms with and without late fee shall be notified by the Controller of Examinations from time to time.

2.3 Every candidate shall be examined in the subject(s) as laid down in the syllabus and scheme of examination prescribed by the Academic Council from time to time. The fail/re-appear candidates will also appear in the exam, as per the syllabus applicable to regular students of that semester.

2.4 Internal assessment shall be awarded as per the provisions in the Scheme of examination of the course concerned.

The criteria for awarding internal assessment shall be as under:

- a. Internal/sessional examinations: 60%
- b. Class Attendance: 20%

69 -1165-

%age of Attendance	% of marks of attendance
Below 75	0
75 to < 80	25 to 50
80 to <85	50 to 75
85 to <90	75 to 100
90 and above	100

c. Class performance (Assignments, questionnaires, seminar, etc): 20%

The Head of the Department/Principal shall forward the Internal assessment marks awarded by the teacher concerned on the basis of class test, written assignment and attendance in the classes etc. to the Controller of Examinations as per the following schedule:

- i) The Internal Assessment/sessionals marks shall be supplied by the Heads of the Departments/Principals of the Colleges/Heads of the Institutions invariably within 20 days after commencement of the examination or as per schedule notified by COE, M D University, Rohtak.
- ii) Thereafter, a late fee per candidate per subject notified by COE, M D University, Rohtak shall be charged from the Department/College/Institute concerned.
- iii) No Internal Assessment/Sessionals marks shall be entertained if the same are received in the University after 30 days of the declaration of results. However, the Vice-Chancellor may condone the delay with late fee after taking into consideration the merit of each case.

2.5 The Head of the Department/Principal will preserve the records on the basis of which the internal assessment awards have been prepared for inspection, if needed by the University, up to three months from the date of declaration of the semester exam results.

70-1166-

2.6 The candidate will be allowed to appear in the examination if he/she meets the following requirements: -

- a. Bears a good character
- b. Has been on the rolls of the Department/College/Institution during the semester.
- c. Has attended not less than 75% of lectures delivered in theory as well as practical. Relaxation in the shortage of lectures up to 20% will be allowed by the Head of the Department/Principal of the College/Institute on the following grounds:
 - i) Self-Illness;
 - ii) Illness/death of parents, brother, sister, or any of the close family members;
 - iii) Any other reason beyond the control of the student, to the satisfaction of the Head of the Institution/Department.

2.7 Unless specifically provided in the syllabus, the medium of instruction and examination shall be English.

2.8 The minimum percentage of marks to pass the examination in each semester shall be:

2.8.2 40% in each theory paper

2.8.3 40% in each practical examination or viva-voce/Project/Training Report/Dissertation, wherever prescribed.

2.8.4 40% in the aggregate of each theory paper and internal assessment (and practical, where practical is a component of the theory paper).

2.9 The examination fee to be paid by the candidate for each semester shall be prescribed by the University from time to time.

2.10 (i) A candidate who fails to pass or, having been eligible, fails to appear in any semester examination, will be allowed to clear the re-appear paper(s) and also for improvement of result after passing a semester examination within a period of seven years. While reappearing to pass a semester examination, the candidate will be

7H-1167-

exempted from reappearing in the papers/practicals in which he/she has secured 40% pass marks.

Note:

i) A candidate who has paid dues for the Higher Semester/Class but subsequently becomes ineligible for promotion shall not be required to pay the dues again on admission after meeting the above conditions.

2.11 The internal assessment awards as well as viva-voce awards of a candidate who fails in any semester examination shall be carried forward to the next examination.

2.12 Soon after the termination of the examination, the Controller of Examinations shall declare the result as early as possible. In cases where a candidate who was permitted to take the examination for a higher semester, but has not cleared the lower semester examination, his result for the higher semester examination will be declared provisionally.

2.13 The grace marks will be allowed as per University rules.

2.14 The list of successful candidate after the eight semester examination shall be arranged as under in three divisions on the basis of aggregate marks obtained in 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th semester examinations taken together, and the division obtained by the candidate will be mentioned in his/her Degree:-

- a) Those who obtain '75% or more and pass the degree without any re-appear : Distinction
- b) Those who obtain 60% or more marks : First Division
- c) Those who obtain 50% or more marks : Second Division
but less than 60% marks
- d) Those who obtain less than 50% marks : Third Division

Note:

22
- 1168 -

(i) A candidate who is permitted to migrate from any other University, the marks obtained by him in this University only will be taken into account. These marks, however, should be increased proportionately so as to raise them to the level of the maximum marks of M.D. University, Rohtak.

