KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

PROGRAM NAME
B.Sc. (Mathematics)

KONGU ARTS AND SCIENCE COLLEGE

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2017-2018

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SYLLABUS

SEMESTER – V

Course: REAL ANALYSIS-I   Hours per week: 5
Course Code: 15UANCT501   Credits: 4
Objective:

To introduce the real number system to the students which emphasis on the concepts of sets, functions, sequences, series, limits, continuity, derivatives and metric spaces.

UNIT I

The Real and Complex number systems: Introduction - The field axioms -The order axioms- Geometric representation of real numbers-Intervals – Integers – The unique Factorization theorem for integers – Rational numbers – Irrational numbers –Upper bounds, maximum Elements, least upper bound – The completeness axiom – Some properties of the supremum – Properties of the integers deduced from the completeness axiom- The Archimedean property of the real number system –Rational numbers with finite decimal representation – Finite decimal approximations to real numbers-Infinite decimal representations of real numbers - Absolute values and the triangle inequality – The Cauchy-Schwarz inequality – plus and minus infinity and the extended real number system R^*.

UNIT II

Some basic notions of set theory: Introduction- Notations – Ordered pairs – Cartesian product of two sets – Relations and functions – Further terminology concerning functions – one to one functions and inverses – Composite functions – Sequences – Similar sets - Finite and Infinite sets – Countable and uncountable sets – Uncountability of the real number system – Set algebra – Countable collections of countable sets.

UNIT III

Elements of point set topology: Introduction- Euclidean space R^n – Open balls and Open sets in R^n. The structure of open Sets in R^1– Closed sets and adherent points –The Bolzano –Weierstrass theorem – The Cantor intersection Theorem.

UNIT IV

Covering – The Lindelof covering theorem – The Heine-Borel covering theorem – compactness in R^n. Metric Spaces – Point set topology in metric spaces – Compact subsets of a metric space.

UNIT V

Limits and Continuity: Introduction - Convergent sequences in a metric space – Cauchy sequences - Complete metric Spaces - Limit of a function – Limits of complex valued functions - Limits of vector- valued functions.

Text Book:

T.M.Apostol, "Mathematical Analysis", 2nd Edition, Narosa Publishing Company, Chennai, 1990.

UNIT I	: Chapter 1 Sections 1.1 to 1.20
UNIT II	: Chapter 2 Sections 2.1 to 2.15
UNIT III	: Chapter 3 Sections 3.1 to 3.9
UNIT IV	: Chapter 3 Sections 3.10 to 3.15
UNIT V	: Chapter 4 Sections 4.1 to 4.7

Books for Reference:

1. R.R.Goldberg, "Methods of Real Analysis", John Wiley, New York 1976.

2. G.F.Simmons, "Introduction to Topology and Modern Analysis", McGraw – Hill, New York, 1963.

3. G.Birkhoff and MacLane, "A survey of Modern Algebra", 3rd Edition, Macmillian, New York, 1965.

4. J.N.Sharma and A.R.Vasistha, "Real Analysis", Krishna Prakashan Media (P) Ltd, India, 1997.

5. S.G.Venkatachalapathy, "Real Analysis", Margham Publications, Chennai Reprint, 2012.

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SEMESTER – V

Course: COMPLEX ANALYSIS-I   Hours per week: 6

Course Code: 15UANCT502   Credits: 5

Objective:

This course is intended to expose students to the basic ideas of complex analysis. In particular, to learn about complex number systems, analytic functions and elementary transformations.

UNIT I

Complex Numbers – Conjugation and Modulus – Inequalities – Square Root – Geometrical Representation of Complex Numbers – n^{th} Roots of Complex Numbers – Circles and Straight Lines – Regions in the Complex Plane.

UNIT II

Functions of a Complex Variable – Limits – Theorems on Limit – Continuous Functions – Differentiability – The Cauchy Riemann Equations.

UNIT III

Analytic Functions – Harmonic Functions – Conformal Mapping.

UNIT IV

Elementary Transformations – Bilinear Transformations – Cross Ratio – Fixed Points of Bilinear Transformations – Some Special Bilinear Transformations.

UNIT V

Sequences and Series - Sequences and Series of Functions – Power Series – Elementary Functions.

Text Book:

S.Arumugam, A.Thangapandi Issac and A.Somasundaram, "Complex Analysis", Scitech Publications (India) Pvt. Ltd., 1st Reprint, 2003.
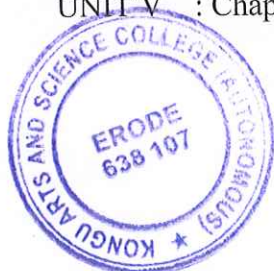
    UNIT I : Chapter 1 Sections 1.1-1.8

    UNIT II : Chapter 2 Sections 2.1-2.6

    UNIT III : Chapter 2 Sections 2.7-2.9

    UNIT IV : Chapter 3 Sections 3.1-3.5

    UNIT V : Chapter 4 Sections 4.1-4.4

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Books for Reference:

1. P. Duraipandian and Laxmi Duraipandian, "Complex Analysis", D. Muhilan – Emerald Publisher, Second Edition, 1984.

2. B. Choudhary,"The Elements Of Complex Analysis", Wiley Eastern Limited.

3. J.N. Sharma, "Functions of a Complex variable", Krishna Prakasan Media (P) Ltd, 13th Edition, 1997.

4. T.K.Manicavachagom Pillai, "Complex Analysis", S. Viswanathan Publishers Pvt. Ltd.1994.

5. M.L.Khanna, "Functions of a Complex Variable", Jai Prakash Nath & Co, 7th Edition, 1991.

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Course : ABSTRACT ALGEBRA

Hours per Week : 6

Course Code: 15UANCT503

Credits : 4

Objective:

To enable the students to understand the abstract algebraic systems of Groups, Rings and their properties.

UNIT I

Groups: Introduction – Definition and examples – Elementary Properties of a Group – Equivalent Definitions of a Group – Permutation Groups – Subgroups.

UNIT II

Groups: Cyclic Groups – Order of an element – Cosets and Lagrange's theorem – Normal Subgroups and Quotient Groups.

UNIT III

Groups: Isomorphism – Homomorphisms.

Rings: Definition and examples – Elementary properties of Rings.

UNIT IV

Rings: Isomorphism – Types of Rings – Ideals – Quotient Rings.

UNIT V

Rings: Maximal and prime Ideals – Homomorphism of Rings – Field of quotients of an Integral domain-Unique Factorization Domain.

Text Book:

Arumugam.S and Isaac.A.T "Modern Algebra", SCITECH Publications (India) Pvt. Ltd., Chennai, Reprint 2012.

UNIT I	: Chapter 3: Sections 3.0 – 3.5.
UNIT II	: Chapter 3: Sections 3.6 – 3.9.
UNIT III	: Chapter 3: Sections 3.10 – 3.11.
	Chapter 4: Sections 4.1 – 4.2.
UNIT IV	: Chapter 4: Sections 4.3 – 4.4, 4.7 – 4.8.
UNIT V	: Chapter 4: Sections 4.9 – 4.11, 4.13.

