Record Nr. UNINA9910458295303321 Autore Gangwar H. S **Titolo** A textbook of engineering mathematics I [[electronic resource] /] / H. S. Gangwar, Prabhakar Gupta New Delhi, : New Age International, 2010 Pubbl/distr/stampa **ISBN** 1-282-53185-9 9786612531859 81-224-2847-9 Edizione [2nd ed.] Descrizione fisica 1 online resource (447 p.) Altri autori (Persone) GuptaPrabhakar Soggetti Engineering mathematics Mathematics Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di contenuto ""Cover""; ""Preface to the Second Revised Edition""; ""Unit-1. Differential Calculus-I""; ""1.1 Introduction""; ""1.1 nth Derivative of Some Elementary Functions""; ""Exercise 1.1""; ""1.2 Leibnitz's Theorem""; ""Exercise 1.2""; ""Exercise 1.3""; ""Partial Differentiation""; ""1.3 Function of Two Variables ""; ""1.4 Partial Differential Coefficients""; ""Exercise 1.4""; ""1.5 Homogeneous Function""; ""1.6 Euler's Theorem on Homogeneous Functions ""; ""Exercise 1.5""; ""1.7 Total Differential Coefficient""; ""Exercise 1.6""; ""Curve Tracing"" ""1.8 Procedure for Tracing Curves in Cartesian Form"""Exercise 1.7""; ""1.9 Polar Curves ""; ""Exercise 1.8""; ""1.10 Parametric Curves ""; ""Exercise 1.9""; ""1.11 Taylor's Theorem for Functions of Two Variables "": ""Exercise 1.10"": ""Objective Type Questions"": ""Answers to Objective Type Questions""; ""Unit-II. Differential Calculus-II""; ""2.1 Jacobian""; ""Exercise 2.1""; ""2.2 Approximation of Errors ""; ""Exercise 2.2""; ""2.3 Extrema of Function of Several Variables ""; ""Exercise 2.3""; ""2.4 Lagrange's Method of Undetermined Multipliers ""; ""Exercise 2.4"" ""Objective Type Questions """"Answers to Objective Type Questions ""; ""Unit-III Matrices ""; ""3.0 Introduction""; ""3.1 Definition of Matrix "";

""3.2 Types of Matrices ""; ""3.3 Operations on Matrices ""; ""3.4 Track

of Matrix ""; ""3.5 Properties of Transpose ""; ""3.6 Properties of Conjugate Matrices""; ""3.7 Singular and Non-Singular Matrices""; ""3.8 Adjoint of a Square Matrix ""; ""3.9 Inverse of a Matrix (Reciprocal)""; ""Exercise 3.1""; ""3.10 Elementary Row and Column Transformations""; ""3.11 Method of Finding Inverse of a Non-Singular Matrix by Elementary Transformations""

""Exercise 3.2"""3.12 Rank of a Matrix ""; ""Exercise 3.3""; ""3.13 System of Linear Equations (Non-Homogeneous)""; ""3.14 System of Homogeneous Equations ""; ""3.15 Gaussian Elimination Method""; ""Exercise 3.4""; ""3.16 Linear Dependence of Vectors ""; ""Exercise 3.5""; ""3.17 Eigen Values and Eigen Vectors ""; ""Exercise 3.6""; ""3.18 Cayley-Hamilton Theorem""; ""Exercise 3.7""; ""3.19 Diagonalization of a Matrix""; ""3.20 Application of Matrices to Engineering Problems ""; ""Exercise 3.8""; ""Objective Type Questions ""; ""Answers to Objective Type Questions ""

""Unit-IV. Multiple Integrals"""4.1 Multiple Integrals ""; ""4.2 Double Integrals ""; ""4.3 Working Rule ""; ""4.4 Double Integration for Polar Curves ""; ""Exercise 4.1""; ""4.5 Change of the Order of Integration""; ""4.6 Change of Variables in a Multiple Integral ""; ""Exercise 4.2""; ""4.7 Beta and Gamma Functions""; ""4.8 Transformations of Gamma Function ""; ""4.9 Transformations of Beta Function ""; ""4.10 Relation between Beta and Gamma Functions ""; ""4.11 Some Important Deductions""; ""4.12 Duplication Formula ""; ""4.13 Evaluate the Integrals ""; ""Exercise 4.3""

""4.14 Application to area (Double Integrals)""