

MAHARSHI DAYANAND UNIVERSITY, ROHTAK

Copy of extract of Reso. No. 15 of the meeting of the Academic Council held on 11.02.2026.

15. Ratification the action taken by the Vice-Chancellor in anticipation of approval of the Academic Council in approving the following recommendations of the Faculty of Physical Sciences made vide Resolution Nos. 3 & 4 of its meeting held on 29.10.2025 regarding Schemes of Examinations of various Programs/Courses as per (Annexure A/24 Pages 294-335 already circulated):-

1. Scheme of Examinations of 4-year BCA Program alongwith two specialization (i) AI & Machine Learning (ii) Data Science, as per model curriculum prescribed by AICTE in toto as per formative assessment under NEP-2020 w.e.f. the session 2025-26.
2. Scheme of Examinations of BCA & all UG Programs (Single Major/Physical Sciences Interdisciplinary, etc.) for the session 2024-25 for 3<sup>rd</sup> Semester onward by incorporating the provisions of formative assessment under NEP-2020 w.e.f. the session 2025-26.

The Faculty of Physical Sciences vide Reso. No. 3 & 4 of its meeting held on 04.06.2025 has approved the above mentioned revised Scheme of Examinations of UG Programs w.e.f. the session 2025-26 and recommended the same to the Academic Council.

Further, the Faculty of Physical Sciences vide Reso. No. 3 & 4 approved the above mentioned syllabi and the same have been uploaded on the University Website after vetting the course codes from the Director, IQAC.

The matter has been considered by the Vice Chancellor who has approved the SOEs of the above said Courses at Sr. No. 1 to 2 w.e.f. the session 2025-26 in anticipation of approval of Academic Council as the meeting of the Academic Council was not likely to be held soon and the matter was urgent.

The Academic Council considered the above; and

**RESOLVED THAT THE ACTION TAKEN BY THE VICE-CHANCELLOR AS ABOVE BE RATIFIED**

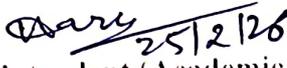
[ACTION BY A.R. (ACADEMIC)]

Enst. No. ACS-I/F-37/ 2026/ 4338-4657

Dated 25-2-2026

Copy of the above is forwarded to the following for information and necessary action. The Syllabi and Schemes examinations of the above courses have already been made available on the University Website.

1. Dean, Faculty of Physical Sciences, M.D. University, Rohtak
2. HoDs, Statistics/Physics/Chemistry/Computer Sciences & Applications/Mathematics, M.D. University, Rohtak.
3. Controller of Examinations, M.D. University, Rohtak.
4. All the HoDs/Directors of UTD's/Institutes, M.D. University, Rohtak.
5. All the Principals/Directors of Colleges affiliated to M.D. University, Rohtak.
6. Director, University Computer Centre, M.D. University, Rohtak for upload on the University website.
7. Deputy/Assistant Registrar (Secrecy/Conduct/Result-I,II,III,IV), M.D. University, Rohtak.

  
25/2/26  
Superintendent (Academic)



- 294 -

Annexure-A/24

**MAHARSHI DAYANAND UNIVERSITY, ROHTAK**  
(Established under Haryana Act No. XXV of 1975)  
'A+' Grade University accredited by NAAC

MINUTES OF THE MEETING OF THE FACULTY OF PHYSICAL SCIENCES HELD ON 29.10.2025 AT 02.30 PM IN THE COMMITTEE ROOM OF SWARAJ SADAN, M. D. UNIVERSITY, ROHTAK.

The following members were present:-

Sr. No.	Name & Address	Designation
1.	Prof. S.C. Malik, Head & Dean, Faculty of Physical Sciences, Department of Statistics, M.D. University, Rohtak	Chairperson
2.	Prof. Sumeet Gill, Head, Dept. of Mathematics, M.D. University, Rohtak	Member, Ex-Officio
3.	Prof. Devender Singh, Head, Dept. of Chemistry, M.D. University, Rohtak	Member, Ex-Officio
4.	Prof. Preeti Rani, Head, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member, Ex-Officio
5.	Prof. Rajesh Punia, Dept. of Physics, M.D. University, Rohtak	Member, Ex-Officio
6.	Prof. Jitender Singh Sikka, Dept. of Mathematics, M.D. University, Rohtak	Member, Ex-Officio
7.	Prof. Rajeev Kumar, Dept. of Mathematics, M.D. University, Rohtak	Member, Ex-Officio
8.	Prof. Sumeet Gill, Head, Dept. of Mathematics, M.D. University, Rohtak	Member, Ex-Officio
9.	Prof. Nasib Singh, Gill, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member, Ex-Officio
10.	Prof. Sandeep Dalal, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member, Ex-Officio
11.	Prof. Seema Mehra, Dept. of Mathematics, M.D. University, Rohtak	Member, Ex-Officio
12.	Prof. Hari Om, Dept. of Chemistry, M.D. University, Rohtak	Member, Ex-Officio
13.	Prof. Gopal Singh, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member, Ex-Officio
14.	Prof. Priti Boora Doon, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member, Ex-Officio
15.	Prof. Komal Jhakar, Dept. of Chemistry, M.D. University, Rohtak	Member, Ex-Officio
16.	Dr. Anju Panwar, Associate Professor, Dept. of Mathematics, M.D. University, Rohtak	Member
17.	Dr. Rajni Bala, Assistant Professor, Dept. of Physics, M.D. University, Rohtak	Member
18.	Dr. Sukhvinder Singh Deora, Assistant Professor, Dept. of Computer Science & Applications, M.D. University, Rohtak	Member
19.	Prof. Harish Kumar, School of Basic Sciences, Department of Chemistry, Central University of Haryana, Jat Pali, Mahendergarh	Outside Expert
20.	Pro. H.K. Malik, IIT, Delhi	Outside Expert (Attend Online Mode)
21.	Sh. Tejpal, Asstt. Registrar Academic Branch, M.D. University, Rohtak	As Registrar Nominee

