SRM UNIVERSITY
DELHI-NCR, SONEPAT

Value Added Course on

A COURSE ON MATHEMATICA

(2024-2025)

Duration : 32 hours
No. of Batches : 01

Course Coordinator

Dr. Neeraj Kumar
Associate Professor
Department of Mathematics

SRM UNIVERSITY
DELHI-NCR, SONEPAT

Course Syllabus

A COURSE ON MATHEMATICA

What is Mathematica? The structure of Mathematica, Notebook interfaces, editing Cells and Text, Palettes. Mathematica as a Calculator: Basic Arithmetic, precedence, Built-in Constants: Built-in functions. Numerical Notation: prefix, postfix, infix forms for Built-infunctions, Mathematica help.

Variables and functions: Rules for Names, immediate Assignment, functions, substitution rule, anonymous functions. Lists: what is a list? Functions producing lists, working with elements of list, list table functions, useful functions. Logic and set theory: being logical, truth tables, element handling sets, Quantifiers. Number theoretic functions, numerical functions, Fibonacci sequence, digits in Numbers, selecting from lists.

Computer algebra: working with polynomials and powers. Working with rational functions. Working with transcendental functions. Solving equations: equations and their solutions, inequalities, single variable calculus: function domain and range, limits, differentiation, implicit differentiation, Maximum and minimum, integration.

Sums and products: sequences, the sum command, Taylor polynomials, the product command, vectors And matrices: vectors, Matrices, the conditional function if. Special types of matrices. Basic matrix operations, solving linear systems.

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A COURSE ON MATHEMATICA

LECTURE PLAN (LP)

S. No.	Description of Topic	Lecture Schedule	Pedagogy
1	What is Mathematica? The structure of Mathematica, Note book interfaces, editing Cells and Text, Palettes	2	1. Chalk &Talk 2. Presentation 3. Group Discussion 4. Work Sheets/ Assignment
2	Mathematica Calculator: Basic Arithmetic ,precedence,	2	
3	Built-in Constants Built-in functions.	2	
4	Numerical Notation: prefix, postfix, in fix forms for Built-in functions, Mathematica help	2	
5	Variables and functions :Rules for Names ,immediate Assignment, functions, substitution rule, anonymous functions.	2	
6	Lists: what is a list? Functions producing lists, working with elements of list, functions, useful functions.	2	
7	Logic and set theory: being logical, truth tables, element handling sets,	2	
8	Quantifiers, numerical functions	2	
9	Fibonacci sequence, digits in Numbers, selecting from lists	2	
10	Computer algebra: working with polynomials and powers.	2	
11	Working with rational functions. Working with transcendental functions	2	
12	Solving equations: equations and their solutions, inequalities, single variable	2	
13	Calculus: function domain and range, limits, differentiation, implicit differentiation, Maximum and minimum, integration.	2	
14	Sums and products: sequences ,the sum command, Taylor polynomials, the product command	2	
15	Vectors and matrices: vectors, Matrices, the conditional function if. Special types of matrices. Basic matrix operations, solving linear systems.	2	



ATTENDANCE SHEET
A COURSE ON MATHEMATICA

SRM UNIVERSITY DELHI-NCR, SONEPAT

Session (2024-2025) **Duration: 32 hours** **Time: 10:00AM-12:00 PM**

S. No.	Student Name	Registration No.	ProgramName	24/ 08/ 2024	31/ 08/ 2024	14/ 09/ 2024	21/ 09/ 20234	28/ 09/ 2024	05/ 10/ 2024	12/ 10/ 2024	19/ 10/ 2024
1.	POOJA	43323210004	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	P
2.	AYUSH KUMAR	43323210008	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
3.	BHOOMI	43323210002	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
4.	AVIRAL	43323210006	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
5.	DEEPANSHU	43323210001	B.Sc.(H)Mathematics	A	P	P	P	P	P	P	P
6.	PRIYANSH	43323210007	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
7.	PRAKSHIT KUMAR	43323210012	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
8.	ASTHA ARORA	43323210011	B.Sc.(H)Mathematics	P	A	P	P	A	P	P	P
9.	DEEPTI NAGI	43323210009	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
10.	PRATHAMESH BANAIT	43323210003	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	P
11.	PALAK CHADHA	43321210003	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
12.	SATVIK DHANDA	43321210021	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
13.	RISHIKA	43321210006	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	A
14.	PRACHI	43321210015	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
15.	PRINCE	43321210014	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
16.	B A KIRBHA SHRI	43321210011	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
17.	LIVAKSHI	43321210008	B.Sc.(H)Mathematics	P	A	P	P	A	P	P	P
18.	SWEETI	43321210012	B.Sc.(H)Mathematics	P	P	P	A	P	P	A	A
19.	PALLAVI PANDEY	43321210019	B.Sc.(H)Mathematics	P	P	A	A	P	P	P	P
20.	AKASH	43321210002	B.Sc.(H)Mathematics	A	P	P	P	P	P	P	P
21.	NIKITA	43321210009	B.Sc.(H)Mathematics	A	A	P	P	P	A	P	P
22.	AMAN BHANWALA	43321210022	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	A
23.	SOMYA JAIN	43321210020	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P