Books for Reference:

1. I.N.Herstein, "Topics in Algebra", Wiley India Pvt. Ltd., New Delhi, Reprint 2011.

2. M.L.Santiago, " Modern Algebra " , Arul Publications,1993.

3. S.G.Venkatachalapathy, " Modern Algebra ", Margham Publications, 2003.

4. Vijay K.Khanna and S.K.Bhambri, "A Course in Abstract Algebra", Vikas Publishing House Pvt. Ltd., New Delhi, Reprint 2004.

5. John B. Fraleigh, " A First Course in Abstract Algebra", Pearson, Seventh Edition, 2003.

<div align="center">SEMESTER-V</div>

Course: DISCRETE MATHEMATICS   Hours per week: 5
Course Code:15UANCT504   Credits : 3

Objective:

On successful completion of this course, the students gain knowledge about the Formal languages, Automata Theory, Lattices and Boolean Algebra.

UNIT I

Mathematical Logic: Connectives - Well formed formulas –Tautology- Equivalence of formulas- Duality law -Tautological implications-Formulas with distinct truth tables – Functionally complete sets of connectives-Other connectives.

UNIT II

Normal Forms: Disjunctive Normal forms – Conjunctive Normal forms – Principal Disjunctive Normal forms – Principal Conjunctive Normal forms-Ordering and Uniqueness of Normal form.

Theory of Inference for the Statement Calculus: Rules of Inference-Consistency of premises and indirect method of proof.

UNIT III

Predicate Calculus: Predicates- The statement function- Variables- Quantifiers- Predicate formulas -Free and bound variables-Universe of Discourse.

Inference Theory of the Predicate Calculus: Valid formulas and equivalences-Some valid formulas over finite universes – Special valid formulas involving quantifier – theory of inference for the predicate calculus – Formulas involving more than one quantifier.

UNIT IV

Language, Grammar and Automata: Languages-Regular Expressions and Regular Languages-Grammar-Finite State Machine-Finite State Automata.

UNIT V

Lattices and Boolean Algebra: Partial ordering - Poset - Lattices- Boolean algebra - Boolean functions – Theorems - Minimization of Boolean functions.

Text Books:

1. J.P Tremblay and R.P Manohar, "Discrete Mathematical Structures with applications to computer science", Mc. Graw Hill, 1975.

   UNIT I   : Chapter I : Sections : 1.2.1 - 1.2.4,1.2.6, -1.2.14.
   UNIT II   : Chapter I : Sections : 1.3.1 - 1.3.5, 1.4.2, 1.4.3.
   UNIT III   : Chapter I:Sections: 1.5.1 - 1.5.5, 1.6.1- 1.6.5
   UNIT V   : Chapter IV : Sections : 4.1.1 - 4.4.2

2. J.K Sharma, "Discrete Mathematics Second Edition", Macmillan India Ltd., New Delhi, 2005.

   UNIT IV   : Chapter XV : Sections : 15.3 -15.7

Books for Reference:

1. T.Veerarajan, "Discrete Mathematics with Graph Theory and Combinatorics", Tata Mc Graw Hill Publishing Company Ltd., New Delhi 2007.

2. K Shankar, "Discrete Mathematics for Computer Scientists and Mathematicians", Indian Publishers, Chennai, First Revised Edition 2004.

3. N.CH.S.N Iyengar, V.M Chandrasekaran, K.A Venkatesh and P.S Arunachalam, "Discrete Mathematics", VIKAS Publishing House, New Delhi, Second Reprint 2006.

4. Dr.M.K Venkataraman, Dr. N Sridharan and N Chandrasekaran, "Discrete Mathematics", The National Publishing Company, Reprint 2007.

5. Prof. V Sundaresan, K.S Ganapathy Subramanian and K Ganesan, "Discrete Mathematics", A.R Publications, Edition 2001.

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Course: ASTRONOMY – I

Course Code: 15UANET505

Hours per Week: 5

Credits : 4

Objective:

To introduce the students about the science of space with some important features and to provide working knowledge about the universe.

UNIT I

Spherical trigonometry.

UNIT II

Celestial sphere –Diurnal motion.

UNIT III

The Earth: Zones of Earth – Terrestrial latitudes and longitudes – Radius of Earth- Rotation of Earth - Dip of Horizon– Twilight.

UNIT IV

Refraction – Geocentric Parallex.

UNIT V

Kepler's laws.

Text Book:

S.Kumaravelu and Susheela Kumaravelu, "ASTRONOMY", Sree Vishnu Arts, Sivakasi, 2002.

UNIT I	: Chapter I
UNIT II	: Chapter II
UNIT III	: Chapter III
UNIT IV	: Chapters IV and V
UNIT V	: Chapter VI

Books for Reference:

1. Mathew, K.C and Thiruvenkatacharya, "A Text book of Astronomy for degree Classes", S.Chand and Co., 1974.

2. W.M.Smart, "Text book on Spherical Astronomy", Cambridge University Press, 1999.

3. Barlow, "Elementary Mathematical Astronomy", Barlow Prentice Hall, 1983.

4. H. Karttunen, "Fundamental Astronomy", Content Technologies Publications, 2013.

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SEMESTER – V

Course : GRAPH THEORY   Hours per Week : 5

Course Code: 15UANET506   Credits   : 4

Objective:

To enable the students to grasp knowledge in various concepts of Graph Theory.

UNIT I

Graphs and Subgraphs: Definition and Examples - Degrees - Subgraphs - Isomorphism - Ramsey Numbers - Independent Sets and Coverings - Intersection Graphs and Line Graphs.

UNIT II

Graphs and Subgraphs: Matrices - Operations on Graphs.

Degree Sequences: Degree Sequences - Graphic Sequences.

Connectedness: Walks, Trails and Paths.

UNIT III

Connectedness: Connectedness and Components - Blocks- Connectivity.

UNIT IV

Eulerian and Hamiltonian Graphs: Eulerian graphs - Hamiltonian graphs.

Trees : Characterisation of Trees - Centre of a Tree.

UNIT V

Planarity: Definition and Properties - Characterization of Planar Graphs.

Colourability: Chromatic Number and Chromatic Index.

Text Book:

S. Arumugam and S. Ramachandran, "Invitation to Graph Theory", Scitech Pub. India Pvt. Ltd, Chennai, 2001.

UNIT – I   : Chapter 2: Sections 2.1 - 2.7

UNIT –II   : Chapter 2: Sections 2.8, 2.9, Chapter 3: Sections 3.1, 3.2

: Chapter 4 : Section 4.1

UNIT –III : Chapter 4 : Sections 4.2 - 4.4

UNIT – IV: Chapter 5 : Sections 5.1, 5.2, Chapter 6: Sections 6.1, 6.2

UNIT – V : Chapter 8 : Sections 8.1, 8.2, Chapter 9 : Section 9.1

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Books for Reference:

1. S. Kumaravelu, Susheela Kumaravelu, "Graph Theory", publishers, Nagercoil.
2. S. A. Choudham, "A First Course In Graph Theory", Macmillan India Ltd.
3. Robin J. Wilson, "Introduction to Graph Theory", Longman Group Ltd.
4. J.A. Bondy and U. S. R. Murthy, "Graph Theory with Applications", Macmillan, London.
5. A.Chandran, "A First Course in Graph Theory", Macmillan India Ltd.

