

MANNAR THIRUMALAI NAICKER COLLEGE
PASUMALAI, MADURAI- 625 004

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

(Re-accredited with 'A' Grade by NAAC)



B.Sc., Maths with CA
SYLLABUS AND REGULATIONS

UNDER
CHOICE BASED CREDIT SYSTEM (CBCS)
(For those who joined during 2018-2019 and after)

Qualification for Admission

Candidate should have passed the Higher Secondary Examination conducted by the Board of Higher Secondary Education, Government of Tamil Nadu with Mathematics as one of the subjects in Higher Secondary Education.

Duration of the Course

The students shall undergo the prescribed course of study for a period of three academic years (six semesters).

Subject of Study

- Part I: Tamil
- Part II: English
- Part III:
 - 1. Core Subjects
 - 2. Allied Subjects
 - 3. Electives

Part IV :

- 1. Non Major Electives
- 2. Skill Based Subjects
- 3. Environmental Studies
- 4. Value Education

Part V :

Extension activities

The scheme of Examination

The components for continuous internal assessment are:

Two tests and their average	--15 marks
Seminar /Group discussion	--5 marks
Assignment	--5 marks
Total	--25 marks

Pattern of the questions paper for the continuous Internal Assessment

(For Part I, Part II, Part III, NME & Skilled Paper in Part IV)

The components for continuous internal assessment are:

Part –A

Six multiple choice questions (answer all) 6 x 01= 06 Marks

Part –B

Two questions (‘either or ‘type) 2 x 07=14 Marks

Part –C

One question out of two 1 x 10 =10 Marks

Total		30 Marks

Pattern of the question paper for the Summative Examinations:

Note: Duration- 3 hours

Part –A

Ten multiple choice questions 10 x 01 = 10 Marks
 (No Unit shall be omitted; not more than two questions from each unit.)

Part –B

Five Paragraph questions (‘either or ‘type) 5 x 07 = 35 Marks
 (One question from each Unit)

Part –C

Three Essay questions out of five 3 x 10 =30 Marks
 (One question from each Unit)

Total		75 Marks

The Scheme of Examination (Environmental Studies and Value Education)

Two tests and their average		--15 marks
Project Report		--10 marks*

Total		--25 marks

** The students as Individual or Group must visit a local area to document environmental assets – river / forest / grassland / hill / mountain – visit a local polluted site – urban / rural / industrial / agricultural – study of common plants, insects, birds – study of simple ecosystem – pond, river, hill slopes, etc.

Question Paper Pattern

Pattern of the Question Paper for Environmental Studies & Value Education only) (Internal)

Part –A

(Answer is not less than 150 words)

Four questions (‘either or ‘type) 4 x 05=20 Marks

Part –B

(Answer is not less than 400 words)

One question (‘either or ‘type) 1 x 10=10 Marks

	30 Marks
Total	30 Marks

Pattern of the Question Paper for Environmental Studies & Value Education only) (External)

Part –A

(Answer is not less than 150 words)

Five questions (either or type) 5 x 06 =30 Marks

(One question from each Unit)

Part –B

(Answer is not less than 400 words)

Three questions out of Five 3 x 15 = 45 Marks
each unit (One question from each Unit)

	75 Marks
Total	75 Marks

Minimum Marks for a Pass

40% of the aggregate (Internal +Summative Examinations).

No separate pass minimum for the Internal Examinations.

27 marks out of 75 is the pass minimum for the Summative Examinations.

PROGRAMME SPECIFIC OUTCOMES

- PSO1:** To enable the students to pursue further studies in advanced computer science and computational mathematics.
- PSO2:** To develop the skills to create software applications using a systematic approach
- PSO3:** To know the relationships between graph theory and networks and to provide the necessary basic concepts of a few statistical and numerical methods and give procedures for solving numerically different kinds of problems
- PSO4:** To evaluate indefinite integrals by basic integration formula and substitution rule and to enhance the ability to identify assess and interpret complex situations using mathematical Methods.

MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS)
B.Sc (Mathematics (CA))

Course Pattern

Study Component	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem	Total Hours	Total Credit	No.of courses	Total marks
Part – I Tamil	6(3)	6(3)	6(3)	6(3)			24	12	4	400
Part –II English	6(3)	6(3)	6(3)	6(3)			24	12	4	400
Part –III										
Core Subjects	6(4)	6(5)	5(5) 5(5)	5(5) 5(5)	5(5) 5(5) 6(5) 6(5)	5(5) 5(5) 6(5) 6(5)	76	69	14	1400
Elective Subjects					6(5)	6(5)	12	10	2	200
Allied Subjects	6(4)	4(3)	4(3)	6(4)			20	14	4	400
Allied Subjects (P)		2(1)	2(1)				4	2	2	200
Allied Mathematics										
For B.Sc CS	4(4)	4(4)	4(4)	4(4)		-	16	16	4	400
For B.Sc IT	4(4)	4(4)	4(4)	-		2(2)	14	14	4	400
For B.Sc E&C	-	4(3)	-	6(4)		-	10	7	2	200
For B.C.A	4(4)	4(4)	-	-		-	8	8	2	200
For B.Sc Chemistry			4(4)	4(4)	6(4)	6(4)	20	16	4	400
Part-IV										
Skill Based Subject	2(2) 2(2)	2(2) 2(2)			2(2)	2(2)	12	12	6	600
Environmental Studies / Value Education	2(2)	2(2)					4	4	2	200
Non major elective			2(2)	2(2)			4	4	2	200
Part V										
Extension activities				0(1)			0	1	1	100
Total	30 (20)	30 (21)	30 (22)	30 (23)	30 (27)	30 (27)	180	140	41	4100

SEMESTER –III							
18UTAG31	Part –I Tamil காப்பிய இலக்கியமும் சிறுகதையும்	1	6	3	25	75	100
18UENG31	Part –II English Exploring Language Through Literature-III	1	6	3	25	75	100
18UMCC31	Part –III Core Subjects Integral Calculus	1	5	5	25	75	100
18UMCC32	Sequences and Series	1	5	5	25	75	100
18UMCA31	Part-III Allied Subject Programming in C ++	1	4	3	25	75	100
18UMCAP2	Programming in C ++ - Lab	1	2	1	40	60	100
18UMCN31	Part –IV Non Major Elective Arithmetic and Mental Ability - I	1	2	2	25	75	100
Total		7	30	22	190	510	700

SEMESTER- IV							
18UTAG41	Part –I Tamil பழந்தமிழ் இலக்கியமும் புதினமும்	1	6	3	25	75	100
18UENG41	Part –II English Exploring Language Through Literature-IV	1	6	3	25	75	100
18UMCC41	Part –III Core Subjects Analytical Geometry 3D and Vector Calculus	1	5	5	25	75	100
18UMCC42	Statistics - I	1	5	5	25	75	100
18UMCA41	Part-III Allied Subject Python Programming	1	6	4	25	75	100
18UMCN41	Part –IV Non Major Elective Arithmetic and Mental Ability - II	1	2	2	25	75	100
18UEAG40- 18UEAG49	Part V- Extension Activities	1	-	1	100	-	100
Total		7	30	23	250	450	700



MANNAR THIRUMALAI NAICKER COLLEGE (AUTONOMOUS)
DEPARTMENT OF MATHEMATICS WITH CA
(For those who joined in 2018-2019 and after)

Programme	: UG	Part III	: Core
Semester	: III	Hours per week	: 05
Sub code	: 18UMCC31	Credit	: 05

INTEGRAL CALCULUS

Course Outcomes

CO1: To give an idea about the properties of definite integrals.

CO2: To apply integral calculus to evaluate double and triple integrals.

CO3: To understand the basic concepts interchanging Cartesian to polar co-ordinates.

CO4: To understand the various properties of Beta and Gamma functions.

UNIT I

Integration of rational algebraic functions –Special cases – Integration of irrational algebraic functions – Properties of definite integrals.

UNIT II

Integration by parts– Reduction formulae for $\sin^n x$, $\cos^n x$, $\tan^n x$, $\operatorname{cosec}^n x$, $\sin^m x \cos^n x$ – Bernoulli's formula.

UNIT III

Evaluation of double integral – Changing of order of integration– Double integral in Polar co- ordinates – Triple integral.

UNIT IV

Jacobian – Change of variables in the case of two variable and three variables – Transformation from Cartesian to polar coordinate – Transformation from Cartesian to spherical coordinates.

UNIT V

Properties – relation between Beta and Gamma functions – Recurrence formula.

