



Deen Dayal Upadhyaya College (University of Delhi)



Hands-on Workshop in
Discrete Mathematics with Mathematica
(For B.Sc. Hons. Mathematics/ B.Sc. Physical science/Mathematical science students)

Organized by
Department of Mathematics

(07st Dec. 2023)

REPORT

Under
DBT Star College Scheme



सत्यमेव जयते
DEPARTMENT OF BIOTECHNOLOGY
GOVERNMENT OF INDIA

DEEN DAYAL UPADHYAYA COLLEGE
(UNIVERSITY OF DELHI)

Department of Mathematics
Hands – on Workshop in
Discrete Mathematics with Mathematica
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Overview:

Mathematica is a modern technical computing system spanning all areas of technical computing—including neural networks, machine learning, image processing, geometry, data science, visualizations, and others. The system is used in many technical, scientific, engineering, mathematical, and computing fields.

The Program:

This program was to encourage the students of Honours and program courses to explore various concepts of discrete mathematics with applications using Mathematica. The goal of this program was to give the basic knowledge of Mathematica along with different topics of discrete mathematics and how different problems of discrete mathematics and Boolean algebra can be solved using mathematica software which is used to solve mathematical and scientific problems. Participants had access to computing facilities with this software and had an opportunity to do hands-on exercises with the same.

Organizing Committee:

Chairman: Prof. Hem Chand Jain

Co-ordinator,
DBT-Star College Scheme: Prof. Manoj Saxena

Program Coordinator: Dr. Mamta A. Wagh

Program Coordinator: Dr. Poonam Garg

Resource Persons:

Dr. Mamta Amol Wagh

Dr. Poonam Garg

Dr. Aparna

Dr. Rashmi Gupta

Dr. Tarachand Prajapati

Mr. Ravi Kumar Meena

Mr. Amlendu Kumar

Program Schedule

7.12.2023		VENUE: ICT CENTER, 2 nd floor	
			topics to be covered ↓
1:00 pm – 2:30 pm	Theory	SESSION – I MN+APARNA	Posets, lattices, Hasse Diagrams, CN forms, DN forms, Circuit diagrams, Boolean algebra etc.
2:30 pm – 3:00 pm	BREAK		
3:00 pm – 4:30 pm	Hands-on	SESSION – II MN+PG+APARNA	graph theory and hands-on practice on hasse diagram, truth tables, CN-DN forms, Boolean algebra etc