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SEMESTER - V

Course : VISUAL BASIC   Hours per Week : 5

Course Code: 15UANET507   Credits: 4

Objective:

  To enable the students to learn about the VB fundamentals, Operators, Functions, Forms and Controls, Procedures and Arrays with Files types.

UNIT I

  Introduction to VB – Event and Event Procedure – Object related concept- VB Program Development Process- VB program components- VB environment – Saving and Running –VB Project- VB Fundamentals- Constants-Variables- Operators- Library functions.

UNIT II

  Branching and Looping- Logical Operators – If-then, If-then-Else, Select Case- For Next, Do loop. While - Wend, Stop-VB Control Fundamentals – Control tools, Naming Forms and Controls.

UNIT III

  Menus and dialog boxes: Building Drop down menus, Accessing menu-Menu enhancements- Sub menus-Popup menus- Dialog boxes.

  Executing and Debugging a new project: Errors-Error handlers.

UNIT IV

  Procedures: Modulus and Procedures - Sub Procedures-Event Procedures-Function Procedures. Arrays: Characteristics and Declarations, Processing array elements, passing arrays to procedures, Dynamic arrays.

UNIT V

  Data Files: Characteristics-Accessing and Saving a file in VB –Processing a data file-Sequential Data files- Random Access file-Binary files.

Text Book:

Byron S Gottfried, "Visual Basic", Schaum's outlines, TMH Edition, 2002.

    UNIT I : Chapter 1 Sections 1.2 to 1.4, 1.7, 1.8, 1.10, 1.11, 1.13.

           Chapter 2 Sections 2.1 to 2.5, 2.12.

    UNIT II : Chapter 3 Sections 3.2 -3.9 ; Chapter 4 Sections 4.1, 4.4.

    UNIT III : Chapter 5 Sections 5.1 to 5.6 ; Chapter 6 Sections 6.1, 6.2, 6.7.

    UNIT IV : Chapter 7 Sections 7.1 to 7.4. ; Chapter 8 Sections 8.1- 8.5.

    UNIT V : Chapter 9 Sections 9.1 to 9.6.

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Books for Reference:

1. Mohammed Azam, "Programming with VB 6.0", Vikas Publications, 2001.

2. Visual Basic 6.0 Programming, Content Development Group, TMH, 8th reprint, 2007.

3. Steven Holzner, "VB 6 Programming Black Book", Dream Tech Press, New Delhi, 2002.

4. N. Krishnan & N. Saravanan," Visual Basic 6.0 in 30 days", Scitech Publications, (India) Pvt. Ltd., Chennai, 2001.

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Course: MATHEMATICS FOR COMPETITIVE EXAMINATIONS -I   Hours per Week : 3

Course Code: 15UANST508   Credits   : 3

Objective:

To introduce the students the concepts of Mathematics which emphasis on analytical ability needed in competitive examinations.

UNIT I

Problems on Number – Problems on Ages.

UNIT II

Surds and Indices - Percentage .

UNIT III

Profit and Loss- Ratio and Proportion.

UNIT IV

Partnership – Chain Rule.

UNIT V

Time and Work - Pipes and Cistern.

Text Book:

Dr.R.S.Aggarwal ,"Quantitative Aptitude" Reprint 2014, S.Chand & Company Pvt. Ltd, Ramnagar, New Delhi, 1989.

UNIT-I   : Chapter 7: Page Number-161-181 ; Chapter 8: Page Number-182-194

UNIT-II : Chapter 9: Page Number-195-207 ; Chapter 10: Page Number-208-250

UNIT-III: Chapter 11: Page Number-251-293;Chapter 12: Page Number-294-310

UNIT-IV: Chapter 13: Page Number-311-325; Chapter14: Page Number-326-340

UNIT-V : Chapter 15: Page Number-341-370; Chapter 16: Page Number-371-383

Books for Reference:

1. Abhijit Guha , "Quantitative Aptitude for Competitive Examinations", Second Edition, Tata Mcgraw Hill Publishing Company, New Delhi, 2000.

2. Er.R.K.Mohanty, "Quantitative Aptitude with Short cut methods", VEE Kumar Publication Pvt Ltd, New Delhi.

3. R.Balakrishnan , "Quantitative Aptitude", Pavai Publications, Chennai, 2013

4. Abhijit Guha, "Quantitative Aptitude for Competitive Examinations", Third edition   Tata Mcgraw Hill Publishing Company, New Delhi, 2006.

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Course: ELEMENTARY NUMBER THEORY   Credits: 2
Course Code: 15UANAL509

Objective:

    To enable the students to understand the concept of Natural Numbers, Integers, prime and composite numbers and their properties.

UNIT I

    Natural Numbers – Successor map – Peano's axioms – Axiom of induction – Principle of Mathematical induction – Addition on the set N – Multiplication in N – Order relation in N – Trichotomy law – Subtraction- Division – Principle of well ordering – Multiples of an element in N – Powers of an element in N.

UNIT II

    Integers – Addition in Z - Subtraction in Z – Multiplication in the set of integers – Existence of multiplicative identity in Z – Positive and Negative integers - Order relation in Z – Trichotomy law – Some properties of integers – Equivalence of the definitions of integers - Absolute value .

UNIT III

    Divisibility of integers-Division algorithms-Greatest Common Divisor-Euclidean algorithm-Least Common Multiple.

UNIT IV

    Prime and Composite numbers-The sieve of Eratosthenes-Euclid's theorem-Unique factorization Theorem-Positional representation of integer -Divisors of an integer.

UNIT V

    Arithmetic functions - Product of divisors - Perfect numbers -Euclid's theorem-Converse of Euclids Theorem – Abundant and Deficient Numbers - Amicable numbers-Triangular number-Euler function.

Text Book:

S. Kumaravelu and Susheela Kumaravelu, "Elements of Number Theory", Nagarcoil, 2002.

UNIT I	-	Chapter 1 Page Number 1 - 19
UNIT II	-	Chapter 2 Page Number 20 - 44
UNIT III	-	Chapter 3 Page Number 45- 59
UNIT IV	-	Chapter 4 Page Number 60 - 78
UNIT V	-	Chapter 4 Page Number 79 - 108

Books for Reference:

1. David M.Burton, "Elementary Number Theory".
2. Ivan Niven and H. Zuckerman, "An Introduction to Theory of Numbers".
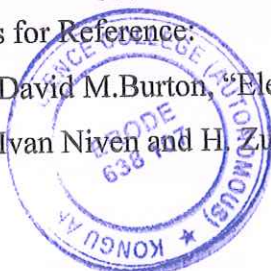
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Course : SIMULATION   Credits: 2

Course Code : 15UANAL510

Objective:

To enable the students to understand the recently developed area in simulation.