Text Book:

1. Narayanan.S and Manickavasagam Pillai.T.K, **Calculus Volume II**, (2015)

Unit I : Chapter 1 : 7.3, 7.4, 7.5, 8, 11

Unit II : Chapter 1: 12,13,15.1

Unit III: Chapter 5 : 2.1, 2.2, 3.1, 4

Unit IV : Chapter 6: 1.1, 1.2, 2.1,2.2,2.3,2.4

Unit V: Chapter 7: 2.1, 2.2, 2.3, 3, 4, 5

Reference books :

1. Bali.N.P, **Integral Calculus**, Laxmi Publications, (1991), Delhi.
2. Arumugam.S and Isaac, **Calculus**, New Gamma Publishing House, 2008, Palayamkottai.
3. George B.Thomas, Maurice D.Weir and Joel Hass **Calculus**, 12th Edition, Pearson Education, 2015.



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Programme	: UG	Part III	: Core
Semester	: III	Hours per week	: 05
Sub code	: 18UMCC32	Credit	: 05

SEQUENCES AND SERIES

Course Outcomes

CO1: To learn about sequences through examples.

CO2 : To introduce infinite series and alternative series.

CO3: To familiarize the application of series in Trigonometry.

CO4: To understand how the elementary functions can be defined by power series, with an ability to deduce some of their easier properties.

Unit- I:

Sequences - Bounded Sequences – Bounded above Sequences– Bounded below Sequences- Monotonic Sequences - Monotonic Increasing Sequences - Monotonic decreasing Sequences.

Unit – II:

Convergent Sequences – limit of the sequence – Theorems - Divergent and Oscillating Sequences – Sequences diverging to ∞ - Sequences diverging to $-\infty$ - Finitely Oscillating Sequences -Infinitely Oscillating Sequences - Algebra of limits - Theorems.

Unit – III:

Subsequences – Limit points – Cauchy sequences – Theorems - The Upper and Lower limits of a sequence – Theorems and Problems .

Unit - IV:

Infinite series – Comparison test – Theorems and Problems.

Unit – V:

Kummer's Test –D' Alembert's ratio test –Raabe's Test – De Morgan and Bertrand's test - Gauss's Test- Problems - Cauchy's Root test and Cauchy's Condensation test – Problems.

Text Book:

1. Arumugam.S and Issac, **Sequences and Series**, New Gamma Publishing House, 2003, Palayamkottai.

Unit I	Chapter 3: Section 3.1 to 3.3
Unit II	Chapter 3 Section 3.4 to 3.6.
Unit III :	Chapter 3 Section 3.9 to 3.12.
Unit IV	Chapter 4: Section 4.1 to 4.2
Unit V	Chapter 4: Section 4.3 & 4.4.

Reference Books:

1. Arumugam.S and Thangapandi Issac, **Classical Algebra**, New Gamma Publications, Edition 2003, Palayamkottai.
2. Chandra Sekara Rao.K and K.S.Narayanan, **Real Analysis**, Volume –I, S.Viswanathan Pvt.Ltd, 2008, Chennai.
3. Jain.M.L, **Sequence & Series**, Jeevanson's Publications, 2016.



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DEPARTMENT OF MATHEMATICS WITH CA
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Programme : UG	Part III	: Allied
Semester : III	Hours per week	: 04
Subject Code : 18UMCA31	Credit	: 03

PROGRAMMING IN C++

Course Outcomes

CO1: To gain the knowledge of Object Oriented Programming concepts.

CO2: To make the students acquainted with the structure of C++ programs.

CO3: To develop the program writing skills.

CO4: To understand advanced features of C++ specifically Operator overloading and Inheritance.

Unit - I

Principles of object oriented programming: Object oriented programming paradigm – Basic concepts – Benefits of OOP – Object-oriented languages – Applications of OOP – Structure of C++ program – Tokens – Keywords – Identifiers and Constants – Data types – Operators in C++ - Expressions and their types - Operator overloading - Control structures .

Unit - II

Functions in C++ : The main function - Function prototyping – Call by reference - Return by reference – Inline functions - Default arguments – const arguments - Function overloading - Friend and Virtual functions – Math Library Function.

Unit - III

Classes and objects: Specifying a class – Defining Member functions – A C++ program with class - Arrays within a class – Arrays of objects – friendly functions – Returning objects – Pointers to members.

Unit - IV

Constructors and destructors: Constructors - Parameterized Constructors - Multiple Constructors in a class - Constructors with default arguments - Dynamic initialization of objects – Copy constructor – Dynamic constructors – Constructing two-dimensional arrays – const objects – Destructors.

Unit - V

Operator overloading and Type Conversions: Defining Operator overloading - Overloading unary operators – Overloading binary operators – Rules for overloading operators.

Inheritance: Defining Derived classes - Single Inheritance – Multilevel Inheritance.