ATTENDANCE SHEET
A COURSE ON MATHEMATICA

SRM UNIVERSITY DELHI-NCR, SONEPAT

Session (2024-2025) **Duration: 32 hours** **Time:2:00-4:00PM**

S. No.	Student Name	Registration No.	ProgramName	24/ 08/ 2024	31/ 08/ 2024	14/ 09/ 2024	21/ 09/ 20234	28/ 09/ 2024	05/ 10/ 2024	12/ 10/ 2024	19/ 10/ 2024
1.	POOJA	43323210004	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	P
2.	AYUSH KUMAR	43323210008	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
3.	BHOOMI	43323210002	B.Sc.(H)Mathematics	A	P	P	P	P	A	P	P
4.	AVIRAL	43323210006	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
5.	DEEPANSHU	43323210001	B.Sc.(H)Mathematics	P	P	P	A	P	P	P	P
6.	PRIYANSH	43323210007	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
7.	PRAKSHIT KUMAR	43323210012	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
8.	ASTHA ARORA	43323210011	B.Sc.(H)Mathematics	P	A	P	P	A	P	P	P
9.	DEEPTI NAGI	43323210009	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
10.	PRATHAMESH BANAIT	43323210003	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	P
11.	PALAK CHADHA	43321210003	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	P
12.	SATVIK DHANDA	43321210021	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
13.	RISHIKA	43321210006	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
14.	PRACHI	43321210015	B.Sc.(H)Mathematics	P	P	A	P	P	P	P	P
15.	PRINCE	43321210014	B.Sc.(H)Mathematics	P	P	P	P	P	A	P	P
16.	B A KIRBHA SHRI	43321210011	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
17.	LIVAKSHI	43321210008	B.Sc.(H)Mathematics	P	A	P	P	A	P	P	P
18.	SWEETI	43321210012	B.Sc.(H)Mathematics	P	P	P	A	P	P	A	A
19.	PALLAVI PANDEY	43321210019	B.Sc.(H)Mathematics	P	P	A	A	P	P	P	P
20.	AKASH	43321210002	B.Sc.(H)Mathematics	A	P	P	P	P	P	P	P
21.	NIKITA	43321210009	B.Sc.(H)Mathematics	A	A	P	P	P	A	P	P
22.	AMAN BHANWALA	43321210022	B.Sc.(H)Mathematics	P	P	P	P	P	P	P	A
23.	SOMYA JAIN	43321210020	B.Sc.(H)Mathematics	P	A	P	P	P	P	P	P

EVALUATION SHEET

A COURSE ON MATHEMATICA

Session (2024-2025) **Duration: 24-08-2024 TO 19-10-2024**

S. No.	Student Name	Registration No.	Program Name	ClassTest MM:15	PresentationMM:15	AssignmentsMM:15	TotalMarksMM:45
1.	POOJA	43323210004	B.Sc.(H)Mathematics	12	13	13	38
2.	AYUSH KUMAR	43323210008	B.Sc.(H)Mathematics	13	12	14	39
3.	BHOOMI	43323210002	B.Sc.(H)Mathematics	14	13	15	42
4.	AVIRAL	43323210006	B.Sc.(H)Mathematics	11	12	13	36
5.	DEEPANSHU	43323210001	B.Sc.(H)Mathematics	12	13	14	43
6.	PRIYANSH	43323210007	B.Sc.(H)Mathematics	13	14	14	39
7.	PRAKSHIT KUMAR	43323210012	B.Sc.(H)Mathematics	12	12	12	38
8.	ASTHA ARORA	43323210011	B.Sc.(H)Mathematics	14	11	13	38
9.	DEEPTI NAGI	43323210009	B.Sc.(H)Mathematics	10	13	14	37
10.	PRATHAMESH BANAIT	43323210003	B.Sc.(H)Mathematics	11	14	12	37
11.	PALAK CHADHA	43321210003	B.Sc.(H)Mathematics	14	13	12	39
12.	SATVIK DHANDA	43321210021	B.Sc.(H)Mathematics	14	13	14	41
13.	RISHIKA	43321210006	B.Sc.(H)Mathematics	13	12	14	39
14.	PRACHI	43321210015	B.Sc.(H)Mathematics	12	13	13	38
15.	PRINCE	43321210014	B.Sc.(H)Mathematics	11	14	14	39
16.	B A KIRBHA SHRI	43321210011	B.Sc.(H)Mathematics	14	12	12	38
17.	LIVAKSHI	43321210008	B.Sc.(H)Mathematics	14	11	13	38
18.	SWEETI	43321210012	B.Sc.(H)Mathematics	12	12	14	38
19.	PALLAVI PANDEY	43321210019	B.Sc.(H)Mathematics	15	14	12	41
20.	AKASH	43321210002	B.Sc.(H)Mathematics	12	14	12	38
21.	NIKITA	43321210009	B.Sc.(H)Mathematics	13	15	11	39
22.	AMAN BHANWALA	43321210022	B.Sc.(H)Mathematics	14	14	14	42
23.	SOMYA JAIN	43321210020	B.Sc.(H)Mathematics	15	12	15	42

SRM UNIVERSITY
DELHI-NCR, SONEPAT

CERTIFICATE

OF COMPLETION

THE FOLLOWING CERTIFICATE IS GIVEN TO

DEEPANSHU

Bearing Reg.No.43323210001 for completing a value-added course of 32 hours on **A COURSE ON MATHEMATICA** offered by the Department of Mathematics from 24 August 2024 to 19 Oct 2024.

Dean Academic Affairs

CERTIFICATE

OF COMPLETION

SRM UNIVERSITY
DELHI-NCR, SONEPAT

THE FOLLOWING CERTIFICATE IS GIVEN TO

ASTHA ARORA

Bearing Reg. No. 43323210011 for completing a value-added course of 32 hours on **A COURSE ON MATHEMATICA** offered by the Department of Mathematics from 24 August 2024 to 19 Oct 2024.

Dean Academic Affairs