

I – Academic Planner

A. Teaching Plan (Year : 2021-22) Semester: Odd)

Teacher's Name : Dr. KAVITA GUPTA Department: MATHEMATICS

S. No.	UPC	Paper Name	Core/AECC/GE/SEC	Topic/Unit	Start Date	End Date
1.	42353504	Transportation and Network Flow Problems	SEC-IV	Networking terminology and minimal spanning tree	23.07.2021	31.07.2021
2.	42353504	Transportation and Network Flow Problems	SEC-IV	Dijkstra's algorithm for finding the shortest path	06.08.2021	07.08.2021
3.	42353504	Transportation and Network Flow Problems	SEC-IV	Maximal flow problem	13.08.2021	14.08.2021
4.	42353504	Transportation and Network Flow Problems	SEC-IV	Transportation problem and Transshipment Problem method	21.08.2021	11.09.2021
5.	42353504	Transportation and Network Flow Problems	SEC-IV	Assignment problem: Hungarian	17.09.2021	18.09.2021
6.	42353504	Transportation and Network Flow Problems	SEC-IV	PERT/CPM	24.09.2021	09.10.2021
7.	42353604	Transportation and Network Flow Problems	SEC-IV	Floyd's Algorithm	23.10.2021	30.10.2021
8	42353504	Transportation and Network Flow Problems	SEC-IV	Doubts session, Internal assessment test from Transportation problem, assignment problem	05.11.2021	12.11.2021
9	32355345	Linear Programming and Game Theory	GE	Introduction of Transportation Problem	02.09.2021	02.09.2021
10	32355345	Linear Programming and Game Theory	GE	North west corner rule	03.09.2021	03.09.2021

11	32355345	Linear Programming and Game Theory	GE	Least Cost Method	04.09.2021	04.09.2021
12	32355345	Linear Programming and Game Theory	GE	VAM	06.09.2021	06.09.2021
13	32355345	Linear Programming and Game Theory	GE	MODI Method	07.09.2021	08.09.2021
14	32355345	Linear Programming and Game Theory	GE	Unbalanced TP	10.09.2021	11.09.2021
15	32355345	Linear Programming and Game Theory	GE	Definition of Assignment problem and basic terminology	13.09.2021	13.09.2021
16	32355345	Linear Programming and Game Theory	GE	Hungarian method discussed with all cases	14.09.2021	15.09.2021
17	32355345	Linear Programming and Game Theory	GE	Graphical Solution to LPP	16.09.2021	17.09.2021
18	32355345	Linear Programming and Game Theory	GE	Basic feasible solution	18.09.2021	18.09.2021
19	32355345	Linear Programming and Game Theory	GE	Simplex method	20.09.2021	30.09.2021
20	32355345	Linear Programming and Game Theory	GE	Big M method	01.10.2021	08.10.2021
21	32355345	Linear Programming and Game Theory	GE	Two phase method	09.10.2021	11.10.2021
22	32355345	Linear Programming and Game Theory	GE	Solving system of equations by simplex method	16.10.2021	16.10.2021
23	32355345	Linear Programming and Game Theory	GE	Finding Inverse of a matrix by simplex method	17.10.2021	18.10.2021
24	32355345	Linear Programming and Game Theory	GE	Duality: Introduction and its formulation	25.10.2021	26.10.2021

