Gujarat University

NEP 2020 Based Syllabus

Syllabus for B. Sc. Sem-III Mathematics Multidisciplinary

Effective from June-2024

Subject Code For UG Science Courses: -MAT							
Semester	**Discipline Specific Courses - Core (DSC - C)**	**Minor (DSC - M)**	**Multi / Inter disciplinary courses (MDC / IDC)**	**Ability Enhancement Courses (Language) (AEC)**	**Enhancement Courses / Internship / Dissertation Skill**	**Common Value Added Courses (VAC / IKS)**	**Total Credits**
I	DSC - C - MAT - 111T : 4 DSC - C - MAT - 112P : 4	DSC - M - MAT - 113T : 2 DSC - M - MAT - 113P : 2	MDC - MAT - 114T : 2 MDC - MAT - 114P : 2	AEC - 115 : 2	SEC - 116 : 2	IKS - 117 : 2	22
II	DSC - C - MAT - 121T : 4 DSC - C - MAT - 122P : 4	DSC - M - MAT - 123T : 2 DSC - M - MAT - 123P : 2	MDC - MAT - 124T : 2 MDC - MAT - 124P : 2	AEC - 125 : 2	SEC - 126 : 2	VAC - 127 : 2	22
III	DSC - C - MAT - 231T : 4 DSC - C - MAT - 232T : 4 DSC - C - MAT - 233P : 4	-	MDC - MAT - 234T : 2 MDC - MAT - 234P : 2	AEC - 235 : 2	SEC - 236 : 2	IKS - 237 : 2	22
IV	DSC - C - MAT - 241T : 4 DSC - C - MAT - 242T : 4 DSC - C - MAT - 243P : 4	DSC - M - MAT - 244T : 2 DSC - M - MAT - 244P : 2	-	AEC - 245 : 2	SEC - 246 : 2	VAC - 247 : 2	22
V	DSC - C - MAT - 351T : 4 DSC - C - MAT - 352T : 4 DSC - C - MAT - 353P : 4	DSC - M - MAT - 354T : 4 DSC - M - MAT - 355P : 4	-	-	SEC - 356 : 2	-	22
VI	DSC - C - MAT - 361T : 4 DSC - C - MAT - 362T : 4 DSC - C - MAT - 363P : 4	DSC - M - MAT - 364T : 2 DSC - M - MAT - 364P : 2	-	AEC - 365 : 2	Internship - 4	-	22
VII	DSC - C - MAT - 471T : 4 DSC - C - MAT - 472T : 4 DSC - C - MAT - 473P : 4	DSC - M - MAT - 474T : 2 DSC - M - MAT - 474P : 2	-	-	-	OJT / RP - 6	22
VI	DSC - C - MAT - 481T : 4 DSC - C - MAT - 482T : 4 DSC - C - MAT - 483P : 4	DSC - M - MAT - 484T : 2 DSC - M - MAT - 484P : 2	-	-	-	OJT / RP - 6	22

Syllabus for B Sc Semester - III

Mathematics Multidisciplinary

Course-MDC-C-MAT-234T

Paper Title: Elementary Vector Space and Permutations

UNIT I Vector spaces and Subspaces.

Vector space: Definition of vector space, Properties of a vector space, Examples, results on vector space and its properties.

Subspaces: examples, results, theorems on subspace, intersection, union, addition and direct sums of subspaces.

UNIT II Permutations:

Permutations: Definitions and Examples, cycle, transposition, even and odd permutations, order of a permutation, inverse of a permutation, Symmetric groups and Alternating groups. Examples, Quotient groups.

Reference Books

1) An Introduction to Linear Algebra- V. Krishnamurthy, V P Mainra, J L Arora, East-West Press Pvt Ltd., New Delhi.
2) Linear Algebra Geometric Approach – S. Kumaresan, PHI.

Syllabus for B Sc Semester - III

(MATHEMATICS PRACTICAL)- Maths Multidisciplinary

Course-DSC-C-MAT-234P

Maths Practical (Based on MAT-234T)

Practicals

1) Examples based on properties of vector space.
2) Examples on subspaces.
3) Examples of LI set, and LD set.
4) Examples based on a vector space.
5) Examples on the span of sets.
6) Examples of finding the dimensions of subspaces of a vector space.
7) Experiment based on finding the product of permutations.
8) Experiment based on representing a permutation as a product of transpositions.
9) Experiment based on determining even/odd permutation.
10) Experiment based on determining even/odd permutation of S_3.
11) Experiment based on finding the inverse of permutations.
12) Experiment based on finding the order of permutations.