UNIT I

Introduction to Simulation: Advantages and disadvantages, Area of application – Systems and environmental components of a system – Discrete and Continuous system – Model of a system – Types of models – Discrete – Event system simulation – Steps in simulation study.

UNIT II

Simulation Examples: Simulation of Queueing systems – Simulation of inventory systems – other examples.

UNIT III

Random Number Generation – Properties of Random numbers – Techniques for Generating Random numbers – Generation of Pseudo-Random numbers – Tests for Random numbers – The Kolmogorov Smirnov test – The Chi-square test.

UNIT IV

Random Variable Generation – Inverse transform techniques – Exponential distribution – Uniform distribution – Triangular distribution – Weibull distribution, Empirical continuous distribution, Discrete distribution.

UNIT V

Direct transformation for the Normal and Lognormal distribution – Convolution method – Acceptance – Rejection Technique.

Text Book:

Jerry Banks, John S.Carson, Barry L. Nelson, Davil M.NICOL,

"Discrete – Event System Simulation", Prentice-Hall of India Private Limited, 2005.

UNIT I : Chapter 1 Sections 1.1 – 1.11

UNIT II: Chapter 2 Sections 2.1 – 2.3

UNIT III: Chapter 7 Sections 7.1, 7.2, 7.3, 7.4.1

UNIT IV: Chapter 8 Sections 8.1: 8.1.1 – 8.1.7

UNIT V : Chapter 8 Sections 8.2 - 8.4

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Books for Reference:

1. Kandiswarup, P. K. Gupta and Man Mohan, " Operations Research", S. Chand & Sons Education Publications, New Delhi, Reprint 2011.

2. P.R.Vittal and V.Malini, " Operations Research", Margham publications, Reprint 2015.
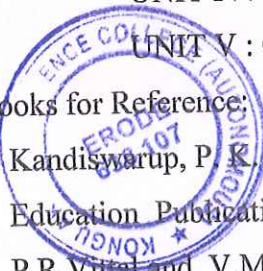
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Course: REAL ANALYSIS-II   Hours per week: 5

Course Code: 15UANCT601   Credits: 4

Objective:

    To introduce the real number system to the students which emphasis on the concepts of continuous functions, metric space, uniform continuity, derivative and Riemann- Stieltjes integral.

UNIT I

    Continuous functions - Continuity of composite functions - Continuous complex valued and vector valued functions - Examples of continuous functions – Continuity and inverse images of open or closed sets–Functions continuous on compact sets –Topological mappings – Bolzano's theorem.

UNIT II

    Connectedness – Components of a metric space – Uniform continuity - Uniform continuity and compact sets – Fixed point theorem for contractions – Discontinuities of real valued functions- Monotonic functions.

UNIT III

    Derivatives: Introduction - Definition of derivative – Derivatives and continuity – Algebra of derivatives – The chain rule – One sided derivatives and infinite derivatives – Functions with non-zero derivatives – Zero derivatives and Local Extrema – Rolle's theorem.

UNIT IV

    The Mean value theorem for derivatives – Intermediate value theorem for derivatives - Taylor's formula with remainder-Derivatives of vector valued function – Partial derivatives.

UNIT V

    The Riemann - Stieltjes integral: Introduction –Notation –The definition of Riemann – Stieltjes integral – Linear properties – Integration by parts – Change of variable in a Riemann – Stieltjes integral –Reduction to a Riemann integral- Step function as Integrators.

Text book:

M. APOSTOL, "Mathematical Analysis", 2nd Edition., Narosa Publishing Company, Chennai, 1990.

        UNIT I   : Chapter 4 Sections 4.8 to 4.15

        UNIT II : Chapter 4 Sections 4.16, 4.17, 4.19 to 4.23

        UNIT III : Chapter 5 Sections 5.1 to 5.9

        UNIT IV: Chapter 5 Sections 5.10 to 5.14

        UNIT V : Chapter 7 Sections 7.1 to 7.8

Books for Reference:

1. R.R.Goldberg, "Methods of Real Analysis", John Wiley, New York, 1976.

2. G.F.Simmons, "Introduction to Topology and modern Analysis", McGraw – Hill, New York, 1963.

3. G.Birkhoff and MacLane, "A survey of Modern Algebra", 3rd Edition, Macmillian, NewYork, 1965.

4. J.N.Sharma and A.R.Vasistha, "Real Analysis", Krishna Prakashan Media (P) Ltd, India, 1997.

5. S.G.Venkatachalapathy, Real Analysis, Margham Publications, Reprint 2012.

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Course: COMPLEX ANALYSIS-II

Hours per week: 6

Course Code: 15UANCT602

Credits: 5

Objective:

This course is intended to expose students to the basic ideas of complex analysis. In particular, to learn about complex mappings and complex integration.

UNIT I

The Mapping $w=z^2$ - The Mapping $w=z^n$ where n is a positive integer - The Mapping $w= e^z$ - The Mapping $w= \sin z$ - The Mapping $w= \cos z$ - The Mapping $w= \cosh z$ - The Mapping $w= \frac{1}{2}(z+1/z)$.

UNIT II

Definite Integral – Cauchy's Theorem – Cauchy's Integral Formula – Higher Derivatives.

UNIT III

Taylor's Series – Laurent's Series.

UNIT IV

Zeros of an Analytic Function – Singularities – Residues – Cauchy's Residue Theorem.

UNIT V

Evaluation of Definite Integrals.

Text Book:

S. Arumugam, A. Thangapandi Issac and A. Somasundaram, "Complex Analysis", SciTech Publications (India) Pvt. Ltd. 1st Reprint , 2003.

UNIT I	: Chapter 5 Sections 5.1-5.7
UNIT II	: Chapter 6 Sections 6.1-6.4
UNIT III	: Chapter 7 Sections 7.1,7.2
UNIT IV	: Chapter 7 Sections 7.3,7.4
	Chapter 8 Sections 8.1,8.2
UNIT V	: Chapter 8 Section 8.3

Books for Reference:

1. P. Duraipandian and Laxmi Duraipandian, "Complex Analysis", D. Muhilan – Emerald Publisher, 2nd Edition, 1984.

2. B. Choudhary,"The Elements Of Complex Analysis", Wiley Eastern Limited.

3. J.N. Sharma, "Functions of a Complex variable", Krishna Prakasan Media (P) Ltd, 13th Edition, 1997.

4. T.K. Manicavachagom Pillai, "Complex Analysis", S. Viswanathan Publishers Pvt. Ltd., 1994.

5. M.L. Khanna, "Functions of a Complex Variable", Jai Prakash Nath & Co., 7th Edition, 1991.

Course : LINEAR ALGEBRA

Hours per Week : 6

Course Code: 15UANCT603

Credits : 4

Objective:

To enable the students to understand the linear algebraic systems of Vector Spaces, Inner Product Spaces and Theory of Matrices.

UNIT I

Vector Spaces: Introduction – Definition and Examples – Subspaces – Linear Transformation – Span of a Set – Linear Independence.