25	32355345	Linear Programming and Game Theory	GE	Duality theorems	27.10.2021	29.10.2021
26	32355345	Linear Programming and Game Theory	GE	Convexity	30.10.2021	09.11.2021
27	32355345	Linear Programming and Game Theory	GE	Game theory: Maximin and minimax criterion, Formulation of games, Rule of dominance	10.11.2021	16.11.2021
28	32355345	Linear Programming and Game Theory	GE	Graphical solution to a game	17.11.2021	22.11.2021
29	32355345	Linear Programming and Game Theory	GE	To solve a game by formulating it as a LPP	23.11.2021	27.11.2021
30	32355345	Linear Programming and Game Theory	GE	Internal Assessment Exam from Unit 1 and Unit 2	02.12.2021	02.12.2021
31	32351303	Multivariate Calculus Practical	Core	Practical 7 : Level curves Practical 8: Limit for a function of two variables	26.08.2021	27.08.2021
32	32351303	Multivariate Calculus Practical	Core	Practical 8	03.09.2021	04.09.2021
33	32351303	Multivariate Calculus Practical	Core	Practical 2	09.09.2021	09.09.2021
34	32351303	Multivariate Calculus Practical	Core	Practical 9: Tangent Plane	16.09.2021	17.09.2021
35	32351303	Multivariate Calculus Practical	Core	Practical 4: continuity at $x = 0$	23.09.2021	30.09.2021
36	32351303	Multivariate Calculus Practical	Core	Practical 5: Rolle's Theorem	01.10.2021	08.10.2021
37	32351303	Multivariate Calculus Practical	Core	Practical 6: LMV	14.10.2021	28.10.2021
38	32351303	Multivariate Calculus Practical	Core	Practical 10: Incremental Approximation	29.10.2021	29.10.2021
39	32351303	Multivariate Calculus Practical	Core	Practical 11: Maxima and Minima	11.11.2021	11.11.2021
40	32351303	Multivariate Calculus Practical	Core	Practical 12: Region Plot	18.11.2021	18.11.2021
41	32351303	Multivariate Calculus Practical	Core	Practical 1: Limit	25.11.2021	25.11.2021
42	32351303	Multivariate Calculus Practical	Core	Revision and doubt session, submission of practical files	26.11.2021	26.11.2021

43	32351303	Multivariate Calculus Practical	Core	Internal exam	03.12.2021	03.12.2021
44	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Basics of Mathematica	29.11.2021	29.11.2021
45	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Practical 9: Finding random numbers	06.12.2021	20.12.2021
46	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Practical 8: Complex numbers	28.12.2021	03.01.2022
47	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Practical 10: Matrix and its operations, Eigen values, eigen vectors, Cayley Hamilton theorem	10.01.2022	24.01.2022
48	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Practical 6: Limit, differentiation and integration	31.01.2022	07.02.2022
49	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Practical 5: Surface of revolution	14.02.2022	14.02.2022
50	32351101	Calculus Practicals	Core (B.Sc. (H) Maths I sem)	Internal Assessment	05.03.2022	05.03.2022

A2: Teaching Plan (Year : 2021-22 Semester: Even)

Teacher's Name _DR. KAVITA Department: MATHEMATICS

S. No.	UPC	Paper Name	Core/AECC/GE/SEC	Topic/Unit	Start Date	End Date
1.	32357614	Mathematical Finance	DSE 3(i)	Treasury Rates, LIBOR	03.01.2022	03.01.2022
2.	32357614	Mathematical Finance	DSE 3(i)	LIBID, MIBOR, MIFOR, Rates of interest compounded continuously	04.01.2022	04.01.2022
3.	32357614	Mathematical Finance	DSE 3(i)	Effective rate of interest and rate equivalence relation and questions on it, Bonds	07.01.2022	07.01.2022
4.	32357614	Mathematical Finance	DSE 3(i)	Par yield of bond, Duration, modified duration and convexity of bond	11.01.2022	11.01.2022
5.	32357614	Mathematical Finance	DSE 3(i)	Forward rate	13.01.2022	13.01.2022
6.	32357614	Mathematical Finance	DSE 3(i)	Derivatives meaning, forwards, futures, types of participants in derivatives, European option, American option, long position and short position, introduction to options	14.01.2022	14.01.2022
7.	32357614	Mathematical Finance	DSE 3(i)	LONG CALL AND SHORT CALL positions in options.	18.01.2022	18.01.2022