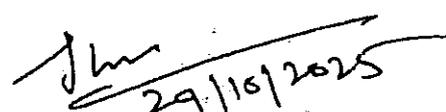
At the outset, the Dean, Faculty of Physical Sciences welcomed to all the members who attended the meeting and after that the following Agenda Items were taken:-

1. Confirmed the Minutes of the previous meeting of the Faculty of Physical Sciences held on 04.06.2025 except item Nos. 23 & 24 Annexure-I, Pages 1-9 (Already circulated).
2. Noted the follow up action of the previous meeting of the Faculty of Physical Sciences held on 04.06.2025, Annexure-II, Pages-10-14 (Already circulated).
3. Ratification of the recommendations of the UG Board of Studies in Computer Sciences made vide Reso. No. 2 (b) in its meeting held on 29.07.2025 in anticipation of the approval of the Faculty/ Academic Council that the Scheme of Examinations & Syllabus of 4-Year BCA Program as well as 4-Year Program with two specialization i.e. (i) AI & Machine Learning (ii) Data Science, as per Model Curriculum prescribed by the AICTE in toto w.e.f. the session 2025-26, may be prescribed, as per Annexure-III Page 14A-144 (Already Circulated).

RESOLVED THAT THE ACTION TAKEN BY THE VICE-CHANCELLOR REGARDING SYLLABUS OF 4-YEAR BCA PROGRAM ALONGWITH TWO SPECIALIZATION (i) AI & MACHINE LEARNING (ii) DATA SCIENCE AS PER MODEL CURRICULUM PRESCRIBED BY AICTE IN TOTO AND AS PER FORMATIVE ASSESSMENT SUGGESTED BY THE UNIVERSITY FROM TIME TO TIME W.E.F. THE SESSION 2025-26 BE RATIFIED AND SCHEME OF THE EXAMINATIONS BE RECOMMENDED TO THE ACADEMIC COUNCIL FOR APPROVAL.

4. Ratification of the recommendations of the UG Board of Studies in Computer Science & Applications made vide Reso. No. 2 (d) in its meeting held on 29.07.2025 in anticipation of the approval of the Faculty/ Academic Council that Scheme of Examinations of BCA & all UG Programs (Single Major/Physical Sciences Interdisciplinary, etc) for the session 2024-25 for 3<sup>rd</sup> Semester onwards by incorporating the provisions of Formative Assessment under NEP-2020 w.e.f. the session 2025-26, may be prescribed as per Annexure- IV, Pages-145-190, (Already Circulated).

RESOLVED THAT THE ACTION TAKEN BY THE VICE-CHANCELLOR REGARDING SYLLABI OF BCA & ALL UG PROGRAMS (SINGLE MAJOR/PHYSICAL SCIENCES INTERDISCIPLINARY, ETC) FOR THE SESSION 2024-25 FOR 3<sup>RD</sup> SEMESTER ONWARDS. BY INCORPORATING THE PROVISIONS OF FORMATIVE ASSESSMENT UNDER NEP-2020 W.E.F. THE SESSION 2025-26 BE RATIFIED AND SCHEME OF THE EXAMINATIONS BE RECOMMENDED TO THE ACADEMIC COUNCIL FOR APPROVAL.