UNIT II

Vector Spaces: Basis and Dimension – Rank and Nullity – Matrix of a Linear Transformation.

UNIT III

Inner Product Spaces: Introduction - Definition and examples – Orthogonality – Orthogonal Complement.

UNIT IV

Theory of Matrices: Introduction – Algebra of Matrices – Types of Matrices – The Inverse of a Matrix – Elementary Transformations.

UNIT V

Theory of Matrices: Rank of a Matrix – Simultaneous Linear Equations – Characteristic Equation and Cayley Hamilton Theorem – Eigen Values and Eigen Vectors.

Text Book:

Arumugam.S and Isaac.A.T,"Modern Algebra", SCITECH Publications (India) Pvt. Ltd., Chennai, Reprint 2012.

UNIT I	: Chapter 5: Sections 5.0 – 5.5
UNIT II	: Chapter 5: Sections 5.6 – 5.8
UNIT III	: Chapter 6: Sections 6.0 – 6.3
UNIT IV	: Chapter 7: Sections 7.0 – 7.4
UNIT V	: Chapter 7: Sections 7.5 – 7.8

Books for Reference:

1. I.N.Herstein, "Topics in Algebra", Wiley India Pvt. Ltd., New Delhi, Reprint 2011.

2. M.L.Santiago " Modern Algebra " , Arul Publications,1993.

3. S.G.Venkatachalapathy, " Modern Algebra " ,Margham Publications, 2003.

4. Vijay K.Khanna and S.K.Bhambri, "A Course in Abstract Algebra", Vikas Publishing House Pvt. Ltd., New Delhi, Reprint 2004.

5. John B. Fraleigh, "A First Course in Abstract Algebra", Pearson, Seventh Edition, 2003.

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Course : ASTRONOMY – II   Hours per Week : 5

Course Code: 15UANET604   Credits   : 4

Objective:

    To introduce the students about the science of space with some important features and to provide working knowledge about the Universe.

UNIT I

    Time: Equation of time –Seasons – Calendar - Conversion of time.

UNIT II

    Heliocentric Parallax – Abberation.

UNIT III

    Precession – Nutation – Fixing the Ecliptic – Fixing the Equinoctial points.

UNIT IV

    Determination of Lattitude of a place – Fixing the Meridian line – Determination of Local Time - Determination of Longitude of a place - Determination of position of Ship at Sea.

UNIT V

    The Moon – Eclipses.

Text Book:

S.Kumaravelu and Susheela Kumaravelu, "ASTRONOMY", Sree Vishnu Arts, Sivakasi, 2002.

        UNIT I   : Chapter VII

        UNIT II : Chapters VIII and IX

        UNIT III : Chapter X, Chapter XI: Sections 1,2 only

        UNIT IV : Chapter XI: Sections 3 - 6 only

        UNIT V : Chapter XII

Books for Reference:

1. Mathew , K.C and Thiruvenkatacharya, "A Text book of Astronomy for degree Classes", S.Chand and Co., 1974.

2. W.M.Smart, "Text book on Spherical Astronomy", Cambridge University Press, 1999.

3. Barlow, "Elementary Mathematical Astronomy", Barlow Prentice Hall, 1983.

4. H.Karttunen, "Fundamental Astronomy", Content Technologies Publications, 2013.

SEMESTER – VI

Course: NUMERICAL METHODS   Hours per week : 5

Course Code: 15UANET605   Credits : 4

Objective:

    To enable the students to understand the concepts of transcendental equations, linear algebraic equation, Difference, Operators, Numerical differentiation and Difference Equations

UNIT I

    The solution of numerical algebraic and transcendental equations: Bisection method-Iteration Method-Regula Falsi method –Newton Raphson method.

UNIT II

    The solution of simultaneous linear algebraic equations: Gauss Elimination Method - Gauss Jordan method – Inversion of a matrix using Gauss Elimination Method – Method of Triangularization – Gauss Jacobi method - Gauss Seidel method.

UNIT III

    Interpolation for equal intervals: Newton's Forward and Backward formulae – Stirling's formula. Divided Differences: Newton's divided differences formula - Lagrange's formula and inverse interpolation.

UNIT IV

    Numerical Differentiation: Derivative using Newton's Forward and Backward formulae – Stirling's formulae. Numerical Integration: Trapezoidal rule – Simpson's $1/3^{rd}$ and $3/8^{th}$ rules.

UNIT V

    Taylor series method –Euler's method -Runge Kutta method (Fourth order only) - Milnes Predictor Corrector formulae - Adam-Bashforth Predictor Corrector formulae.

Text Book :

P.Kandasamy, K.Thilagavathi and K.Gunavathi, "Numerical Methods" S.Chand and Company Ltd, New Delhi-2007.
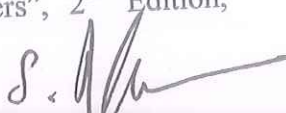
        UNIT I   : Chapter 3: 3.1-3.4 ;

        UNIT II   : Chapter 4: 4.1- 4.4 and 4.7 – 4.9;

        UNIT III   : Chapter 6: 6.2, 6.3 and 6.7;

                   Chapter 7: 7.5; Chapter 8: 8.2, 8.5 and 8.7;

        UNIT IV   : Chapter 9: 9.2-9.4 , 9.9 , 9.13 and 9.14;

        UNIT V   : Chapter 11: 11.5, 11.9, 11.12, 11.17 and 11.18.

Books for Reference:

1. M.K.Venkataraman,"Numerical Methods in science and Engineering", National Publishing company 5th Edition, 1999.

2. Dr. A .Singaravelu, "Numerical Methods" , Meenakshi Agency, 19th Edition, 2012.

3. N.Subramaniam, "Numerical Methods", SCM publishers, 2005.

4. S.Kalavathy, "Numerical Methods", Vijay Nicole Imprints Private limited, 2004.

5. Sankara Rao K "Numerical Methods for scientists and Engineers", 2nd Edition, Prentice Hall India, 2004.

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SEMESTER - VI

Course: RDBMS AND ORACLE

Hours per Week : 5

Course Code:15UANET606

Credits: 4

Objective:

To enable the students to learn about the DBMS, Keys, RDBMS, introduction to SQL, ORACLE data types, Queries in SQL, introduction to PL/SQL, its basic structure, triggers, design a forms and reports using ORACLE Developer 2000.

UNIT I

Data modelling for a Database - Entities and their attributes – Relationships-Records and Files-The three-level architecture proposal for a DBMS -Mapping between Views, Data independence –Components of a DBMS - Classification of DBMS users-DBMS facilities - Structure of a DBMS, Data base Access. Advantages and disadvantages of a DBMS. Relational Database – Relations and their schemes –Relation representation – Integrity rules.

UNIT II

Integrative SQL –Invoking SQL *plus, Data manipulation in DBMS ,The ORACLE data types, Two dimension matrix creation, Insertion of data into tables, Data constraints, computation in expression lists used to select data, Logical operators, Range searching, Pattern matching, Oracle function, Grouping data from tables in SQL, Manipulating dates on SQL, Joins, Subqueries.