8	32357614	Mathematical Finance	DSE 3(i)	Long put and short put	20.01.2022	20.01.2022
9	32357614	Mathematical Finance	DSE 3(i)	Chapter 8 exercise finished	21.01.2022	21.01.2022
10	32357614	Mathematical Finance	DSE 3(i)	Speculation and Hedging using futures/ forwards. Q1 to Q8 of exercise of chapter 1 done	25.01.2022	25.01.2022
11	32357614	Mathematical Finance	DSE 3(i)	Exercise of Chapter 1 : Q9 to Q18	27.01.2022	27.01.2022
12	32357614	Mathematical Finance	DSE 3(i)	Exercise of Chapter 1: Q19 to Q25	28.01.2022	28.01.2022
13	32357614	Mathematical Finance	DSE 3(i)	Short selling	03.02.2022	03.02.2022
14	32357614	Mathematical Finance	DSE 3(i)	Forward price	04.02.2022	04.02.2022
15	32357614	Mathematical Finance	DSE 3(i)	Ch-9: Bounds on call and put options, factors affecting option price	08.02.2022	08.02.2022
16	32357614	Mathematical Finance	DSE 3(i)	Bounds on option pricing and put call parity	10.02.2022	10.02.2022
17	32357614	Mathematical Finance	DSE 3(i)	Put call parity equation questions	11.02.2022	11.02.2022
18	32357614	Mathematical Finance	DSE 3(i)	Early exercise of American call and put options	15.02.2022	15.02.2022
19	32357614	Mathematical Finance	DSE 3(i)	Put call parity equation	22.02.2022	22.02.2022
20	32357614	Mathematical Finance	DSE 3(i)	Chapter 11: Portfolio replication and risk neutral valuation method of option pricing	23.04.2022	24.02.2022
21	32357614	Mathematical Finance	DSE 3(i)	Binomial tree	02.03.2022	02.03.2022
22	32357614	Mathematical Finance	DSE 3(i)	Normal distribution	03.03.2022	03.03.2022
23	32357614	Mathematical Finance	DSE 3(i)	Lognormal property of stock prices, expected rate of return, Black scholes model, questions on it	08.03.2022	22.03.2022
24	32357614	Mathematical Finance	DSE 3(i)	Covered call and reverse of covered call	24.03.2022	24.03.2022
25	32357614	Mathematical Finance	DSE 3(i)	Protective put and reverse of protective put, bull spread, bear spread	29.03.2022	30.03.2022
26	32357614	Mathematical Finance	DSE 3(i)	Butterfly spread+combinations,naked position, covered position, stoploss strategy	05.04.2022	06.04.2022
27	32357614	Mathematical Finance	DSE 3(i)	Greek letters	07.04.2022	12.04.2022

28	32357614	Mathematical Finance	DSE 3(i)	Internal Assessment exam	13.04.2022	13.04.2022
29	32357614	Mathematical Finance	DSE 3(i)	Swaps	19.04.2022	20.04.2022
30	32357614	Mathematical Finance	DSE 3(i)	Internal Assessment exam (re-test)	25.04.2022	25.04.2022
31	32357611	Linear Programming and theory of Games	DSE 4(ii)	Assignment problem -introduction	03.01.2022	03.01.2022
32	32357611	Linear Programming and theory of Games	DSE 4(ii)	Hungarian method: Multiple optimal solution	04.01.2022	04.01.2022
33	32357611	Linear Programming and theory of Games	DSE 4(ii)	Different cases in Hungarian method	07.01.2022	07.01.2022
34	32357611	Linear Programming and theory of Games	DSE 4(ii)	Practice on assignment problem, Introduction to TP,NWCR	10.01.20221	10.01.20221
35	32357611	Linear Programming and theory of Games	DSE 4(ii)	LCM, VAM	11.01.2022	11.01.2022
36	32357611	Linear Programming and theory of Games	DSE 4(ii)	VAM	12.02.2022	12.02.2022
37	32357611	Linear Programming and theory of Games	DSE 4(ii)	MODI	17.01.2022	17.01.2022
38	32357611	Linear Programming and theory of Games	DSE 4(ii)	Practice on MODI method	18.01.2022	18.01.2022
39	32357611	Linear Programming and theory of Games	DSE 4(ii)	Different cases of TP	19.01.2022	19.01.2022
40	32357611	Linear Programming and theory of Games	DSE 4(ii)	Maximization case of TP, formulation of TP, mathematical model of TP	24.01.2022	24.01.2022
41	32357611	Linear Programming and theory of Games	DSE 4(ii)	Basic feasible solution	25.01.2022	25.01.2022
42	32357611	Linear Programming and theory of Games	DSE 4(ii)	Basic feasible solution	31.01.2022	31.01.2022
43	32357611	Linear Programming and theory of Games	DSE 4(ii)	Graphical solution to LPP	02.02.2022	02.02.2022
44	32357611	Linear Programming and theory of Games	DSE 4(ii)	Graphical solution to LPP , Reducing feasible solution to BFS (Theorem)	07.02.2022	07.02.2022
45	32357611	Linear Programming and theory of Games	DSE 4(ii)	Reducing feasible solution to BFS (Questions)	08.02.2022	08.02.2022
46	32357611	Linear Programming and theory of Games	DSE 4(ii)	Simplex method start	09.02.2022	09.02.2022
47	32357611	Linear Programming and theory of Games	DSE 4(ii)	Proof of improvement theorem and case of unbounded solution in simplex method	14.02.2022	16.02.2022
48	32357611	Linear Programming and theory of Games	DSE 4(ii)	Revision of simplex method	21.02.2022	21.02.2022

