COURSE TEACHING STRUCTURE
Course: Mathematics (22103)

Class: FY

Unit 1: Algebra (24.10 Hours & 20Marks)

Sr. No.	TOPIC	DURATION	TOPIC BASED	MARKING SCHEME
1	Introduction to determinants, Evaluation of determinants	30 min	Theoretical & Numerical	-
2	Minor and cofactor of an element	30 min	Theoretical & Numerical	-
3	Cramer's rule	1.30 hrs	Numerical	4
4	Area of triangle	1 hrs	Numerical	2
5	Introduction to logarithm	10 min	Theoretical	-
6	Basic rules of logarithm	30 min	Theoretical	-
7	Laws of logarithm	30 min	Theoretical	-
8	Examples on Laws of logarithm	2 hrs		2
9	Introduction to matrices, Types of matrices	1.30 hrs	Theoretical	-
10	Algebra of matrices with examples	2 hrs	Numerical	4
11	Multiplication of matrices with examples	1.30 hrs	Numerical	-
12	Transpose of matrix, Symmetric and skew symmetric matrix	1 hr	Theoretical & Numerical	2
13	Singular and non singular matrix, Adjoint matrix	1.30 hrs	Theoretical & Numerical	2
14	Inverse of matrix by adjoint method	2 hrs	Theoretical & Numerical	2
15	Solution of simultaneous equation by matrix inversion method	2 hrs	Numerical	6
16	Introduction to partial fraction, Case 1 – Non repeated linear factor in the denominator	1 hr	Theoretical & Numerical	4
17	Case 1 –Non repeated linear factor in the denominator examples	1 hr	Numerical	4
18	Case 2 – Repeated linear factor in the denominator	1 hr	Numerical	4

19	Convert improper fraction to proper fraction	1 hr	Numerical	-
20	Unit Complete Revision	2 hrs	Theoretical & Numerical	-
21	Unit Test 1	1 hr	Numerical	30

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Unit 2: Trigonometry (22Hours & 20Marks)

Sr. No.	TOPIC	DURATION	TOPIC BASED	MARKING SCHEME
1	Basics of trigonometry	1 hr	Theoretical & Numerical	-
2	Trigonometric ratio of compound angle	2.5 hrs	Theoretical & Numerical	2
3	Trigonometric ratio of allied angle with examples	2.5 hrs	Theoretical & Numerical	4
4	Trigonometric ratio of multiple angle with examples	3 hrs	Theoretical & Numerical	4+4
5	Factorization formulae angle with examples	2.5 hrs	Theoretical & Numerical	4
6	Defactorization formulae angle with examples	2.5 hrs	Theoretical & Numerical	4
7	Inverse trigonometry ratio angle with examples	3 hrs	Theoretical & Numerical	8
8	Unit Complete Revision	3 hrs	Theoretical & Numerical	-
9	Unit Test 2	1 hr	Numerical	30

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Unit 3: Coordinate Geometry (10.50 Hours & 8 Marks)

Sr. No.	TOPIC	DURATION	TOPIC BASED	MARKING SCHEME
1	Introduction , Slope of line	20 min	Theoretical & Numerical	
2	Angle between lines with examples	45 min	Theoretical & Numerical	3
3	Condition of parallel and perpendicular lines with examples	45 min	Theoretical & Numerical	-
4	Various forms of straight line slope point form with examples	1 hr	Theoretical & Numerical	3
5	Two point form with examples	1 hr	Theoretical & Numerical	3
6	Slope intercept form with examples	1 hr	Theoretical & Numerical	3
7	Perpendicular distance from a point on the line with examples	1hr	Theoretical & Numerical	3
8	Perpendicular distance between two parallel lines with examples	1 hr	Theoretical & Numerical	3
9	Unit Complete Revision	3 hrs	Theoretical & Numerical	-
10	Unit Test 3	1 hr	Numerical	30

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Unit 4: Mensuration (13.30Hours & 8 Marks)

Sr. No.	TOPIC	DURATION	TOPIC BASED	MARKING SCHEME
1	Area of regular closed figure – triangle with examples	30 min	Theoretical & Numerical	3
2	Area of square with examples	30 min	Theoretical & Numerical	3
3	Area of parallelogram with examples	1 hr	Theoretical & Numerical	3
4	Area of rhombus with examples	1 hr	Theoretical & Numerical	3
5	Area of trapezium with examples	1 hr	Theoretical & Numerical	3
6	Area of circle with examples	1 hr	Theoretical & Numerical	3
7	Volume of cuboid with examples	1 hr	Theoretical & Numerical	3
8	Volume of cone with examples	1.5 hrs	Theoretical & Numerical	3
9	Volume of cylinder with examples	1.5 hrs	Theoretical & Numerical	3
10	Volume of sphere with examples	1.5 hrs	Theoretical & Numerical	3
11	Unit Complete Revision	2 hrs	Theoretical & Numerical	
12	Unit Test	1 hr	Numerical	30

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Unit 5: Statistics (13.5 Hours & 14 Marks)

Sr. No.	TOPIC	DURATION	TOPIC BASED	MARKING SCHEME
1	Range , coefficient of range of discrete and grouped data	3 hrs	Theoretical & Numerical	3+2
2	Mean deviation and standard deviation of grouped data	3 hrs	Theoretical & Numerical	6
3	Mean deviation and standard deviation of ungrouped data	3.5 hrs	Theoretical & Numerical	6+2
4	Variance	30 min	Theoretical & Numerical	3
5	Coefficient of variance	1 hr	Theoretical & Numerical	3
6	Comparison of two sets of observation	1 hr	Theoretical & Numerical	-
7	Unit Complete Revision	1.5 hrs	Theoretical & Numerical	-
8	Unit Test	1 hr	Numerical	30