UNIT III

PL/SQL- Introduction, The PL/SQL execution environment, The PL/SQL syntax, Understanding the PL/SQL Block structure, Database Triggers.

UNIT IV

Working with forms-Basic concepts, Application development in forms, Form module- Creating a form, Generating and running a form, Using the Layout editor, Master form, Triggers, Data Navigation Via an Oracle form, Master detail form, Creating a master detail form, Master detail data entry screen.

UNIT V

Working with reports, Defining a data model for a report , Specify the layout of a report, Use the Oracle reports interface, Creating a default tabular report, Creating computed columns, Creating user parameters, Arranging the layout, Creating a Master/Detail report, Creating a matrix report.

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Text Books:

1. Bipin C.Desai, "Introduction to Database System", West Publishing Company, 1997.

   UNIT I   : Chapter 1 Sections 1.1-1.2, 1.4-1.6

                    : Chapter 4 Sections 4.2.3, 4.2.4, 4.2.8.

2. Ivan Bayross, "Commercial application Development using Oracle developer 2000" BPB Publications, Chennai, 2004.

   UNIT II   : Chapter 2

   UNIT III   : Chapter 3, 5

   UNIT IV   : Chapter 7, 8, 11.

   UNIT V   : Chapter 16, 18, 19.

Books for Reference:

1. Alex Leen and Mathews Leon, "Database Management Systems" - Vikas publications.

2. Elmarsi Navathe, "Fundamentals of Database Systems", Pearson Education Publications - Edition III-2001.

3. Mark Gokman, Jhonathan Ingraw, "Oracle 8 & PL/SQL Black Book", Comdex Computer publication, New Delhi, 1998.

4. George Koch, Kevin Loney, "Oracle 8 THE COMPLETE REFERENCE", Tata McGraw Hill Publications Ltd, New Delhi.

SEMESTER – VI

Course : FUZZY SETS AND FUZZY LOGIC

Hours per Week : 5

Course Code: 15UANET607

Credits : 4

Objective:

　　　　To enable the students to understand the basic concepts of Fuzzy Set theory and Fuzzy Logic.

UNIT I

　　　　Fuzzy Sets and Classical Sets: Basic definitions – Classical Sets – Representation of a fuzzy set – Fuzzy measures – Cardinality of a fuzzy set – Special $\propto$ - cuts of a fuzzy set – Normalized fuzzy set – Height of a fuzzy set- Basic set theoretic operation on fuzzy sets – Algebraic operations on fuzzy sets – Logical operations on fuzzy sets.

UNIT II

　　　　Fuzzy Relations and Classical Relations: Cartesian product – Crisp relations – Operation on crisp relations – Composition operator – Fuzzy relations – Operations on fuzzy relations – Fuzzy Cartesian product and composition – Equivalence relations – Binary relation on a fuzzy set – Properties of binary relations.

UNIT III

　　　　Membership Functions: Features of the membership function – Fuzzification – Membership functions shapes – Assignment of membership function to fuzzy variables – Evaluation of membership function.

UNIT IV

　　　　Classical Logic and Fuzzy Logic : Classical predicate logic – Logical connectives – Tautologies – Contradictions – Equivalence – Logical proofs – Fuzzy logic – Approximate reasoning.

UNIT V

　　　　Fuzzy to Crisp Conversions: Introduction – Defuzzification techniques – Lambda cuts- Defuzzification methods -Applications – Comparison and evaluation of defuzzification methods.

Text Book:

M.Amirthavalli, "Fuzzy Logic and Neural Networks", Scitech Publications (India) Private limited, Chennai & Hyderabad, 2004 .

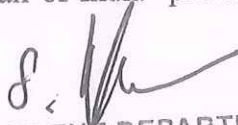|	
UNIT I	: Chapter 2: Section 2.1 to 2.9
UNIT II	: Chapter 3: Section 3.1 to 3.10
UNIT III	: Chapter 4: Section 4.1 to 4.5
UNIT IV	: Chapter 5: Section 5.1 to 5.6
UNIT V	: Chapter 7: Section 7.1 to 7.5

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Books for Reference:

1. H.J.Zimmermann, "Fuzzy Set Theory and its Applications", 4th edition, Springer International Edition, 2001.

2. George J.Klir and Bo Yuan, "Fuzzy Sets and Fuzzy Logic Theory and applications", Prentice Hall of India private Ltd., New Delhi , 2007.

3. John Yen and Reza Langari, "Fuzzy Logic Intelligence, Control and Information", Pearson education , 2007.

4. Fuzzy Logic with Engineering Applications Timothy J.Ross – 2nd Edition –Wiley India, New Delhi-2007.

5. M.Ganesh, " Introduction to Fuzzy Sets and Fuzzy Logic", Prentice Hall of India private limited, New Delhi, 2006.

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SEMESTER VI

Course : NEURAL NETWORKS AND GENETIC ALGORITHM   Hours per Week : 5

Course Code :15UANET608   Credits :4

Objective:

    To enable the students to understand the basic concepts of Neural Network Architectures, Layers, Associative Memory, Adaptive Resonance Theory and Fundamentals of Genetic Algorithms.

UNIT I

    Fundamentals of Neural Network: Basic Concepts of Neural Networks – Human Brain – Model of an Artificial Neuron – Neural Network Architectures: Single Layer Feed Forward Network – Mutlilayer Feed forward network – Recurrent Networks .Characteristic of neural Networks – Learning Methods – Taxonomy of neural Network Architectures – History of Neural Network Research – Early Neural Network Architectures – Rosenblatt's Perceptron – ADALINE network – MADALINE Network – Some Application Domains.

UNIT II

    Back Propagation Networks: Architecture of a Back Propagation Network: The Perceptron Model – The Solution – Single Layer Artificial Neural Network. Model for Multi Perceptron .Bank propagation Learning : Input Layer computation – Hidden Layer Computation Output Layer Computation – Calculation of Error – Training of neural network – Method of Steepest Descent – Effect of Learning Rate η - Adding a Momentum Term – Back Propagation Algorithm.

UNIT III

    Associative Memory : Autocorrelators -Hetero Correlators, Addition and Deletion of Pattern Pairs, Energy Function for BAM -Exponential BAM, Evolution Equations-Associative Memory for Real coded Pattern Pairs, Input Normalization, Evolution Equations.

UNIT IV

    Adaptive Resonance Theory: Introduction, Cluster Structure, Vector Quantization, Classical ART Networks, Simplified ART Architecture - ART 1, Architecture of ART1, Special Features of ART1 Models - ART 2, Architecture of ART2. (Except Algorithms).

UNIT V

    Fundamentals of Genetic Algorithms: Basic Concepts, Biological Background-Creation of Offsprings, Search space, Working Principle-Encoding, Binary Encoding, Octal Encoding, Hexadecimal Encoding, Permutation encoding, Value encoding - Fitness function - Reproduction, Roulette Wheel Selection, Boltzmann Selection.