  
29/10/2025  
DEAN, FACULTY OF PHYSICAL SCIENCES

  
REGISTRAR

29/10/2025

16-292

**GENERAL COURSE  
STRUCTURE  
&  
CREDIT DISTRIBUTION**

**SEMESTER WISE CREDIT DISTRIBUTION:**

**SEMESTER WISE CREDIT DISTRIBUTION OF PROPOSED BCA [BCA (HONOURS) AND BCA (HONOURS WITH RESEARCH)] PROGRAM:**

Semester	Core Courses	Ability Enhancement Courses	Multi-Disciplinary Elective course	Value added Courses	Skill Enhancement courses	Discipline Specific Elective	Total
I	8	2	2	2	5	-	19
II	12	-	-	2	7	-	21
III	11	0	0	2	4	3	20
IV	15	0	0	0	2	3	20
V	0	0	0	0	6	15	21
VI	4	1	0	0	4	10	19
BCA (Honours)							
VII	5	0	3	0	4	8	20
VIII					8	12	20
BCA (Honours with Research)							
VII	12					8	20
VIII	20						20

**Category-wise distribution\***

Description	Core Courses	Ability Enhancement Courses	Multi-Disciplinary Elective course	Value added Courses	Skill Enhancement courses	Discipline Specific Elective	Total
BCA	50	3	2	6	28	31	120
BCA (Honours)	55	3	5	6	40	51	160
BCA (Honours with Research)	82	3	2	6	28	39	160
<b>3 Years BCA Program</b>					<b>Total Credits = 120</b>		
<b>4 Years BCA (Honours) and BCA (Honours with Research)</b>					<b>Total Credits = 160</b>		

Note: Students can take extra credit course from their own department or from other department as per the Admitting Body / University norms.

**INDUCTION PROGRAM**

The Essence and Details of Induction program can also be understood from the 'Detailed Guide on Student Induction program', as available on AICTE Portal, (Link: <https://www.aicteindia.org/sites/default/files/Detailed%20Guide%20on%20Student%20Induction%20program.pdf>). For more, Refer Appendix III.

**Mapping of Marks to Grades**

Each course (Theory/Practical) is to be assigned 100 marks, irrespective of the number of credits, and the mapping of marks to grades may be done as per the following table:

Range of Marks	Assigned Grade
91-100	AA/A+
81-90	AB/A
71-80	BB/B+
61-70	BC/B
51-60	CC/C+
46-50	CD/C
40-45	DD/D
< 40	FF/F (Fail due to less marks)
-	FR (Fail due to shortage of attendance and therefore, to repeat the course)

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**Semester wise Structure and Curriculum for UG Course in BCA**

**SEMESTER I**

S. No.	Course Code	University Nomenclature Course Code	Course Title	L	T	P	Credit
<b>3 WEEKS COMPULSORY INDUCTION PROGRAM (UHV-I)</b>							
1	CC101	25BCA401DS01	Mathematics Foundations to Computer Science - I	3	0	0	3
2	SEC101	25BCA401SEC01	Problem Solving Techniques	3	0	4	5
3	CC102	25BCA401DS02	Computer Architecture	3	0	4	5
4	AEC101	25ENGX01AE01	General English - I	1	1	0	2
5	MDE101	25SOCX01MD01	Indian Knowledge System	2	0	0	2
6	VAC101	25CSAX01VA01	Environmental Science and sustainability	2	0	0	2
7	AEC102	25HNDX01AE01 or 25SKTX01AE01	Additional Course - Indian or Foreign Language Other than Mother Tongue and English (1-1-0), [optional course]*	1	1	0	0*
<b>TOTAL</b>							<b>19</b>

- 2. **Work-Based Vocational Course:** A vocational course offered during the summer term that emphasizes hands-on training and workplace readiness.
- 3. **Internship/Apprenticeship:** A professional internship or apprenticeship program in a relevant field, with a minimum duration of 08 weeks, which will take place after the second semester.
- 4. **Social Responsibility & Community Engagement:** Active engagement with an NGO or community organization for a minimum duration of 08 weeks, focusing on real-world problem-solving, social responsibility, and community service.

The mode and specifics of these additional credits will be determined by the respective **University/Admitting Body**, and students will be required to complete the 08-week program during the summer term following their second semester.

The exiting students will clear the subject / submit the Internship Report as per the University schedule.

Re-entry Criteria in to Second Year (Third Semester)

The student who takes an exit after one year with an award of certificate may be allowed to re-enter in to Third Semester for completion of the BCA Program as per the respective University / Admitting Body schedule after earning requisite credits in the First year.

**Students can choose their specialization i.e. Stream with Discipline Specific Elective**

**[DSE] from Second year onwards as indicated in Appendix -I**

**SEMESTER III**

S. No.	Course Code	University Nomenclature Course Code	Course Title	L	T	P	Credit
1	CC201	26BCA403DS01	Probability and Statistics	3	0	0	3
2	CC202	26BCA403DS02	Data Base Management System	3	0	4	5
3	SEC201	26BCA403SEC01	Python Programming	2	0	4	4
4	CC203	26BCA403DS03	Software Engineering	3	0	0	3
5	DSE201*		Professional Elective - I	1	0	4	3
6	VAC201	26Y0GXO4VA01	Yoga/Sports/NCC/NSS/Disaster Management	0	0	4	2
<b>TOTAL</b>							<b>20</b>

\* To be selected from the Proposed Streams with Discipline-Specific Electives - Data Science / Artificial Intelligence and Machine Learning / Full Stack Development proposed by University as indicated at the Appendix - A

5. **Capstone Project:** Completion of a capstone project integrating the skills and knowledge gained during the first two years of the program, which can be an independent or group project.

