

RGPV (DIPLOMA WING) BHOPAL		OBE CURRICULUM FOR THE COURSE		FORMAT-3	Sheet No. 1/3
Branch				Semester	
Course Code		Course Name	Mathematics		
Course Outcome 1	Use different concepts of Algebra and Statistics.			Teach Hrs	Marks
Learning Outcome 1	Student will be able to apply the concept of factorial notation in permutations, Combinations and binomial theorem.			7	6
Contents	1.1 Meaning of factorial n 1.2 Permutation of 'n' dissimilar thing taken 'r' at a time, 1.3 Combination of n dissimilar things taken 'r' at a time, 1.4 Binomial Theorem -statement of the theorem for positive integer. 1.5 General Term, Middle term, Constant term				
Method of Assessment	Internal				
Learning Outcome 2	Student will be able to convert given algebraic fraction into partial fractions			7	7
Contents	1.6 Algebraic Fractions 1.7 Define a proper-improper fraction 1.8 Break a fraction into partial fraction whose denominator contains Linear, Repeated linear and non-repeated quadratic factors.				
Method of Assessment	External				
Learning Outcome 3	Student will be able to calculate the central tendencies of given data			8	7
Contents	1.9 Meaning of Data and classification of data. 1.10 Measures of Central tendency (Mean, Mode, Median)				
Method of Assessment	External				
Course Outcome 2	Use the Concepts of trigonometry and its identities.			Teach Hrs	Marks
Learning Outcome 1	Student will be able to determine the relation between trigonometric ratios			7	6
Contents	2.1 Allied angles. 2.2 Trigonometrical ratios and relations between them.				

Method of Assessment	Internal		
Learning Outcome 2	Student will be able to solve problems using trigonometrical identities, trigonometrical ratios of sum and difference of angles and multiple angles	7	7
Contents	2.3 Trigonometrical identities. 2.4 Trigonometrical ratios of sum and difference of angles, (Only statement)		
Method of Assessment	External		
Learning Outcome 3	Student will be able to convert the sum and difference of trigonometrical term into product(C-D formulae) and product of trigonometrical term into sum and difference.	8	7
Contents	2.5 Sum and difference of trigonometric ratios (C-D formula) 2.6 Formula for conversion to product of trigonometric ratio into sum/difference. 2.7 Multiple angles (Only double angle and half angle).		
Method of Assessment	External		
Course Outcome 3	Interpret the idea of Determinant and Matrices and will be able to solve its problems.	Teach Hrs	Marks
Learning Outcome 1	Will be able to calculate the determinant of 2x2 and 3x3 matrices.	5	6
Contents	3.1 Concept of Determinant. 3.2 Determinant of 2x2 and 3x3 order matrix.		
Method of Assessment	Internal		
Learning Outcome 2	Will be able to identify the types of matrices, and carry out arithmetic operations on given matrices	9	7
Contents	3.3 Introduction of matrix. 3.4 Types of matrices. 3.5 Addition and subtraction of matrices. 3.6 Scalar multiplication of matrices. 3.7 Multiplication of matrices.		
Method of Assessment	External		
Learning Outcome 3	Will be able to determine transpose, cofactors and Inverse of given matrix.	8	7
Contents	3.8 Transpose of a matrix. 3.9 Cofactor. 3.10 Adjoint of a matrix. 3.11 Inverse of a matrix		

Method of Assessment	External		
Course Outcome 4	Use the concept of 2-dimensional coordinate geometry and vector algebra.		
Learning Outcome 1	Will be able to use distance formula, section formula and area of triangle with two dimensional coordinate system.	8	7
Contents	4.1 Co-ordinate System: Cartesian and Polar. 4.2 Distance formula. 4.3 Section formula. 4.4 Area of a triangle		
Method of Assessment	External		
Learning Outcome 2	Will be able to express different forms of straight lines and measure angle between two straight lines.	7	6
Contents	4.5 Locus of a point. 4.6 Slope and intercept of a straight line. 4.7 General and standard equations of straight lines. 4.8 Angle between two straight lines.		
Method of Assessment	Internal		
Learning Outcome 3	Will be able to carry out addition and multiplication of two vectors	7	7
Contents	4.9 Concept of Vector and Scalar Quantities. 4.10 Different types of vectors. 4.11 Addition and subtraction of vectors. 4.12 Components of a vector 4.13 Multiplication of two vectors - Scalar Product - Vector Product		
Method of Assessment	External		
Course Outcome 5	Use the concepts of calculus, derive different methods of Differentiation and integration and solve its problems.	Teach Hrs	Marks
Learning Outcome 1	Will be able to find the value of a function and limit at a given point.	5	6

Contents	5.1 Define constant, variable, function. 5.2 Value of the function at any point. 5.3 Concept of limit of a function and limit of function at any point.		
Method of Assessment	Internal		
Learning Outcome 2	Will be able to solve different types of problems of first order derivative	9	7
Contents	5.4 Definition and concept of differential coefficient as a limit. 5.5 Standard results. 5.6 Derivatives of sum, difference, product, quotient of two functions. 5.7 Diff. coeff. of function of a function. 5.8 Diff. coeff. of implicit function. 5.9 Logarithmic Differentiation. 5.10 Differential coeff. of Parametric function.		
Method of Assessment	External		
Learning Outcome 3	Will be able to solve simple problems of integration by direct and substitution method.	8	7
Contents	5.11 Definition as a inverse process of differentiation 5.12 Standard Results (including inverse function) 5.13 Methods of Integration: <ul style="list-style-type: none"> - Substitution - Integration by parts 		
Method of Assessment	External		