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Text Book:

S.Rajasekaran, G.A.Vijayalakshmi Pai, "Neural Networks, Fuzzy Logic and Genetic Algorithms – Synthesis and Applications", Prentice Hall of India Pvt. Ltd., New Delhi, 2003.

UNIT I : Chapter 2 - Section : 2.1 - 2.10

UNIT II : Chapter 3 - Section : 3.1 and 3.2.

UNIT III: Chapter 4 - Section : 4.1,4.2, 4.4 and 4.5

UNIT IV: Chapter 5 - Section : 5.1 - 5.3

UNIT V : Chapter 8 - Section : 8.2 - 8.7

Books for Reference:

1. Timothy J. Ross, "Fuzzy Logic with Engineering Applications" , McGrow Hill, 1997.

2. Dr.Valluru.B.Rao, Hayagriva,V.Rao, "C++ Neural Networks And Fuzzy Logic", BPB Publications, Second Edition, 1996.

3. Russel and Peter Norvig, "Artificial Intelligence-A modern approach" Prentice Hall, 2009.

4. Patrick Henry Winston, "AI" Addison Wesley, 1989.

5. Laurene Fausett, "Fundamentals of Neuron Networks", United States Edition, 1998.

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SEMESTER – VI

Course : FORMAL LANGUAGES AND AUTOMATA THEORY   Hours per Week : 5

Course Code: 15UANET609   Credits : 4

Objective:

        To enable the students to understand about finite Automata, Regular Languages and Regular Grammars and Pushdown Automata.

UNIT I

        Finite Automata: Finite State Machine – Language Acceptance – Finite Automaton is of two types – Equivalence of DFA's and NFA's – Converting NFA(M_N) to DFA (M_D)- Subset Construction .

UNIT II

        Finite Automata : NFA with Epsilon (ε) –Transitions-Comparison Method for Testing Equivalence of Two FA – Reduction of Number of States in FA – Finite Automaton with output –Applications of Finite Automata with output.

UNIT III

        Regular Languages and Regular Grammars: Regular Expression –Regular Set – Identity Rules for Regular Expression – Algebraic laws for Regular Expression – Equivalence of Finite Automata with Regular Expression.

UNIT IV

        Regular Languages and Regular Grammars: Constructing a regular expression for a given DFA – Pumping Lemma of Regular Expressions – Regular Grammar – Closure Properties of Regular Sets – Applications of Regular languages.

UNIT V

        Pushdown Automata: Pushdown Automata – Equivalence of Acceptance of final State and Empty Stack – Types of PDA's – Equivalence of PDA's and CFG's – Two Stack PDA – Application of PDA.

Text Book:

KVN Sunitha and N.Kalyani , "Formal Languages and Automata Theory", Tata Mcgraw Hill Education Private limited, New Delhi , 2011.

UNIT-I	: Chapter 2: 2.1 -2.5
UNIT-II	: Chapter 2: 2.6 -2.10
UNIT-III	: Chapter 3: 3.1 -3.5
UNIT-IV	: Chapter 3: 3.6 -3.10
UNIT-V	: Chapter 5: 5.1 -5.6 .

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Books for Reference:

1. John E . Hopcroft , Rajeev Motwani ,Jeffrey D.Ullman " Introduction to Automata Theory, Languages and Computation" , 2nd Edition , Pearson Education, 2001.

2. A.M.Padma Reddy "Finite Automata and Formal Languages A Simple Approach" , Pearson Education , 2011.

3. Peter Linz, "An Introduction to Formal Languages and Automata" , 4th edition , Narosa publishing , 2007.

4. Hopcrot and still man, "Formal languages and their relation automata", Addison Wesley, 1969.

5. R.Y.Kulin, "Automata theory-Machines and Languages", McGraw Hill.

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Course : Mathematics For Competitive Examinations -II   Hours per Week : 3

Course Code: 15UANST610   Credits : 3

Objective:

To introduce the students the concepts of Mathematics which emphasis on analytical ability needed in competitive examinations.

UNIT I

Time and Distance – Problems on Trains.

UNIT II

Boats and Stream – Alligation or Mixture.

UNIT III

Simple Interest - Compound Interest.

UNIT IV

Logarithms - Stocks and Shares -Permutations and Combinations.

UNIT V

Probability – True Discount – Banker's Discount.

Text Book:

Dr.R.S.Aggarwal ,"Quantitative Aptitude" Reprint 2014, S.Chand & Company Pvt. Ltd, Ramnagar, New Delhi, 1989.

UNIT-I   :Chapter17: Page Number-384-404 ; Chapter18: Page Number-405-424 ;

UNIT-II   :Chapter 19: Page Number-425-434 ; Chapter 20: Page Number-435-444 ;

UNIT-III : Chapter 21: Page Number-445-465;Chapter 22: Page Number-466-486 ;

UNIT-IV : Chapter 23: Page Number-487-498; Chapter29: Page Number-605-612;
Chapter 30: Page Number-613-620;

UNIT-V : Chapter 31: Page Number-621-631; Chapter 32: Page Number-632-636;
Chapter 33: Page Number-637-641.

Books for Reference:

1. Abhijit Guha , "Quantitative Aptitude for Competitive Examinations", Second Edition, Tata Mcgraw Hill Publishing Company, New Delhi, 2000.

2. Dr.R.K.Mohanty, "Quantitative Aptitude with Short cut methods", VEE Kumar Publication Pvt. Ltd., New Delhi.

3. R.Balakrishnan , "Quantitative Aptitude", Pavai Publications, Chennai, 2013.

4. Abhijit Guha, "Quantitative Aptitude for Competitive Examinations", Third edition, Tata Mcgraw Hill Publishing Company, New Delhi, 2006.

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ACTIVITIES

Personality Development Programme-04.08.2017

Personality Development Programme on Professional Ethics and Career Guidance was organized by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) on 04.08.2017. Students were trained by Mr.R.Mohanraj & Mr.R.Kamalasekaran, Trainers from Soft Skills Erode. This programme was organized for final year students to improve and develop their specific skill, to change their behaviour and to cultivate strong teamwork among them. Trainers were interacted with students and conducted various activities to bring out skills of the students.

Beneficiaries: 106

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KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS),ERODE.

DEPARTMENT OF MATHEMATICS

Ramanujan's Association Inauguration-08.07.2017

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS) ERODE.

DEPARTMENT OF MATHEMATICS

RAMANUJAN'S ASSOCIATION INAUGURATION

Thiru A.K.Ilango
Correspondent
has graciously consented to preside over the function

Dr.N.Raman
Principal
has kindly consented to felicitate the function

Mr.K.Balaji
Managing Director, SIPCOT, Perundurai
has kindly consented to be the resource person
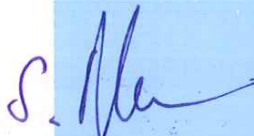
Date :08.07.2017
Place: PG Seminar Hall

KONGU
Assuring the Best

Ramanujan's Association was inaugurated by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) on 08.07.2017. Mr.K.Balaji, Managing Director, Sri Sapthagiri Polymers, SIPCOT, Perundurai inaugurated the association and delivered inaugural address for the Association students. He also stated about the opportunities after the degree programme. Orientation session also conducted for the students on this day.