The specific mode of completing the additional credits will be decided by the respective **University/Admitting Body**, and students will be required to complete the 08-week program or project during the summer term following their fourth semester.

Students opting for this exit will also be required to **submit an Internship/Apprenticeship Report** or complete the Capstone Project as per the schedule outlined by the University/Admitting Body before they are awarded the UG Diploma.

**Re-entry Criteria in to Third Year (Fifth Semester)**

The student who takes an exit after second year with an award of Diploma may be allowed to re-enter into fifth Semester for completion of the BCA Program as per the respective University / Admitting Body schedule after earning requisite credits in the Second year.

The student who takes an exit after third year with an award of BCA may be allowed to re-enter in to Seventh Semester for completion of the BCA (Honours) or BCA (Honours with Research) Program as per the respective University / Admitting Body schedule after earning requisite credits in the Third year.

**Minimum eligibility criteria for opting the course in the fourth year will be as follows:**

1. **BCA (Honours with Research):** BCA Degree
2. **For BCA (Honours):** BCA Degree

**SEMESTER VII - (BCA (Honours))  
Specialization - AI & ML**

S. No.	Course Code	University Nomenclature Course Code	Course Title	L	T	P	Credit
1	MDE401	28BCA407MD01	Social Network Analysis	-	-	-	3
2	CC401	28BCA407DS01	Optimization of ML	3	-	4	5
3	DSE401*		Professional Elective - VII	3	-	4	5
4	DSE402*		Professional Elective - IX	-	-	-	3
5	SEC401		Dissertation work [evaluation in Eight semester]	-	-	-	-
6	SEC402	28BCA407SEC02	Summer Internship II	0	0	8	4
<b>TOTAL</b>							<b>20</b>

\*University Nomenclature Course Code and L-T-P for Discipline Electives depends on the subject that the University/College offers (see page 14-15)

**SEMESTER VII - (BCA (Honours))  
Specialization - Data Science**

S. No.	Course Code	University Nomenclature Course Code	Course Title	L	T	P	Credit
1	MDE401	28BCA407MD02	Advanced Statistical methods for Data Science	-	-	-	3
2	CC401	28BCA407DS01	Python for Data Science	3	-	4	5
3	DSE401*		Professional Elective - VII	3	-	4	5
4	DSE402*		Professional Elective - IX	-	-	-	3

**L-T-P w.r.t Open Elective and Discipline Specific Elective depends on the Courses offered by the University**

**SEMESTER VIII- (BCA –(Honours with Research))**

S. No.	Course Code	University Nomenclature Course Code	Course Title	L	T	P	Credit
1	SEC401	28BCA408SEC01	Dissertation (For Research Track)*	-	-	-	20
<b>TOTAL</b>							<b>20</b>

\*The Dissertation work will start from the beginning of fourth year of BCA (Honours with Research) Program.

Students of Fourth Year shall be assessed for Project Work and Research Internship Report and Viva -Voce and Dissertation (For Research Track).

## Proposed Streams with Discipline-Specific Electives (DSE)

*Note: The following is indicative. Universities/Institutes may add streams / electives as per their specific requirements.*

### 1. Data Science

S.No	Semester	Course Code	University Nomenclature Course Code	Professional Elective
1	III	DSE*201	26BCA403DSE11	Basics of Data Analytics using Spreadsheet
2	IV	DSE*202	26BCA404DSE11	Data Visualization
3	V	DSE301	27BCA405DSE11	Introduction to Data Science
4	V	DSE302	27BCA405DSE12	Time Series Analysis
5	V	DSE303	27BCA405DSE13	Machine Learning
6	VI	DSE304	27BCA406DSE11	Big Data Analytics
7	VI	DSE305	27BCA406DSE12	Exploratory Data Analysis
8	VII	DSE401	28BCA407DSE11	Business Intelligence & Analytics
9	VII	DSE402	28BCA407DSE12	Data Mining & Warehousing
10	VIII	DSE403	28BCA408DSE11	Advanced Data Visualization
11	VIII	DSE404	28BCA408DSE12	Cloud Computing for Data Analytics
12	VIII	DSE405	28BCA408DSE13	Data Security & Privacy

### 2. Artificial Intelligence & Machine Learning

S.No	Semester	Course Code	University Nomenclature Course Code	Professional Elective
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**SUMMATIVE ASSESSMENT**  
**For Core Courses and Discipline Specific Elective Courses**