(ii) The candidate will be eligible for admission to higher studies, i.e. M.Tech, etc., after passing B.E./B.Tech. This degree will be considered equivalent to B.E./B.Tech. as the case may be.

2.15 After passing each semester's examination, a candidate will be allowed to appear for improvement of result in one or more theory papers only once within the period prescribed by COE, MDU, Rohtak. Only improved marks (higher score) will be taken into account. The candidate will have to appear according to the current syllabus.

3 Learning assessment

A variety of assessment methods that are appropriate to a given discipline/subject area and a programme of study will be used to assess progress towards the course/programme learning outcomes. Evaluation will be based on continuous assessment, in which sessional and terminal examinations will contribute to the final grade. Sessionals will consist of class tests, mid-semester examination(s), homework assignments, class presentations etc., as determined by the BOS.

The proportion of external and internal assessment in any course shall be preferably 70%:30%.

3.1 Letter Grades and Grade Points: The Semester Grade Point Average (SGPA) is computed from the grades as a measure of the student's performance in a given semester. The SGPA is based on the grades of the current term, while the Cumulative GPA (CGPA) is based on the grades in all courses taken after joining the programme of study. The HEIs may also mention marks obtained in each course and a weighted average of marks based on marks obtained in all the semesters taken together for the benefit of students.

Marks (%)	Letter Grade	Grade Point
> 90	O(outstanding)	10
> 75 to 90	A+(Excellent)	9

73 - 1169 -

> 65 to 75	A (Very good)	8
> 55 to 65	B+ (Good)	7
> 50 to 55	B (Above average)	6
> 40 to 50	C (Average)	5
40	P (Pass)	4
Less than 40	F (Fail)	0
	Ab (Absent)	0

3.1.1 Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

The SGPA is the ratio of the 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 and the sum of the number of credits of all the courses taken by a student, i.e.

$$SGPA (S_i) = \sum (C_i \times G_i) / \sum C_i$$

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.

Example for Computation of SGPA

Semester	Course	Credit	Letter Grade	Grade point	Credit Point (Credit x Grade)
I	Course 1	3	A	8	3X8= 24
I	Course 2	4	B+	7	4X7= 28
I	Course 3	3	B	6	3X6= 18
I	Course 4	3	O	10	3X 10 =30
I	Course 5	3	C	5	3X5= 15
I	Course 6	4	B	6	4X6= 24
		20			139
	SGPA				139/20=6.95

74-1170 -

The Cumulative Grade Point Average (CGPA) is also calculated in the same manner, taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

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

where S_i is the SGPA of the i^{th} semester and C_i is the total number of credits in that semester.

Example for Computation of CGPA

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
Credit:21 SGPA:6.9	Credit:22 SGPA:7.8	Credit:25 SGPA:5.6	Credit:26 SGPA:6.0	Credit:26 SGPA:6.3	Credit:25 SGPA:8.0	Credit:18 SGPA:8.0	Credit:18 SGPA:8.0
CGPA = $\frac{21 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0 + 18 \times 8.0}{181}$							

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Conversion of CGPA into Percentage: The CGPA to percentage conversion is as simple as multiplying the candidate's CGPA by 9.5.

$$\% \text{ of Marks} = CGPA \times 9.5$$

4. Miscellaneous

- a. The University shall provide the facility of Academic Bank of Credits in consonance with UGC (Establishment and Operationalization of Academic Bank of Credits (ABC) Scheme in Higher Education) Regulations, 2021, as amended from time to time.
- b. For any programme approved by the Academic Council, if a regulation is issued by the Academic Council, which is at variance with the provisions of this Ordinance; then the Ordinance shall prevail.
- c. In addition to the provisions contained in this Ordinance, the Academic programmes shall also comply with essential requirements as prescribed by the AICTE and HSTES, Panchkula.
- d. Relevant provisions regarding multiple entry-multiple exit options, academic bank of credits, etc., shall be applicable in accordance with the AICTE/HSTES/University Ordinance(s)/relevant UGC Regulations, as amended from time to time.
- e. The student who leaves the program after completion of an odd semester/may be allowed to readmit in the next academic session in the corresponding even semester.