49	32357611	Linear Programming and theory of Games	DSE 4(ii)	Simplex method: case of three constraints, and alternate optimal solution	22.02.2022	24.02.2022
50	32357611	Linear Programming and theory of Games	DSE 4(ii)	Big – M method	28.02.2022	07.03.2022
51	32357611	Linear Programming and theory of Games	DSE 4(ii)	Solution of simultaneous equation, inverse of a matrix	08.03.2022	08.03.2022
52	32357611	Linear Programming and theory of Games	DSE 4(ii)	Duality	21.03.2022	29.03.2022
53	32357611	Linear Programming and theory of Games	DSE 4(ii)	Game theory	04.04.2022	11.04.2022
54	32357611	Linear Programming and theory of Games	DSE 4(ii)	Internal Assessment exam from unit 1 and unit 2	12.04.2022	12.04.2022
55	32357611	Linear Programming and theory of Games	DSE 4(ii)	Convexity, extreme point theorem	18.04.2022	19.04.2022
56	32357611	Linear Programming and theory of Games	DSE 4(ii)	Re-test	25.04.2022	25.04.2022
57	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 6: system of ODE: Q1 to 4	12.01.2022	12.01.2022
58	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 6: Q5 to 8	13.01.2022	13.01.2022
59	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 2: Plotting of Characteristics curves	19.01.2022	19.01.2022
60	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 2: Plotting of Characteristics curves continued	20.01.2022	20.01.2022
61	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 2 finished	27.01.2022	27.01.2022
62	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 1: Cauchy problem Q1 to Q8	02.02.2022	02.02.2022
63	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 1: Cauchy problem Q9 to Q16	03.02.2022	03.02.2022
64	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 3: Integral surface	10.02.2022	10.02.2022
65	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 4.1: D' Alembert solution of wave eqn	16.02.2021	16.02.2021

66	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 4.2 wave equation in finite string	17.02.2022	17.02.2022
67	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Revision	03.03.2022	03.03.2022
68	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 5: Heat equation	09.03.2022	10.03.2022
69	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 7: Pointwise convergence	23.03.2022	24.03.2022
70	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical 8: Uniform Convergence	30.03.2022	31.03.2022
71	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Revision and doubts session	06.04.2022	07.04.2022
72	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Practical file submission	13.04.2022	20.04.2022
73	32351401	Partial Differential Equations (Practicals only)	Core B.Sc. (H) Maths IV sem	Internal Assessment exam	21.04.2022	21.04.2022
74	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Basics of Mathematica	08.01.2022	08.01.2022
75	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Practical 5: system of ODE Q-1,2,3	15.01.2022	22.01.2022
76	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Practical 7: Plotting of characteristics curves	29.01.2022	12.02.2022
77	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Practical 6: Cauchy problem	19.02.2022	26.02.2022
78	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Practical 8: integral surface	05.03.2022	12.03.2022
79	42357633	Differential equations practical	DSE B.Sc. (Prog.) Analytical Chemistry (VI sem)	Practical file submission	25.03.2022	02.04.2022
80	42357633	Differential equations practical	DSE	Internal Assessment exam	12.04.20221	12.04.2022

			B.Sc. (Prog.) Analytical Chemistry (VI sem)		
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B. Outstation Field visits for students