**For three credits of theory and two credit of practical (3:0:2)**

		Marks Distribution
Theory	Internal	25
	External	50
Practical		50
<b>Total</b>		125

**For three credits of theory and one credit of practical (3:0:1)**

		Marks Distribution
Theory	Internal	25
	External	50
Practical		25
<b>Total</b>		100

**For three credits of theory (3:0:0)**

		Marks Distribution
Theory	Internal	25
	External	50
Practical		0
<b>Total</b>		75

**For two credits of theory and two credits of tutorial (2:2:0)**

		Marks Distribution
Theory	Internal	50
	External	50
Practical		0
<b>Total</b>		100

**Evaluation Scheme for Practical/Lab Examination: 25 Marks**

		Marks Distribution
Program 1	Flowchart/Algorithm	01
	Writing Program	01
	Execution and Program Format	02
Program 2	Flowchart/Algorithm	01
	Writing Program	01
	Execution and Program Format	02
Viva Voce		07
Practical File*		05
Attendance*		05
Total		25

\*: Marks to be provided by the Internal Teacher

**Evaluation Scheme for Practical/Lab Examination: 50 Marks**

		Marks Distribution
Program 1	Flowchart/Algorithm	02
	Writing Program	03
	Execution and Program Format	05
Program 2	Flowchart/Algorithm	02
	Writing Program	03
	Execution and Program Format	05
Viva Voce		20
Practical File*		05
Attendance*		05
Total		50

\*: Marks to be provided by the Internal Teacher

-315-

34

**For two credits of theory and two credits of practical (2:0:2)**

	<b>Marks distribution</b>
Written test (2 X 10)	20
Lab work (practical file) / Field work (report)/ Portfolio	30
Case study / Mini project (1 X 15)	15
Assignment/Seminar / Presentation (3 X 10)	30
Attendance	05
<b>Total</b>	<b>100</b>

**For one credit theory and three credits practical (1:0:3)**

	<b>Marks distribution</b>
Written test (2 X 10)	20
Lab work (practical file) / Field work (report)/ Portfolio	30
Case study / Mini project (1 X 15)	15
Assignment/Seminar / Presentation (3 X 10)	30
Attendance	05
<b>Total</b>	<b>100</b>

**For two credits practical (0:0:2)**

	<b>Marks distribution</b>
Regular assessment through observation and class discussion	10
Lab work (practical file)/Field work (Report)/Mini project	20
Seminar/Presentation (2 X 7.5)	15
Attendance	05
<b>Total</b>	<b>50</b>

**For three credits theory and two credits practical (3:0:2)**

	<b>Marks distribution</b>
Regular Assessment through observation and class discussion	25
Written test (2 X 10)	20
Lab work (practical file) / Field work (report)/ Portfolio	30
Case study / Mini project (1 X 15)	15
Assignment/Seminar / Presentation (3 X 10)	30
Attendance	05
<b>Total</b>	<b>125</b>

**For two credits tutorial (0:2:0)**

	<b>Marks distribution</b>
Written test (2 X 10)	20
Assignment/Case study / Mini project (2 X 10)	20
Seminar / Presentation	05
Attendance	05

**For four credits practical (0:0:4)**

	Marks distribution
Regular assessment through observation and class discussion	15
Lab work (practical file) / field work (report)/Portfolio	30
Case study / Mini project (2 X 15)	30
Assignment/Seminar / Presentation (2 X 10)	20
Attendance	05
<b>Total</b>	<b>100</b>

**For two credits theory and two credits practical (2:0:2)**

	Marks distribution
Written test (2 X 10)	20
Lab work (practical file) / Field work (report)/ Portfolio	30
Case study / Mini project (1 X 15)	15
Assignment/Seminar / Presentation (3 X 10)	30
Attendance	05
<b>Total</b>	<b>100</b>

**For one credit theory and three credits practical (1:0:3)**

	Marks distribution
Written test (2 X 10)	20
Lab work (practical file) / Field work (report)/ Portfolio	30
Case study / Mini project (1 X 15)	15
Assignment/Seminar / Presentation (3 X 10)	30
Attendance	05
<b>Total</b>	<b>100</b>

**For two credits practical (0:0:2)**

	Marks distribution
Regular assessment through observation and class discussion	10
Lab work (practical file)/Field work (Report)/Mini project	20
Seminar/Presentation (2 X 7.5)	15
Attendance	05
<b>Total</b>	<b>50</b>

**For two credits practical (0:0:2)**

	<b>Marks distribution</b>
Regular assessment through observation and class discussion	20
Field work (Report)/Mini project	15
Assignment (2 X 5)	10
Attendance	05
<b>Total</b>	<b>50</b>

**Formative Assessment Model**  
**For UG/PG 4 Credit Practical Courses**

**For four credits of practical (0:0:4)**

	<b>Marks distribution</b>
Regular assessment through observation and class discussion	20
Lab work (practical file) / field work (report)/Portfolio	30
Assignment/Case study / Mini project (3 X 10)	30
Seminar / Presentation (2 X 7.5)	15
Attendance	05
<b>Total</b>	<b>100</b>

2. The details of Formative Assessment in hard copy shall be submitted to the Controller of Examinations within a week of uploading the marks on the portal and the relevant records along with the documents based on which the marks have been awarded, and shall be maintained for a minimum period of two years in the Department/Centre/Institute/ affiliated colleges. The records may be verified/summoned by the Controller of Examinations.

