# <u>I – Academic Planner</u>

A. Teaching Plan (Year: July 2021 Semester: Odd)

Teacher's Name: Dr. Pratibha Kumar Department: Mathematics

S. No	UPC	Paper Name	Core/AECC/G E/SEC	Topic/Unit	Start Date	End Date
1.	32351302	Group Theory 1 (B.Sc. (Hons.) Mathematics IIIrd Semester)	CORE	Symmetries, Dihedral Groups, Groups, Subgroups, centralizer and normalizer, Product of two groups, cyclic groups, Subgroups of cyclic groups  Permutation groups, alternating group, cosets, Lagrange's theorem, External direct products, normal	16 August' 2021	10 October' 2021
				Subgroups, factor groups, Group homomorphism, Cayley's theorem, Properties of isomorphism, Isomorphism theorems	11 October' 2021	8 December' 2021
2.	32351502	Group Theory II (B.Sc. (Hons.) Mathematics Vth Semester)	CORE	Automorphisms, inner automorphism, applications of factor groups to automorphism, characteristics subgroups, commutator subgroups, External direct products, internal direct products  Fundamental theorem of finite abelian groups	20 August' 2021	22 September' 2021
				Group actions, stabilizers and kernels, Applications of group actions, Generalized Cayley's theorem, Index theorem	23 September' 2021	09 October'2021
				Class equations and conjugacy in $S_n$ , p- groups, Sylow's theorems and consequences, Cauchy's theorem, Simplicity of $A_n$ ,	18 October'2021	15 November' 2021

### Teaching Plan (Year: January 2022 Semester: Even)

Teacher's Name: Dr. Pratibha Kumar Department: Mathematics

S. No	UPC	Paper Name	Core/AECC/ GE/SEC	Topic/Unit	Start Date	End Date
1.	32351401	Partial Differential Equations (B.Sc. (Hons.) Mathematics IVth Semester)	CORE	Introduction, classification and Construction of first order PDE, method of characteristics, general solution of first order PDE Canonical Forms and Method of separation of variables, reduction to canonical forms	03 January' 2022	16 February' 2022
				Equations with constant coefficients, Cauchy Problem, initial value boundary problem, non- homogeneous boundary conditions Method of separation of variables for Second order, Goursat problem, Existence and uniqueness of vibrating string Problem, heat conduction problem	17 February' 2022	27 April' 2022
2.	32351403	Ring Theory and Linear Algebra I (B.Sc. (Hons.) Mathematics VIth Semester)	CORE	Definitions and examples of rings, subrings, integral domains and fields, ideals, homomorphism, isomorphism  Vector spaces, subspaces, linear span, Bases and dimension Linear transformation, null spaces,	01 January' 2022	16 February' 2022
				Range, rank and nullity of linear  Transformation	17 February'2022	12 March' 2022
				matrix representation, Algebra of linear transformation, Isomorphism, invertibility, Change of coordinate matrix	21 March'2022	27 April' 2022

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

Event Topic	
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Type / Nature (FDP/Webinar/Workshop etc.)			
Organizing In-charge			
Details regarding invited Resource Person			
Nature of Participation (e.g. Invited Speaker, Participant etc.)			
Date/s	Timing/s	Mode	

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

Course Code	Course Name	Unique Paper Code	Topic Name	Day and Date	Date/s of Exhibiting the Assessment Sheet to students, Discussing the marks, Returning/Retaining
563	B.Sc. (Hons.) Mathematics IIIrd Semester	32351302	Groups, Subgroups, centralizer and normalizer, Product of two groups, cyclic groups,	15 October' 2021	1 December' 2021
563	B.Sc. (Hons.) Mathematics Vth Semester	32351502	Automorphisms, inner automorphism, applications of factor groups to automorphism, characteristics subgroups	22 October'2021	11 November' 2021

Course Code	Course Name	Unique Paper Code	Topic Name	Day and Date	Date/s of Exhibiting the Assessment Sheet to students, Discussing the marks, Returning/Retaining
563	B.Sc. (Hons.) Mathematics IVth Semester	32351401	Canonical Forms and Method of separation of variables, reduction to canonical forms	2 April' 2022	19 April' 2022
563	B.Sc. (Hons.) Mathematics VIth Semester	32351403	Rings, subrings, integral domains and fields, ideals	23 March' 2022	01 April' 2022

<sup>\*</sup>Marks of the Internal Assessment to be submitted to the College 15 days before the last working day of every semester

Department/Society	Meeting Date	Purpose

## E. College Functions

College Function	Function Date	Role to be played