Participants: 250

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PRINCIPAL,
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NANJANAPURAM, ERODE - 638 107,

Extension Activity-08.08.2017

PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) has organized an Extension activity at Government Panchayat Union school, V.Ramanathapuram on 08.08.2017. Our students conducted various activities for the students , donated books for the students, distributed sweet, snacks and stationery items. Nearly 50 students got benefitted.

Beneficiaries: 50

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Dr. N. RAMAN
PRINCIPAL,
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Guest Lecture-09.10.2017

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS) ERODE.

DEPARTMENT OF MATHEMATICS

Guest Lecture on Applications of Contraction Mapping in Real Analysis

Thiru A.K.Ilango
Correspondent

has graciously consented to preside over the function

Dr.N.Raman
Principal

has kindly consented to felicitate the function

Dr.M.Madurai
Honorary Professor,Bharathidasan University ,Trichy.

has kindly consented to be the resource person

Date :09.10.2017
Place: Science Block

KONGU
Assuring the Best

A Special Guest Lecture was arranged on 09.10.2017 by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) under the title "Applications of Contraction Mapping in Real Analysis". A special lecture was given by Dr.M.Madurai , Honorary Professor of Mathematics, Bharathidasan University, Trichy. This programme was organized for students to have keen knowledge on Mapping in Real Analysis.
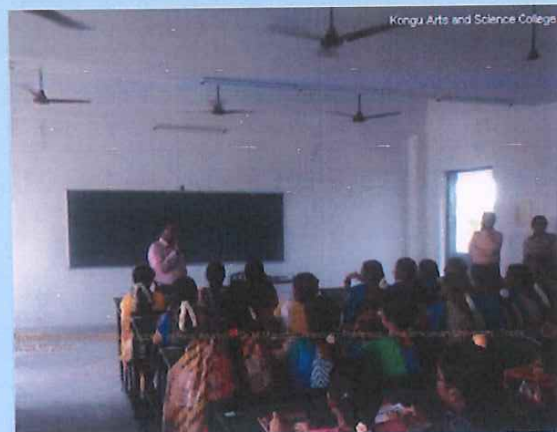
Beneficiaries: 60

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Dr. N. RAMAN
PRINCIPAL,
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KONGU ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

ERODE – 638 107

DEPARTMENT OF MATHEMATICS

Workshop-15.02.2018 & 16.02.2018

KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
ERODE.

DEPARTMENT OF MATHEMATICS

State Level Workshop on R Software

Thiru A.K.Ilango
Correspondent
has graciously consented to preside over the function

Dr.N.Raman
Principal
has kindly consented to felicitate the function

Dr.V.Gnanagaraj
Associate Professor, Thaigarajar College of Engineerning , Madurai.
has kindly consented to be the resource person

Date :15.02.2018 & 16.02.2018
Place:PG Seminar Hall

KONGU
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A State Level Workshop on Statistical Analysis using R Software was organized by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) on 15.02.2018 and 16.02.2018. Students were trained by Dr.V.Ganagaraj, Associate Professor, Department of Mathematics, Thaiagarajar College of Engineering, Madurai. This workshop was organized for students to have better knowledge in Business through a good decision making by using Mathematical R Software. He interacted with students to bring students area of interest.

BENEFICIARIES : 120

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Dr. N. RAMAN
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Guest Lecture-20.09.2017

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS) ERODE.

DEPARTMENT OF MATHEMATICS

Guest Lecture on Applications of Graph Theory

Thiru A.K.Ilango
Correspondent
has graciously consented to preside over the function

Dr.N.Raman
Principal
has kindly consented to felicitate the function

Dr.K.M.Kathiresan
Professor,Ayyanadar Janakiammal College,Sivakasi.
has kindly consented to be the resource person

Date :20.09.2017
Place: Science Block

KONGU
Assuring the Best

A Special Guest Lecture was arranged on 20.09.2017 by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) under the title "Applications of Graph Theory". A special lecture was given by Dr.K.M.Kathiresan, Professor of Mathematics, Ayyanadar Janakiyammal College, Sivakasi. This programme was organized for students to have keen knowledge on Graph Theory.

Beneficiaries: 60

HEAD OF THE DEPARTMENT
DEPARTMENT OF MATHEMATICS
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
ERODE - 638 107.

Dr. N. RAMAN
PRINCIPAL,
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107.

National Mathematics Day-22.12.2017

National Mathematics Day was celebrated on 22.12.2017 by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) to commemorate the 130th birth anniversary of great Mathematician Srinivas Ramanujan . A special lecture was given by Dr.M.Eswaramurthy, Head and Professor of Mathematics,Vellalar College of Engineering and Technology,Erode. This programme was organized for students to know about Ramanujan's contributions to Mathematics and to bring out knowledge on recent advancements in Mathematics. Also Exhibition was conducted for the students.
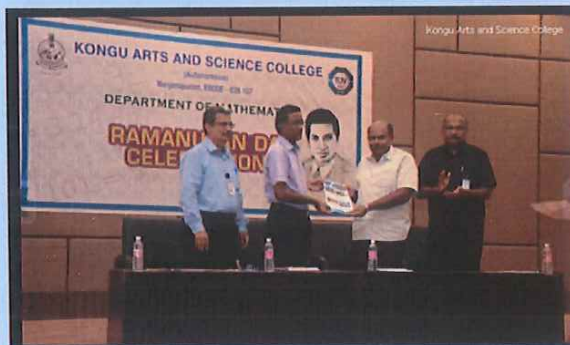
BENEFICIARIES : 120

HEAD OF THE DEPARTMENT
DEPARTMENT OF MATHEMATICS
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
ERODE - 638 107.

ERODE
638 107

Dr. N. RAMAN
PRINCIPAL,
KONGU ARTS AND SCIENCE COLLEGE
(AUTONOMOUS)
NANJANAPURAM, ERODE - 638 107.

Workshop-26.09.2017 & 27.09.2017

KONGU ARTS AND SCIENCE COLLEGE (AUTONOMOUS) ERODE.

DEPARTMENT OF MATHEMATICS

Workshop on LATEX- 26.09.2017 & 27.09.2017

Thiru A.K.Ilango
Correspondent
has graciously consented to preside over the function

Dr.N.Raman
Principal
has kindly consented to felicitate the function

Mr.S.Parthiban
Assistant Professor, Bishop Heber College , Trichy
has kindly consented to be the resource person

Date :26.09.2017 & 27.09.2017
Place: CC4

KONGU
Assuring the Best

Workshop on LATEX was organized by PG and Research Department of Mathematics of Kongu Arts and Science College (Autonomous) on 26.09.2017 and 27.09.2017. Students were trained by Mr.S.Parthiban, Assistant Professor, Department of Mathematics, Bishop Heber College, Trichy. This workshop was organized for students to have better knowledge in Business through a good decision making by using Mathematical Software. Mr.S.Parthiban interacted with students to bring students area of interest.

BENEFICIARIES : 120

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