*Scheme of Examinations and Syllabi for 4-year B.Sc. (Physical Science) Program with Honours in One Major Discipline - Computer Science*

**Credit Structure for Undergraduate Programmes (Multidisciplinary with Hons. in One Major Discipline)**

Semester	Discipline-Specific Courses (DSC) / Major Courses	Minor (MIC) / Vocational (VOC) / Skill Enhancement Courses (SEC) / Internship	Multidisciplinary courses (MDC)	Ability Enhancement Courses (AEC)	Research project/ Dissertation	Value-Added Courses (VAC)	Total Credits
I	DSC - A1 @ 4 credits	MIC1 @ 4 credits	MDC1 @ 3 credits	AEC1 @ 2 credits	-----	-----	24
	DSC - B1 @ 4 credits	SEC1 @ 3 credits**					
	DSC - C1 @ 4 credits						
II	DSC - A2 @ 4 credits	SEC2 @ 3 credits**	MDC2 @ 3 credits	AEC2 @ 2 credits	-----	VAC1 @ 2 credits VAC2 @ 2 credits	24
	DSC - B2 @ 4 credits						
	DSC - C2 @ 4 credits						
Students exiting the programme after second semester and securing 52 credits including 4 credits of summer internship will be awarded UG Certificate in the relevant Discipline/Subject							
III	DSC - A3 @ 4 credits	MIC2 @ 4 credits	MDC3 @ 3 credits	AEC3 @ 2 credits	-----	-----	24
	DSC - B3 @ 4 credits	SEC3 @ 3 credits**					
	DSC - C3 @ 4 credits						
IV	DSC - A4 @ 4 credits	MIC3 (VOC) @ 4 credits	-----	AEC4 @ 2 credits	-----	VAC3 @ 2 credits	20
	DSC - B4 @ 4 credits						
	DSC - C4 @ 4 credits						
Students exiting the programme after fourth semester and securing 96 credits including 4 credits of summer internship will be awarded UG Diploma in the relevant Discipline/Subject							
V	DSC - A5 @ 4 credits	MIC4 (VOC) @ 4 credits	-----	-----	-----	-----	20
	DSC - B5 @ 4 credits	Internship @ 4 credits#					
	DSC - C5 @ 4 credits						
VI	DSC - A6 @ 4 credits	MIC5 @ 4 credits	-----	-----	-----	-----	20
	DSC - B6 @ 4 credits	MIC6 (VOC) @ 4 credits					
	DSC - C6 @ 4 credits						
Students will be awarded 3-year UG Degree in the relevant Discipline/Subject upon securing 132 credits*							
VII*	DSC - H1 @ 4 credits	SEC4 @ 4 credits	-----	-----	-----	-----	24
	DSC - H2 @ 4 credits	OR					
	DSC - H3 @ 4 credits	MIC7 (VOC) @ 4 credits					
	DSC - H4 @ 4 credits	OR					
	DSC - H5 @ 4 credits	Internship @ 4 credits					
VIII* (4yr UG Hon.)	DSC - H6 @ 4 credits	SEC5 @ 4 credits	-----	-----	-----	-----	24
	DSC - H7 @ 4 credits	OR					
	DSC - H8 @ 4 credits	MIC8 (VOC) @ 4 credits					
	DSC - H9 @ 4 credits	OR					
	DSC - H10 @ 4 credits	Internship @ 4 credits					
VIII* (4yr UG Hon. with Research)	DSC - H6 @ 4 credits	SEC5 @ 4 credits	-----	-----	Research project/ Dissertation @ 12 credits	-----	24
	DSC - H7 @ 4 credits	OR					
		MIC8 (VOC) @ 4 credits OR Internship @ 4 credits					
						<b>TOTAL CREDITS</b>	<b>180</b>

225-146

*Scheme of Examinations and Syllabi for 4-year B.Sc. (Physical Science) Program with Honours in One Major Discipline - Computer Science*