Text Book:

1. Balagurusamy.E, **Object Oriented Programming with C++**, Tata McGraw-Hill Publishing Company Limited, Fourth Edition, Sixth reprint 2009, New Delhi.

Unit I	-	Chapter 1: Sections : 1.4 - 1.8
		Chapter 2: Section : 2.6
		Chapter 3: Sections : 3.2 -3.7, 3.13, 3.19, 3.22, 3.24
Unit II	-	Chapter 4 (Full)
Unit III	-	Chapter 5: Sections : 5.3, 5.4, 5.5, 5.9, 5.13, 5.15, 5.16, 5.18
Unit IV	-	Chapter 6 (Full)
Unit V	-	Chapter 7: Sections : 7.1 - 7.4, 7.7
	-	Chapter 8: Sections : 8.2, 8.3, 8.5

Reference Books:

1. Bjarne Stroustrup, **The C++ Programming Language**, Addison-Wesley, 1999, New York.
2. Robert Lafore, **Object-Oriented Programming in Microsoft C++**, Galgotia Publications, 2000, New Delhi.
3. [Ravichandran](#).D, **Programming with C++**, Tata McGraw-Hill Education (India) Private Limited, 3rd Edition, 2011, New Delhi.



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Programme : UG **Part III** **: Allied**
Semester : III **Hours per week** **: 02**
Subject Code : 18UMCAP2 **Credit** **: 01**

PROGRAMMING IN C++ - LAB

Course Outcomes

CO1: To gain the knowledge of Object Oriented Programming concepts.

CO2: To make the students acquainted with the structure of C++ programs.

CO3: To develop the program writing skills.

CO4: To understand advanced features of C++ specifically Operator overloading and Inheritance.

1. Function using Call by value.
2. Function using Call by reference.
3. Function using Returning different data types.
4. In-line function.
5. Finding volumes of cube, cuboid and cylinder.
6. Functions with default arguments.
7. Virtual function.
8. Arrays within a class.
9. Arrays of objects.
10. Class with Constructors.
11. Copy Constructor.
12. Unary Operator overloading.
13. Binary Operator overloading.
14. Single inheritance.
15. Multilevel inheritance.

Text Book:

1. Balagurusamy. E, **Object Oriented Programming with C++**, Tata McGraw-Hill Publishing Company Limited, Fourth Edition, Sixth reprint 2009, New Delhi.

Reference Books:

1. Bjarne Stroustrup, **The C++ Programming Language**, Addison-Wesley, 1999, New York.
2. Robert Lafore, **Object-Oriented Programming in Microsoft C++**, Galgotia Publications, 2000, New Delhi.
3. [Ravichandran](#). D, **Programming with C++**, Tata McGraw-Hill Education (India) Private Limited, 3rd Edition, 2011, New Delhi.



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Programme : UG	Part IV	: NME
Semester : III	Hours per week	: 02
Subject code : 18UMCN31	Credit	: 02

ARITHMETIC AND MENTAL ABILITY – I

Course Outcomes

- CO1:** To introduce basic concepts of Mathematics.
CO2: To develop the computational skills.
CO3: To improve required skills to face competitive examinations.
CO4: To create skills in solving real life word problems.

Unit I:

HCF and LCM of numbers.

Unit II:

Simplification.

Unit III:

Average.

Unit IV:

Problems on ages.

Unit V:

Ratio and Proportion.

Text Book:

1. Aggarwal.R.S, **Quantitative Aptitude**, 7th Fully Revised Edition, S.Chand & Company Limited, Reprint 2008, New Delhi.

Unit I – Chapter 2 (All solved problems and first 10 Exercise problems)

Unit II – Chapter 4 (All solved problems and first 10 Exercise problems)

Unit III – Chapter 6 (All solved problems and first 10 Exercise problems)

Unit IV – Chapter 8 (All solved problems and first 10 Exercise problems)

Unit V – Chapter 12 (All solved problems and first 10 Exercise problems)

Reference Books:

1. AbhigitGuha, **Quantitative Aptitude**, 4th Edition, Tata Mc-Graw Hill Publication, 2011, New Delhi.
2. MohanRao.U, **Quantitative Aptitude**, Scitech Publications, Reprint 2013, Chennai.
3. Dipak Kumar Yugnirmal, **Quantitative Aptitude**, Unicorn books Pvt Ltd., 2016, New Delhi.



