

Academic Planner

A. Teaching Plan

Teacher's Name: S.K. Kaushik

Department: MATHEMATICS

Year: 2016-2017 (Even Semester)

Course: B.Sc. (Hons.) Mathematics

Sl. No.	UPC	Paper Name	Core/AECC/GE/SEC	Topic/Unit	Start Date	End Date
1		Elements of Analysis	GE	Finite and infinite sets, Examples of countable and uncountable sets; Absolute value of the real line	02/01/2017	07/01/2017
2		Elements of Analysis	GE	bounded sets, suprema and infima; Statement of order completeness property of \mathbb{R} , Archimedean property of \mathbb{R} .	08/01/2017	14/01/2017
3		Elements of Analysis	GE	Real sequences, Convergence, Sum and product of convergent sequences.	15/01/2017	21/01/2017
4		Elements of Analysis	GE	Order preservation and squeeze theorem.	22/01/2017	28/01/2017
5		Elements of Analysis	GE	Monotone sequences and their convergence, Proof of convergence of some simple sequences	29/01/2017	04/02/2017

6		Elements of Analysis	GE	Subsequences and the Bolzano–Weierstrass theorem (statement and examples), Limit superior and limit inferior of a bounded sequence (definition and examples)	05/02/2017	11/02/2017
7		Elements of Analysis	GE	Statement and illustrations of Cauchy convergence criterion for sequences.	12/02/2017	18/02/2017
8		Elements of Analysis	GE	Definition and a necessary condition for convergence of an infinite series, Geometric series	19/02/2017	25/02/2017
9		Elements of Analysis	GE	Cauchy convergence criterion for series, positive term series, State the integral test and prove the convergence of p -series, Comparison test, Limit comparison test and examples.	26/02/2017	04/03/2017
10		Elements of Analysis	GE	D'Alembert's ratio test, Cauchy's root test.	05/03/2017	12/03/2017
11		Elements of Analysis	GE	Alternating series, Leibnitz test; Absolute and conditional convergence.	20/03/2017	25/03/2017
12		Elements of Analysis	GE	Definition of power series, Radius and interval of convergence, Cauchy–Hadamard theorem.	26/03/2017	05/04/2017
13		Elements of Analysis	GE	Statement and illustration of term-by-term differentiation, Integration of power series and Abel's theorem.	06/04/2017	20/04/2017
14		Elements of Analysis	GE	Power series expansions	21/04/2017	27/04/2017

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			SEC			
1		Algebra v	Core	Properties of external direct products, the group of units modulo n as an external direct product. Applications of external direct products to data security, public key cryptography.	02/01/2017	13/01/2017
2		Algebra v	Core	Definition and examples of internal direct products, fundamental theorem of finite abelian groups, definition and examples of group actions.	14/01/2017	28/01/2017
3		Algebra v	Core	Stabilizers and kernels of group actions, permutation representation associated with a given group action.	29/01/2017	11/02/2017
4		Algebra v	Core	Applications of group actions: Cauchy's theorem, index theorem, Cayley's theorem, conjugacy relation, class equation and consequences, conjugacy in S_m , p -groups, Sylow's theorems and consequences.	12/02/2017	22/02/2017
5		Algebra v	Core	Definitions and examples of simple groups, non-simplicity test, composition series, Jordan-holder theorem, solvable groups	23/02/2017	12/03/2017
				Semester Break		
6		Algebra v	Core	Normal operators and self-adjoint operators, unitary and orthogonal operators, matrices of orthogonal and unitary operators, rigid motions, orthogonal operators on \mathbb{R}^2 , conic sections.	20/03/2017	05/04/2017

7		Algebra v	Core	Primary decomposition theorem, theorem on decomposition into sum of diagonalizable, and nilpotent operator,.	06/04/2017	15/04/2017
8		Algebra v	Core	Cyclic subspaces and annihilators, cyclic decomposition theorem, rational form, invariant factors, Jordan form	16/04/2017	26/04/2017

A. Outstation Field visits for students

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

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B. 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
2016 – 2017					
563	B.Sc. (Hons.) Mathematics		Algebra	27/03/2017	30/03/2017
582	B.Sc. (Hons) Mathematics		Element of analysis	24/03/2017	28/03/2017

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

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

Department/Society	Meeting Date	Purpose

D. College Functions

College Function	Function Date	Role to be played
NA	NA	NA