Semester I														
Discipline Specific Courses/ Major Course	Nomenclature of Course	Course Code	Credits Distribution			Total Credits	Workload			Total Workload	Marks			Total Marks
			L	T	P		L	T	P		Theory		Practical	
											Internal	External		
DSC @ 4 credits	Computing Fundamentals and C Programming	24CSCM401DS01	2	0	2	4	2	0	4	6	15	35	50	100
Semester II														
DSC @ 4 credits	Object Oriented Programming using C++	24CSCM402DS01	2	0	2	4	2	0	4	6	15	35	50	100
Semester III														
DSC @ 4 credits	Data Structures and Algorithms	25CSCM403DS01	2	0	2	4	2	0	4	6	15	35	50	100
Semester IV														
DSC @ 4 credits	DBMS and MySQL	25CSCM404DS01	2	0	2	4	2	0	4	6	15	35	50	100
Semester V														
DSC @ 4 credits	Operating Systems and Shell Programming	26CSCM405DS01	2	0	2	4	2	0	4	6	15	35	50	100
Semester VI														
DSC @ 4 credits	Computer Graphics and Animation	26CSCM406DS01	2	0	2	4	2	0	4	6	15	35	50	100

L: Lecture; T: Tutorial; P: Practical

Note:

The Syllabi and Scheme of Examinations (SOE) for Discipline Specific Courses/Major Courses for UG Semester 7 and Semester 8 will be same as applicable for Syllabi and S.O.E. for Post Graduate semester 1 and semester 2 respectively.

-327-  
88

Syllabi and Scheme of Examinations for 4-year B.Sc.(Computer Science) – Single Major

Credit Structure for Undergraduate Programmes (Single Major)

Semester	Discipline-Specific Courses (DSC) / Major Course	Minor (MIC) / Vocational (VOC) / Skill Enhancement Courses (SEC) / Internship	Multidisciplinary courses (MDC)	Ability Enhancement courses (AEC)	Dissertation	Value-Added Courses (VAC)	Total Credits
I	DSC - A1 @ 4 credits	MIC1 @ 4 credits	MDC1 @ 3 credits	AEC1 @ 2 credits		VAC1 @ 2 credits	22
	DSC - A2 @ 4 credits	SEC1 @ 3 credits					
II	DSC - A3 @ 4 credits	MIC2 @ 4 credits	MDC2 @ 3 credits	AEC2 @ 2 credits		VAC2 @ 2 credits	22
	DSC - A4 @ 4 credits	SEC2 @ 3 credits					
Students exiting the programme after second semester and securing 48 credits including 4 credits of summer internship will be awarded UG Certificate in the relevant Discipline/Subject							
III	DSC - A5 @ 4 credits	MIC3 @ 4 credits	MDC3 @ 3 credits	AEC3 @ 2 credits		VAC3 @ 2 credits	22
	DSC - A6 @ 4 credits	SEC3 @ 3 credits					
IV	DSC - A7 @ 4 credits	MIC4(VOC) @ 4 credits		AEC4 @ 2 credits		VAC4 @ 2 credits	24
	DSC - A8 @ 4 credits						
	DSC - A9 @ 4 credits						
	DSC - A10 @ 4 credits						
Students exiting the programme after fourth semester and securing 94 credits including 4 credits of summer internship will be awarded UG Diploma in the relevant Discipline/Subject							
V	DSC - A11 @ 4 credits	MIC5(VOC) @ 4 credits					24
	DSC - A12 @ 4 credits	Internship @ 4 credits#					
	DSC - A13 @ 4 credits						
	DSC - A14 @ 4 credits						
VI	DSC - A15 @ 4 credits	MIC6(VOC) @ 4 credits					22
	DSC - A16 @ 4 credits	SEC3 @ 2 credits.					
	DSC - A17 @ 4 credits						
	DSC - A18 @ 4 credits						
Students will be awarded 3-year UG Degree in relevant Major Discipline/Subject upon securing 136 credits.							
VII	DSC - H1 @ 4 credits	SEC4 @ 4 credits					24
	DSC - H2 @ 4 credits	OR					
	DSC - H3 @ 4 credits	MIC7 (VOC) @ 4 credits					
	DSC - H4 @ 4 credits	OR					
	DSC - H5 @ 4 credits	Internship @ 4 credits					
VIIJ (4yr UG Hon.)	DSC - H6 @ 4 credits	SEC5 @ 4 credits					24
	DSC - H7 @ 4 credits	OR					
	DSC - H8 @ 4 credits	MIC8 (VOC) @ 4 credits OR					
	DSC - H9 @ 4 credits	Internship @ 4 credits					
	DSC - H10 @ 4 credits						
VIII (4yr UG Hon. with Research)	DSC - H6 @ 4 credits	SEC5 @ 4 credits			Research project/ Dissertation @ 12 credits	TOTAL CREDITS	24
	DSC - H7 @ 4 credits	MIC8 (VOC) @ 4 credits OR Internship @ 4 credits					184

-329-  
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*Syllabi and Scheme of Examinations for 4-year B.Sc.(Computer Science) – Single Major*