Project Name / Paper Name	Destination	Travel Mode
Departure Month	Return	
Faculty-in-Charge	Number of Students going	

C. Internal Assessment: House Exam (Test/Presentation etc.) & Assignment*

Course Code	Course Name	UPC	Topic Name	Day and Date	Date/s of Exhibiting the Assessment Sheet to students, Discussing the marks, Returning/Retaining
585	B.Sc. (Prog) Physical science VI sem	42353504	Internal assessment test from Transportation problem, assignment problem	05.11.2021	12.11.2021
	GE III sem	32355345	Internal Assessment Exam from Unit 1 and Unit 2	02.12.2021	05.12.2021
563	B.Sc. (H) Maths III Sem	32351303	Multivariate Calculus Practical exam	03.12.2021	03.12.2021
563	B.Sc. (H) Maths I Sem	32351101	Calculus Practical internal exam	05.03.2022	05.03.2022
563	(B.Sc. (H) Maths VI Sem)	32357611	Internal Assessment Test: Unit 1 and 2 of LPP	11.04.2022 (Monday) 12.40pm-2.40pm	25.04.2022
582	B.Sc. (H) Maths VI Sem	32357614	Internal Assessment Test: Unit 1 and Unit 2 (Mathematical Finance)	13.04.2022 (Wednesday) at 10.40 am-12.40 pm	25.04.2022

585	B.Sc. (Prog.) Analytical Chemistry-VI Sem	42357633	Internal Assessment Test: Practical 5,6,7,8	12.04.2022 (Tuesday) 12.40 pm-2.40 pm	17.04.2022
563	B.Sc. (H) Maths Sem – IV	32351401	Internal Assessment Test: Practical 1 to 8	21.04.2022 (Thursday) 8.40 a.m. -10.40a.m.	21.04.2022

***Marks of the Internal Assessment to be submitted to the College 15 days before the last working day of every semester**

D. Organization of Department/College Society Meetings by Staff Advisor/Convener

Department/Society	Meeting Date	Purpose
Tensors-The Mathematical Society	20.01.2022	Nomination Notice for the selection of office bearers
Tensors-The Mathematical Society	28.01.2022	Interviews for the selection of office bearers declared
Tensors-The Mathematical Society	10.02.2022	Meeting for discussion on SUPREMUM 2022
Tensors-The Mathematical Society	25.02.2022	Meeting for the organization of Qazi Zameeruddin lecture
Tensors-The Mathematical Society	28.02.2022	Meeting for discussing further proceedings of the upcoming event SUPREMUM-22
Tensors-The Mathematical Society	02.03.2022	Permission taken from the Principal to conduct SUPREMUM
Tensors-The Mathematical Society	08.03.2022	Arrangements for SUPREMUM 2022

E. College Functions

College Function	Function Date	Role to be played

For Departments

A. Department activities for students – Election/Freshers/Welcome/Farewell/Department Seminars/Society functions

Event	Date	Timing	Venue	Event In-charge / Supervisor
Department Election	28.01.2022	12.40 p.m	Google meet	Dr. Raj Kumar and Dr. Kavita Gupta
Farewell	05.04.2022	3.00 p.m.	In Parking lawn of KMC	Dr. Raj Kumar and Dr. Kavita Gupta
Department Society functions				
Department Seminars	10.03.2022	10.00 am – 12.00 noon	Seminar room	Dr. Raj Kumar and Dr. Kavita Gupta
Any Other ()				

B. FDP/Seminar/Workshops/Lectures to be attended and/or to be conducted

Event Topic	Fractals – Mysterious World in real life
Type / Nature (FDP/Webinar/Workshop etc.)	Qazi Zameeruddin Lecture
Organizing In-charge	Dr. RAJ KUMAR and DR. KAVITA GUPTA
Details regarding invited Resource Person	Prof. Rashmi Bhardwaj, GGSIPU, School of Basic and Applied Sciences, Fellow of Institute of Mathematics & Applications, UK, Professor of Mathematics, Non-Linear Dynamics Research Lab

Nature of Participation (e.g. Invited Speaker, Participant etc.)					
Date/s	10.03.2022	Timing/s	10.00 a.m. – 12.00 noon	Mode	Physically