



HAJEE KARUTHA ROWTHER HOWDIA COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University, Madurai.)

Uthamapalayam, Theni District. Pin Code: 625 533.

DEPARTMENT OF MATHEMATICS

PART – IV NME MATHEMATICS

SYLLABUS

Choice Based Credit System – CBCS

(As per TANSCH/ MKU Guidelines)

(Academic Year 2020 -2021 onwards)

Details of Course Category, Code, Credits & Title

Course Category	Course Code	Course Title	Hrs	CIAE	TEE	Max. Marks	Credits
Semester - I							
Part - IV							
NME - I	20UMAN11	Fundamental of Mathematics- I	2	25	75	100	2
Semester - II							
Part - IV							
NME - II	20UMAN21	Fundamental of Mathematics-II	2	25	75	100	2

Course Code	Course Title	Category	Total Hours	Credits
20UMAN11	Fundamentals of Mathematics-I	NME - I	30	2

Nature of Course	
Knowledge Oriented	✓
Skill Oriented	
Employability Oriented	✓
Entrepreneurship Oriented	

Course Relevance	
Local	
Regional	
National	
Global	✓

Preamble

This course provides basic knowledge in Indices, calculus, matrices and solving Polynomial equations.

Syllabus

UNIT I	6 Hours
Theory of indices – Ratio and Proportion.	
UNIT II	6 Hours
Differential calculus and Integral calculus (Simple Problems)	
UNIT III	6 Hours
Theory of Matrices – Addition, Multiplication of two matrices.	
UNIT IV	6 Hours
Finding the nth term and sum to n terms of an A. P and G.P	
UNIT V	6 Hours
Solving the quadratic equations – finding the roots – forming the equation when roots are given. (Only second degree)	

Text Books

Elango, C., Manoharan, M., *Business Mathematics*, Paramount Publication, 1994

Reference Books

Vittal, P.R., *Business Mathematics*, Margham Publications, Chennai, 2014

Dr. Arumugam, S., and Thangapandi Issac, A., *Calculus*, New Gamma Publishing House, Palayamkottai, 2014

Dr. Arumugam, S., and Thangapandi Issac, A., *Algebra: Theory of Equations, Theory of Numbers and Trigonometry*, New Gamma Publishing House, Palayamkottai, 2011

Pedagogy

Chalk & Talk, E-Resources, Group Discussion

Teaching aids

Black Board, LCD Projector

Course Contents and Lecture Schedule

Module No.	Topic	No. of Lectures	Content Delivery Methods
UNIT - I			
1.1	Theory of indices	2	Chalk & Talk
1.2	Ratio	2	Chalk & Talk
1.3	Proportion	2	Chalk & Talk
UNIT - II			
2.1	Differential calculus	3	Chalk & Talk
2.2	Integral calculus	3	Chalk & Talk
UNIT - III			
3.1	Theory of Matrices	2	Chalk & Talk
3.2	Addition of two matrices.	2	Chalk & Talk
3.3	Multiplication of two matrices.	2	Chalk & Talk
UNIT - IV			
4.1	Finding the nth term and sum to n terms of an A. P	3	Chalk & Talk
4.2	Finding the nth term and sum to n terms of and G.P	3	Chalk & Talk
UNIT - V			
5.1	Solving the quadratic equations	2	Chalk & Talk
5.2	finding the roots	2	Chalk & Talk
5.3	forming the equation when roots are given	2	Chalk & Talk
Total		30	

Course Designer

Dr. S. Seyadali Fathima

Assistant Professor of Mathematics

Course Code	Course Title	Category	Total Hours	Credits
20UMAN21	Fundamental of Mathematics-II	NME-II	30	2

Nature of Course	
Knowledge Oriented	✓
Skill Oriented	
Employability Oriented	✓
Entrepreneurship Oriented	

Course Relevance	
Local	
Regional	
National	✓
Global	

Preamble

The course deals with mathematical methods used in various disciplines. The course is designed to provide the basic concepts of data analysis, statistical computation.

Syllabus

UNIT I 6 Hours

Central tendencies: – Mean and Median.

UNIT II 6 Hours

Dispersion: – Range, Quartile deviation, standard deviation

UNIT III 6 Hours

Correlation: – Pearson 's coefficient of correlation, rank correlation coefficient

UNIT IV 6 Hours

Index numbers: –calculation of indices using simple aggregate method and average of price relative methods- weighted index numbers- Laspeyre's, Paasche's and Fisher's index numbers.

UNIT V 6 Hours

Curve fitting: – Fitting of a straight line and parabola.

Text Books

Dr. Arumugam,S.,and Thangapandi Issac,A., *Statistics*, New Gamma publications, Palayamkottai,2015

UNIT-I: Chapter 2: Section:2.1. to 2.2, page no(11-44)

UNIT-II: Chapter 3: Section:3.1, page no(60-80)

UNIT-III: Chapter 6: Section:6.1.0 to 6.2 ,page no(106-128)

UNIT-IV : Chapter 9: Section:9.1,page no(229-248)

UNIT-V : Chapter 5: Section:5.1, page no(95-105)

Reference Books

Gupta. S.C., and Kapoor, *Fundamentals of Mathematical Statistics*, Sultan Chand & sons, New Delhi, 2007, Eleventh edition.

Vittal. P.R., *Mathematical Statistics*, Margham Publications, Chennai, 2013

Pedagogy

Chalk & Talk, E-Resources, Group Discussion

Teaching aids

Black Board, LCD Projector

Course Contents and Lecture Schedule

Module No.	Topic	No. of Lectures	Content Delivery Methods
UNIT - I			
1.1	Mean	3	Chalk & Talk
1.2	Median.	3	Chalk & Talk
UNIT - II			
2.1	Range	1	Discussion
2.2	Quartile deviation	2	Chalk & Talk
2.3	standard deviation	3	E-Resources
UNIT - III			
3.1	Pearson's coefficient of correlation	3	E-Resources
3.2	rank correlation coefficient	3	Chalk & Talk
UNIT - IV			
4.1	calculation of indices using simple aggregate method	1	Chalk & Talk
4.2	average of price relative methods	2	Chalk & Talk
4.3	weighted index numbers	1	Chalk & Talk
4.4	Laspeyre's, Paasche's and Fisher's index numbers.	2	Chalk & Talk
UNIT - V			
5.1	Fitting of a straight line	3	Chalk & Talk
5.2	parabola.	3	Chalk & Talk
Total		30	

Course Designer

Dr. S. Seyadali Fathima

Assistant Professor of Mathematics