75 1171 -

Supernumerary seat(s) will be created for readmitting such students in the corresponding semester. For example, if a student exits the course after successful completion of the 3rd semester in one academic session, they will be allowed to take admission in the 4th semester in the next academic session.

5. Mobility Options and Credit Transfer through Academic Bank of Credits (ABC):

- a. Academic Bank of Credits, a national-level facility to promote flexibility of curriculum framework and interdisciplinary or multidisciplinary academic mobility of students across Higher Education Institutions in the country, facilitates students to choose their own learning path to attain a Certificate or Diploma or Degree or Post-Graduate diploma or academic qualification, working on the principle of multiple entry-multiple exit as well as any-time, any-where, and any-level learning.
- b. Each student shall have to register on Academic Bank of Credits (ABC) portal for creation of the unique ABC ID to avail multiple entry and multiple exit options and mobility across various disciplines and Higher Education Institutes.
- c. Credits earned and deposited with Academic Bank of Credits (ABC) shall be valid for the purpose of redemption to a Certificate/Diploma/Degree, for a varying duration as specified by the credit awarding and credit accepting Higher Education Institution, subject to a maximum duration of seven years;
- d. Provided that once any credit is redeemed for the award of a degree, diploma or certificate, such credit shall be irrevocably debited from the student's Academic Bank Account, and the credits earned by a student cannot be reused for the award of any other formal academic qualifications.
- e. Students may customize or design their own degrees utilizing courses offered by one or more Higher Education Institutes registered with Academic Bank of Credits;
- f. Provided that, the student shall be required to earn at least fifty percent of the credits from the Higher Education Institute awarding the degree, diploma or certificate;
- g. Provided further that, the student shall be required to earn the required number of credits in the core subject area necessary for the award of the degree, diploma or

76-1172-

certificate as specified by the university in which the student is enrolled.

- h. A student shall be eligible for the award of degree, diploma or certificate, whichever applicable, only after fulfilment of the credit requirements, assessment processes, duration and other relevant provisions as laid down by the university.
- i. A student can take the courses of any other university, subject to the equivalence of the core/elective courses and availability of seats, adopting the due administrative process and formal consent of the University/Universities through the Equivalence Committee(s).
- j. The flexibility and mobility option doesn't entitle a student to be exempted or relaxed from any of the requisites (sessional tests, attendance, assignments, end-semester examinations, programme duration, etc.) for the completion of the programme.
- k. The mobility option should not be interpreted as inter-university migration unless approved by both Universities.
- l. The students shall be permitted to opt inter-disciplinary/multidisciplinary courses of their choice, learn at their pace, undergo additional courses, earn more than the required credits, and adopt an interdisciplinary/ multidisciplinary approach to learning.
- m. The mobility across the disciplines is also subject to availability of seats, faculty, infrastructure, etc (as fixed by the University/Department from time to time).
- n. Mobility of Credits earned by the students from GIAN (Global Initiative of Academic Networks) courses/ MOOCs (Massive Open Online Courses)/ SWAYAM (Study Webs of Active -Learning for Young Aspiring Minds)/ NPTEL/ Swachh Bharat Internship Programme/ etc. shall be credited in accordance with the provisions made under the respective schemes, as amended from time to time; subject to compatibility of course content & assessment process with the prior approval of the respective Board of Studies.
- o. The student shall be given the equivalent credit weightage for the credits earned vide online learning credit courses through SWAYAM / NPTEL platform or any other platform specified by AICTE/UGC and as approved by the respective Board of Studies.

Note: The University may allow up to 40% of the total courses, being offered in a particular program in a Semester through the online learning courses offered through SWAYAM/NPTEL platform or any other platform specified by AICTE/UGC, subject to the following conditions: (a)

77-1173 -

The course contents are alike, to be decided by the concerned Board of Studies; (b) The courses are not offered in the University/College; (c) There is non-availability of suitable teaching staff to run the course in the University/College. The University shall give the equivalent credit weightage to the student for the credits earned via online learning credit courses through the SWAYAM/NPTEL platform or any other platform specified by AICTE/UGC, in the credit plan of the programme.

6. Power to remove Difficulties:

If any difficulty arises in giving effect to the provisions of this Ordinance, the Vice Chancellor may, by order, make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty, however subject to ratification of such order by the Statutory bodies of the University.