K.S. Rangasamy College of Arts and Science (Autonomous)

NAAC Re-accredited and an ISO 9001 : 2008 Certified Institution
(Affiliated to Periyar University, Salem. Included under 2(f) & 12(B) of UGC Act, 1956)

Tiruchengode – 637 215

Course with Skill Development, Employability, and Entrepreneurship
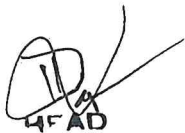
Skill Development

Differential Equations and Laplace Transforms
Analytical Geometry of 2D and 3D
Mathematical Statistics I
Operations Research

Employability Skill

Quantitative Aptitude
Statistical Software (SPSS)
Statistics for Competitive Exams
Mathematics for Competitive Exams– I
Mathematics for Competitive Exams– II
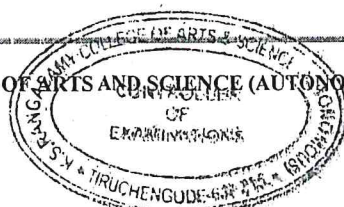
Entrepreneurship Skill

Programming in C
Sci Lab
Data Analysis Using R-Software.
Numerical Computations Using MatLab.

Department of Mathematics
e.S.Rangasamy College of Arts and Science (Autonomous)
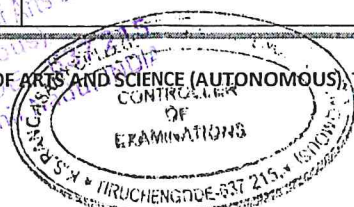Tiruchengode-637 215 Namakkal (Dt.)

Mr. M. PRASAD. M.Sc., M.B.A., M...
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Tiruchengode - 637 215. Tamilnadu, India.

COURSE CODE	COURSE NAME	EMPLOYABILITY\ENTREPRENEURSHIP\SKILL DEVELOPMENT	CONTENT
18UMAM202	Differential Equations and Laplace Transforms	Skill Development	**Unit-II:** Linear Equation with constant coefficients. **Unit-IV:** Laplace Transforms and Inverse Laplace Transforms. **Unit-V:** Partial fractions - Applications of Laplace Transform – To solve system of differential equations.
18UMAM301	Analytical Geometry of 2D and 3D	Skill Development	**Unit-I:** Conic Sections - The equations of the pair of tangents to the parabola – Properties of a parabola. **Unit-II:** Equation of an Ellipse - The equations of tangent to the Ellipse – Properties of an Ellipse. **Unit-III:** Equation of the Hyperbola – Rectangular Hyperbola – Parametric representation of $xy=c^2$. **Unit-IV:** Analytical Geometry of 3Dimensions – Plane and Straight Line. **Unit-V:** Equations of a sphere – Intersection of two spheres – cone.
18UMAA301	Mathematical Statistics- I	Skill Development	**Unit-I:** Random Variables – Probability mass function and Probability density function – Joint Probability function and conditional distribution. **Unit-II:** Mathematical Expectation – Properties – MGF and properties – Characteristics function. **Unit-III:** Theoretical Discrete distributions – Binomial, Poisson and Geometric distribution. **Unit-V:** Correlation and Regression – Properties.
18UMAM503	Operations Research	Skill Development	**Unit-I:** Formation of LPP – Graphical solution – Simplex method – Big M Method. **Unit-III:** Transportation

			problem - Vogels Approximation Method – MODI method. **Unit-IV:** Assignment Problem – Hungarian method – Travelling Salesman Problem. **Unit-V:** Network and Scheduling by PERT\CPM – Critical Path Method.
18UMASB301	Quantitative Aptitude	Employability Skill	**Unit-I:** Simplification and Average **Unit-II:** Square roots, Cube roots, surds and Indices. **Unit-III:** Ratio and Proportion, Chain rule. **Unit-IV:** Profit and Loss, Partnership. **Unit-V:** Age and Percentage problems.
18UMAAP401	Statistical Software (SPSS)	Employability Skill	Consisting 20 statistical topics for better utilization of SPSS package.
18UMASB401	Statistical for Competitive Exams	Employability Skill	**Unit-I:** Uses, Scope and limitation of statistics, Diagrammatic and Graphical representation. **Unit-II:** Sampling and non Sampling errors. **Unit-III:** Time series – Trends and Seasonal Variation. **Unit-IV:** Index numbers – Reversal test. **Unit-V:** Vital statistics - Life table construction and uses.
18UMASB501	Mathematics for Competitive Exams -I	Employability Skill	**Unit-I:** Application of Matrices and Determinants. **Unit-II:** Theory of Equation, Permutation and Combination. **Unit-III:** Sets, Rotations and Functions. **Unit-IV:** Trigonometric Equations and Inequalities **Unit-V:** Limits, Continuity and Differentiability.
18UMASB601	Mathematics for Competitive Exams-II	Employability Skill	**Unit-I:** Algebra of Complex numbers. **Unit-II:** Quadratic Equation and its roots.

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			Unit-III: Binomial theorem - Series and their properties. Unit-IV: Differential Equations and their types. Unit-V: Vector Algebra.
18UMAM504	Programming in C	Entrepreneurship Skills	Eleven topics of Numerical Methods were solved using C-Programming.
18UMAMP601	Sci Lab	Entrepreneurship Skills	It provides knowledge about a scientific software approach to solve Engineering and scientific applications.
18UMAAC301	Data Analysis using R-Software	Entrepreneurship Skills	It provides knowledge in data using R-Programming such as R-Data types, operators, Functions Chart and etc.
18UMAAC401	Numerical Computations using Mat Lab	Entrepreneurship Skills	Using Mat Lab, Skill is developed on predefined Mat Lab functions, Matrix Computations, Symbolic Mathematics and Numeral Techniques.