DSC – A12 @ 4 credits	Computational Theory	26CSCS405DS02	4	0	0	4	4	0	0	4	30	70	0	100
DSC – A13 @ 4 credits	Mobile Application Development	26CSCS405DS03	3	0	1	4	3	0	2	5	25	50	25	100
DSC – A14 @ 4 credits	Computer System Architecture	26CSCS405DS04	4	0	0	4	4	0	0	4	30	70	0	100
<b>Semester VI</b>														
DSC – A15 @ 4 credits	Compiler Design	26CSCS406DS01	4	0	0	4	4	0	0	4	30	70	0	100
DSC – A16 @ 4 credits	Security in Computing	26CSCS406DS02	3	0	1	4	3	0	2	5	25	50	25	100
DSC – A17 @ 4 credits	Advance Database Systems	26CSCS406DS03	3	0	1	4	3	0	2	5	25	50	25	100
DSC – A18 @ 4 credits	Wireless Sensor Networks	26CSCS406DS04	3	0	1	4	3	0	2	5	25	50	25	100

L: Lecture; T: Tutorial; P: Practical

**Note:**

The Syllabi and Scheme of Examinations (SOE) for Discipline Specific Courses/Major Courses for UG Semester 7 and Semester 8 will be same as applicable for Syllabi and S.O.E. for Post Graduate semester 1 and semester 2 respectively.

-33/-  
765

**SYLLABI AND SCHEME OF EXAMINATIONS FOR MINOR COURSES FOR  
UNDER GRADUATE (SINGLE MAJOR/MULTIDISCIPLINARY PROGRAMS/ SINGLE MAJOR  
PROGRAM AFTER 2nd SEMESTER OF MULTIDISCIPLINARY PROGRAM**

Multidisciplinary Course (MDC)	TYPE OF PROGRAM		Nomenclature of Course	Course Code	Credits Distribution			Total Credits	Workload			Total Workload	Marks			Total Marks
	SINGLE MAJOR PROGRAM	MULTIDISCIPLINARY PROGRAM / SINGLE MAJOR PROGRAM AFTER 2nd SEMESTER OF MULTIDISCIPLINARY PROGRAM			L	T	P		L	T	P		Theory		Practical	
													SEMESTER	SEMESTER		
MIC1 @ 4 credits	1	1	Fundamentals of Computing and Problem Solving Using C	24CSC401MI01	2	0	2	4	2	0	4	6	35	15	50	100
MIC2 @ 4 credits	2	3	Internet and Web Design	24CSC402MI01	3	0	1	4	3	0	2	5	50	25	25	100
MIC3 @ 4 credits	3	5 (6)	Object Oriented Concepts and C++ Programming	25CSC403MI01	3	0	1	4	3	0	2	5	50	25	25	100
MIC4 (VOC) @ 4 credits	4	4	Java Programming	25CSC404MV01	2	0	2	4	2	0	4	6	35	15	50	100
MIC5 (VOC) @ 4 credits	5	5	Database Design and MySQL	26CSC405MV01	3	0	1	4	3	0	2	5	50	25	25	100
MIC6 (VOC) @ 4 credits	6	6	Python Programming	26CSC406MV01	2	0	2	4	2	0	4	6	35	15	50	100
MIC7 (VOC) @ 4 credits	7	7	MERN Stack Development	27CSC407MV01	2	0	2	4	2	0	4	6	35	15	50	100

333 - 167

**Syllabi and Scheme of Examinations  
for  
Skill Enhancement Courses for Under Graduate Programs  
(Single Major / Multidisciplinary Programs)**

(Based on Curriculum and Credit Framework and formative assessment guidelines for UG Programs under NEP 2020)



**MAHARSHI DAYANAND UNIVERSITY  
ROHTAK (HARYANA)**

To be applicable on the students w.e.f. session 2024-25 (3<sup>rd</sup> Semester onwards) and on the students w.e.f. session 2025-26 (1<sup>st</sup> semester onwards)

**Syllabi and Scheme of Examinations for Skill Enhancement Courses for  
Under Graduate (Single Major/Multidisciplinary/ Single Major after 2nd Semester of Multidisciplinary Programs) of Computer Science**

Skill Enhancement Course (SEC)	Nomenclature of Course	Course Code	Credits Distribution			Workload			Total Workload	Total Marks	
			L	T	P	L	T	P			
SEC 1 @ 3 credits	Web Development-I	24CSC401SE01	1	0	2	3	1	0	4	5	75
SEC 2 @ 3 credits	Web Development-II	24CSC402SE01	1	0	2	3	1	0	4	5	75
SEC 3 @ 3 credits	Java Programming	25CSC403SE01	1	0	2	3	1	0	4	5	75
SEC 4 @ 2 credits (offered only in case of Single Major Program)	Machine Learning and Python Programming	26CSC404SE01	0	0	2	2	0	0	4	4	50
SEC 5 @ 4 credits	MERN Stack Development	27CSC405SE01	2	0	2	4	2	0	4	6	100