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Programme	: UG	Part III	: Core
Semester	: IV	Hours per week	: 05
Sub code	: 18UMCC41	Credit	: 05

ANALYTICAL GEOMETRY 3D AND VECTOR CALCULUS

Course Outcomes:

- CO1:** To understand the concepts of equation of a plane, Straight line, Sphere,
CO2: To learn the basic concepts in vector differentiation.
CO3: To acquire the knowledge of Analytical geometry of three dimensions & vector calculus.
CO4: To introduce the application of double and triple Integration.

Unit – I

The plane – Angle between two planes – Length of perpendicular – Bisecting plane – Distance between two planes.

Unit –II

The straight line – Symmetric form – Image of a line about a plane – A plane and a straight line – Angle Between a plane and straight line, Coplanar lines – Shortest distance between two lines.

Unit –III

The Sphere – Equation of the sphere – Equation of the tangent plane – Simple problems.

Unit –IV

Vector Differentiation, Gradient – Divergence – Curl –Theorems.

Unit –V

Vector Integration – Line integrals– Surface integrals – Theorems of Green, Gauss and Stokes (statements only) – Simple Problems.

Text Book :

1. Dr. Arumugam.S and Thangapandi Isaac.A, **Analytical Geometry of three Dimensions and Vector Calculus** , New Gamma Publications, Reprint 2017, Palayamkottai.

Unit I	–	Chapter 2 Full
Unit II	–	Chapter 3 : Section 3.1 and 3.2
Unit III	–	Chapter 4 : Full
Unit IV	–	Chapter 5 : Full
Unit V	–	Chapter 7 : Full

Reference Books:

1. Manicka Vasagam Pillai and Natarajan, **Analytical Geometry of three Dimensions and Vector Calculus**, S.Viswanathan Printers and Publishers Pvt. Ltd., Reprint 2001, Chennai.
2. Durairpandian. P, Laxmidurai pandian and D.Muhilan, **Analytical Geometry of two Dimensions**, Emerald Publishers, Reprint, 1985, Chennai.
3. Dr. Venkataraman.M.K and Mrs. Manorama Sridhar, Calculus and Fourier series, The National Publishing Company, Chennai.



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DEPARTMENT OF MATHEMATICS WITH CA
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Programme	: UG	Part III	: Core
Semester	: IV	Hours per week	: 05
Sub code	: 18UMCC42	Credit	: 05

STATISTICS - I

Course Outcomes

- CO1:** To develop skills in basic statistical concepts.
CO2: To introduce Correlation and Regression.
CO3: To learn about various techniques on curve fitting.
CO4: To imply all kinds of attributes in statistics.

Unit – I

Measures of averages – Arithmetic Mean - Median-Quartile Deviation – Mode- Geometric Mean – Harmonic Mean- Measures of dispersion – Standard Deviation – Skewness and Kurtosis based on moments.

Unit –II

Correlation - Correlation Coefficient.- Problems - Rank correlation Coefficient - Regression- Equation of Regression lines – Regression Coefficients – Angle between Regression lines.

Unit – III

Index numbers - Aggregate method – Average of price relatives method – Weighted Index numbers – Laspeyre’s Index number- , Paasche’s Index number- Marshall -Edgeworth ‘s Index number- Bowley’s Index number – Fisher’s Index number – Kelley’s Index number – Ideal Index number- Consumer Price Index numbers and Time series.

Unit –IV

Curve fitting –Principle of Least Squares- Fitting a Straight Line – Fitting a second degree parabola – Type of Curves of the form $y = bx^a$, $y = ab^x$, $y = ae^{bx}$.

Unit –V

Theory of attributes – Positive Class Frequencies – Negative Class Frequencies -Ultimate Class Frequencies - Consistency of Data – Independence and Association of Data – Coefficient of Association – Coefficient of Colligation.

Text Book:

1. Dr .Arumugam.S & Isaac, **Statistics**, New Gamma Publications, Reprint 2012.

Unit I - Chapter 2, 3, 4

Unit II - Chapter 6

Unit III - Chapter 9, 10

Unit IV - Chapter 5

Unit V - Chapter 8

Reference books:

1. Gupta.S.C,V.K.Kapoor, **Elements of Mathematical Statistics**, Sultan Chand and Sons Publications, 2001, New Delhi.
2. R.S.N.Pillai & Bagavathi, **Practical Statistics**, S.Chand& Company Pvt Ltd, New Delhi, Reprint 2010.
3. David Freeman, **Statistics**, Viva Book Publisher, New Delhi, 2010.