SOME PICTURES FROM THE WORKSHOP



ATTENDANCE OF THE PARTICIPANTS

Attendance Sheet		Hands-on Workshop on "Discrete Mathematics with Mathematica"				07/12/2023
S.H.	Name	Roll no	Sem	Course	E-mail	Sign
1	Ishaan	22HMT3170	III rd	B.Sc(H) Maths	(Ishaan.22HMT3170@ddu.du.ac.in)	Ishaan
2	Dushyant Kumar	22HMT3196	III rd	B.Sc(H) Maths	(Dushyant.22HMT3196@ddu.du.ac.in)	Dushyant
3	Ajay Maurya	22HMT3106	III rd	B.Sc(H) Maths	(Ajay.22HMT3106@ddu.du.ac.in)	Ajay
4	Tisha	21HMT3200	V th	B.Sc(H) Maths	(tisha.21HMT3200@ddu.du.ac.in)	Tisha
5	Shorajal	21HMT3209	V th	B.Sc(H) Maths	(shorajal.21HMT3209@ddu.du.ac.in)	Shorajal
6	Senal	21HMT3192	V th	B.Sc(H) Maths	(senal.21HMT3192@ddu.du.ac.in)	Senal
7	Gargi	21HMT3135	V th	B.Sc(H) Maths	(Gargi.21HMT3135@ddu.du.ac.in)	Gargi
8	Yash	21HMT3206	V th	B.Sc(H) Maths	(Yash.21HMT3206@ddu.du.ac.in)	Yash
9	Maviga Siddiqui	22HMT3188	III	B.Sc(H) Maths	(Maviga.22HMT3188@ddu.du.ac.in)	Maviga
10	Raja	22HMT3181	III	B.Sc(H) Mathematics	(Raja.22HMT3181@ddu.du.ac.in)	Raja
11	Naman	22HMT3136	III	B.Sc(H) Maths	(naman.22HMT3136@ddu.du.ac.in)	Naman
11)	Amitsha	21HMT3110	V	B.Sc(H) Maths	(amisha.21HMT3110@ddu.du.ac.in)	Amitsha
12)	Akshita	21HMT3109	V	B.Sc(H) Maths	(akshita.21HMT3109@ddu.du.ac.in)	Akshita
13)	Hushnara	21HMT3141	V	B.Sc(H) Maths	(hushnara.21HMT3141@ddu.du.ac.in)	Hushnara
14)	Sunny Bhagat	21HMT3195	V	B.Sc(H) Mathematics	(Sunny.21HMT3195@ddu.du.ac.in)	Sunny
15)	Devensh Mishra	22HMT3117	III	B.Sc(H) Mathematics	(Devensh.22HMT3117@ddu.du.ac.in)	Devensh
16)	Akash Suryavanshi	22HMT3108	III	B.Sc(H) Mathematics	(Akash.22HMT3108@ddu.du.ac.in)	Akash
17)	LAUKUSH PATEL	22HMT3129	III	B.Sc(H) MATH	(laukush.22HMT3129@ddu.du.ac.in)	LAUKUSH
18	Lahil	22HMT3174	III	B.Sc(H) Math	(Lahil.22HMT3174@ddu.du.ac.in)	Lahil
19)	Ravi Gargan	22HMT3195	III rd	B.Sc(H) Maths	(Ravi.22HMT3195@ddu.du.ac.in)	Ravi

Hands-on Workshop on
"Discrete Mathematics with Mathematica"

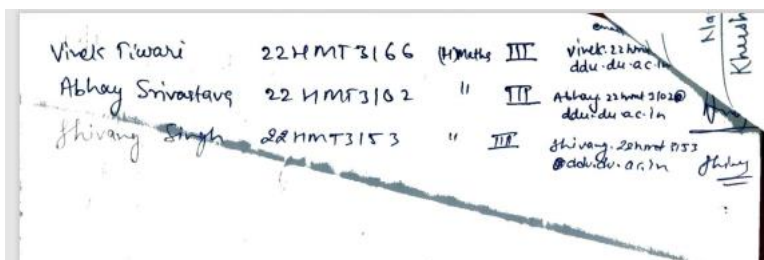
07/12/2023

S.N	Name	Roll no.	Sem	Course	E-Mail	Sign
1	Ritu	22HMT3183	III	BSc(H) Maths	ritu.22hmt3183@ddu.ac.in	Ritu
2	Neha	22HMT3133	III	BSc(H) Maths	neha.22hmt3133@ddu.ac.in	Neha
3	Jyoti Rowal	22HMT3177	III	BSc(H) Maths	jyoti.22hmt3177@ddu.ac.in	Jyoti
4	Anshul Singh	21HMT3113	IV	Dis (H) Maths	anshu.21hmt3113@ddu.ac.in	Anshul
5	Susant	21HMT3196	V	BSc(H) Maths	susant.21hmt3196@ddu.ac.in	Susant
6	Kushi	21HMT3146	V	BSc(H) Maths	kushi.21hmt3146@ddu.ac.in	Kushi
7	Prashant	21HMT3165	V	BSc(H) Maths	prashant.21hmt3165@ddu.ac.in	Prashant
8	Abhinav	22HMT3167	III	BSc(H) Maths	abhinav.22hmt3167@ddu.ac.in	Abhinav
9	Aashima	22HMT3101	III	BSc(H) Maths	aashima.22hmt3101@ddu.ac.in	Aashima
10	Rishabh	21HMT3176	IV	BSc(H) Maths	rishabh.21hmt3176@ddu.ac.in	Rishabh
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14	Harsh Vardhan	21HMT3137	IV	BSc(H) Maths	harsh.21hmt3137@ddu.ac.in	Harsh
15	Vinay	21HMT3204	V	BSc(H) Maths	vinay.21hmt3204@ddu.ac.in	Vinay
16	Gagan Meena	21HMT3122	V	BSc(H) Maths	gagan.21hmt3122@ddu.ac.in	Gagan
17	Shikha	21HMT3186	V	BSc(H) Maths	shikha.21hmt3186@ddu.ac.in	Shikha
18	Bhavika Bhardwaj	21HMT3118	V	BSc(H) Maths	bhavika.21hmt3118@ddu.ac.in	Bhavika
19	Preeti	21HMT3166	V	BSc(H) Maths	preeti.21hmt3166@ddu.ac.in	Preeti
20	Nitin Jaiswal	22HMT3137	III	BSc(H) Maths	nitin.22hmt3137@ddu.ac.in	Nitin
21	Ajith Kumar	22HMT3166	III	BSc(H) Maths	ajith.22hmt3166@ddu.ac.in	Ajith
22	Shashi Shaktin	22HMT3152	III	BSc(H) Maths	shashi.22hmt3152@ddu.ac.in	Shashi
23	Ravindra Kumar	22HMT3190	III	BSc(H) Maths	ravindra.22hmt3190@ddu.ac.in	Ravindra
24	Nitin Kumar	22HMT3138	III	BSc(H) Maths	nitin.22hmt3138@ddu.ac.in	Nitin

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S.N	Name	Roll no.	Sem	Course	E-mail	Sign
1	Kushi	21HMT3143	5	Maths (H)	kushi.21hmt3143@ddu.ac.in	Kushi
2	Rishi	21HMT3125	5	Maths (H)	rishi.21hmt3125@ddu.ac.in	Rishi
3	Harsh	21HMT3148	5	Maths (H)	harsh.21hmt3148@ddu.ac.in	Harsh
4	Hemant Meena	21HMT3139	5	Maths (H)	hemant.21hmt3139@ddu.ac.in	Hemant
5	Arna Khatun	21HMT3147	5	Maths (H)	arna.21hmt3147@ddu.ac.in	Arna
6	Rishabh Meena	21HMT3176	5	Maths (H)	rishabh.21hmt3176@ddu.ac.in	Rishabh
7	Ravi Meena	21HMT3174	5	Maths (H)	ravi.21hmt3174@ddu.ac.in	Ravi
8	Vaishnavi Khanna	21HMT3202	5	Maths (H)	vaishnavi.21hmt3202@ddu.ac.in	Vaishnavi
9	Ritesh Painuli	21HMT3174	5	Maths (H)	ritesh.21hmt3174@ddu.ac.in	Ritesh
10	Teesta Gang	21HMT3194	5	Maths (H)	teesta.21hmt3194@ddu.ac.in	Teesta
11	Vaishnavi Meena	21HMT3203	5	Maths (H)	vaishnavi.21hmt3203@ddu.ac.in	Vaishnavi
12	Yash Sharma	21PSS5191	5	PSCS	yash.21PSS5191@ddu.ac.in	Yash
13	Vikash Parshad	21PSS5139	5	PSCS	vikash.21PSS5139@ddu.ac.in	Vikash
14	Rachana	21PSS5742	5	PSCS	rachana.21PSS5742@ddu.ac.in	Rachana
15	Udayveer Dhanraj	22HMT3160	5	BSc(H) Maths	udayveer.22hmt3160@ddu.ac.in	Udayveer
16	Vikas Pandey	21PSS5155	5	BSc(PSCS)	vikas.21PSS5155@ddu.ac.in	Vikas
17	Sagar	21PSS5151	5	BSc(PSCS)	sagar@gmail.com	Sagar
18	Sohel	21PSS5153	5	PSCS	sohel@gmail.com	Sohel



EXPENDITURE INCURRED IN THE WORKSHOP

Sl. No.	Budget Head	Expenditure (in Rs. Approx.)
1	Refreshment boxes (100 students @ 50/-)	5000
2	Honorarium to speakers (2 session x 1 person)	3000
3	Miscellaneous	1000
	TOTAL EXPENDITURE TO BE INCURRED	9000/