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Programme	: UG	Part III	: Allied
Semester	: IV	Hours per week	: 06
Subject Code	: 18UMCA41	Credit	: 04

PYTHON PROGRAMMING

Course Outcomes:

- CO1:** To design a program to solve the problem
- CO2:** To apply a solution clearly and accurately in a program using Python.
- CO3:** To apply the best features of mathematics, engineering and natural sciences to program real life problems.
- CO4:** To develop skills in designing graphical user interfaces in Python.

UNIT I

The Way of the Program: What is a Program? – Running Python – The First Program – Arithmetic Operators – Values and Types – Formal and Natural Languages - Debugging.

Variables, Expressions and Statements: Assignment Statements- Variable Names – Expression and Statements – Script Mode - Order of Operations – String Operations - Debugging.

UNIT II

Functions: Function Calls – Math Functions – Composition – Adding New Functions – Definitions and Uses – Flow of Executions – Parameters and Arguments – Variables and Parameters Are Local – Fruitful Functions and Void Functions.

Conditionals and Recursion: Floor Division and Modulus – Boolean Expressions – Logical Operators – Conditional Execution – Alternative Execution – Chained Conditionals – Nested Conditionals – Recursion.

UNIT III

Iteration: Reassignment – Updating Variables – The while Statement – Break – Square Roots – Algorithms - Debugging. **Strings:** A String Is a Sequence – len – Traversal with a for loop – Searching – Looping and Counting – String methods – The in Operator – String Comparison.

Lists: A List Is a Sequence – List Operations – List Slices –List Methods – Map, Filter and Reduce –Deleting Elements.

UNIT IV

Dictionaries: Looping and Dictionaries – Reverse Lookup – Dictionaries and Lists – Memos.

Tuples: Tuple Assignment – Tuples as Return Values – Variable – Length Argument Tuples - Lists and Tuples – Dictionaries and Tuples.

Files: Reading and Writing – Format Operator – Filename and Paths – Catching Exceptions.

UNIT V

Classes and Objects: Attributes – Instances as Return Values – Objects Are Mutable .

Classes and Methods: Object Oriented Features – Printing Objects –The init Method - The `_str_` Method – Operator Overloading –Polymorphism.

Textbook:

1. Allen B. Downey , “**Think Python**”, Shroff publishers and distributors Pvt Ltd, Second Edition, 2015, New Delhi.

UNIT I	Chapters: 1 and 2.
UNIT II	Chapters: 3 and 5.
UNIT III	Chapters: 7, 8 and 10.
UNIT IV	Chapters: 11, 12 and 14.
UNIT V	Chapters: 15 and 17.

Reference Books:

1. John M.Zelle, “**Python Programming, An Introduction to Computer Science**”, Tom Sumner Publishers, Third Edition, 2017.
2. Paul Barry, “**Head First Python**”, O'Reilly Media Publishers, Second Edition, 2016.
3. Martin C.Brown, **Python**, McGraw Hill Education, Indian Edition, 2018.

E- Resources:

1. <https://canvas.harvard.edu/courses>
2. <https://www.udemy.com/python-django-programming-beginner-to-advance-tutorial-step-by-step/>



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Programme : UG	Part IV	: NME
Semester : IV	Hours per week	: 02
Subject code : 18UMCN41	Credit	: 02

ARITHMETIC AND MENTAL ABILITY – II

Course Outcomes

- CO1:** To develop problem solving techniques.
CO2: To improve required skills to face competitive examinations.
CO3: To introduce concepts of Pie charts.
CO4: To create skills in solving real life word problems.

Unit I:

Alligation or Mixture.

Unit II:

Simple Interest.

Unit III:

Calendar.

Unit IV:

Permutations and Combinations

Unit V:

Pie charts.

Text Book:

1. R.S.Aggarwal, **Quantitative Aptitude**, 7th Fully Revised Edition, S.Chand & Company Limited, Reprint 2008, New Delhi.

Unit I – Chapter 20 (All solved problems and first 10 Exercise problems)

Unit II – Chapter 21 (All solved problems and first 10 Exercise problems)

Unit III – Chapter 27 (All solved problems and first 10 Exercise problems)

Unit IV – Chapter 30 (All solved problems and first 10 Exercise problems)

Unit V – Chapter 38 (All problems including Exercise)

Reference Books:

1. AbhigitGuha, **Quantitative Aptitude**, 4th Edition, Tata McGraw Hill Publication, 2011, New Delhi.
2. U.MohanRao, **Quantitative Aptitude**, Scitech Publications, Reprint 2013, Chennai.
3. Dipak Kumar Yugnirmal, **Quantitative Aptitude**, Unicorn books Pvt Ltd., 2016, New Delhi.