BHARATHIDASAN UNIVERSITY   **TIRUCHIRAPPALLI - 620 024.**

B.Sc. MATHEMATICS

CHOICE BASED CREDIT SYSTEM –

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS - LOCF)

(Applicable to the candidates admitted from the academic year 2022-2023 onwards)

(For the 2024-2025 batch, the Naan Mudhalvan scheme has been implemented in the 2nd semester)

Sem.	Part	Course	Title	Ins. Hrs	Credit	Exam Hours	Marks Int.	Marks Ext.	Total
I	I	Language Course – I (LC) Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - I (ELC)		6	3	3	25	75	100
	III	Core Course – I (CC)	Differential Calculus and Trigonometry	5	5	3	25	75	100
		Core Course – II (CC)	Integral Calculus and Fourier Series	5	4	3	25	75	100
		First Allied Course – I (AC)	Computer Science / Physics / Financial Accounting	4	4	3	25	75	100
		First Allied Practical (AP)	Physics / Computer Science	2	-	-	-	-	-
		First Allied Course – II (AC)	Financial Accounting						
	IV	Value Education		2	2	3	25	75	100
		TOTAL		**30**	**21**	**-**	**-**	**-**	**600**
II	I	Language Course - II (LC) Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - II (ELC)		4	3	3	25	75	100
	III	Core Course – III (CC)	Differential Equations	5	5	3	25	75	100
		Core Course – IV (CC)	Analytical Geometry 3D	5	4	3	25	75	100
		First Allied Practical (AP)	Computer Science / Physics	2	2	3	40	60	100
		First Allied Course – II (AC)	Financial Accounting			3	25	75	
		First Allied Course – II (AC)	Computer Science / Physics	4	4	3	25	75	100
		First Allied Course – III (AC)	Financial Accounting						
		Add on Course – I ##	Professional English- I	*6	4	3	25	75	100
	IV	Environmental Studies		2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Overview of English Language Communication	2	2	3	25	75	100
		TOTAL		**30**	**29**	**-**	**-**	**-**	**900**

1

III	III	Language Course – III (LC) Tamil $ / Other Languages + #		6	3	3	25	75	100
		English Course – III (ELC)		6	3	3	25	75	100
		Core Course – V (CC)	Classical Algebra and Theory of Numbers	5	5	3	25	75	100
		Core Course – VI (CC)	Sequence and Series	5	4	3	25	75	100
		Second Allied Course – I (AC)	Chemistry / Mathematical Statistics / Management Accounting	4	4	3	25	75	100
		Second Allied Practical (AP)	Chemistry / Mathematical Statistics	2	-	-	-	-	-
		Second Allied Course – II (AC)	Management Accounting						
		Add on Course – II ##	Professional English - II	6*	4	3	25	75	100
	IV	Non-Major Elective I @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level **or** b) Special Tamil if Tamil language was studied upto 10th & 12th std.	Quantitative Aptitude I	2	2	3	25	75	100
		TOTAL		**30**	**25**	**-**	**-**	**-**	**700**
IV	I	Language Course –IV (LC) Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course – IV (ELC)		6	3	3	25	75	100
	III	Core Course - VII (CC)	Vector Calculus and Laplace Transforms	5	5	3	25	75	100
		Core Course – VIII (CC)	Abstract Algebra	5	4	3	25	75	100
		Second Allied Practical (AP)	Chemistry / Mathematical Statistics	2	2	3	40	60	100
		Second Allied Course – II (AC)	Management Accounting			3	25	75	
		Second Allied Course – II (AC)	Chemistry / Mathematical Statistics	4	4	3	25	75	100
		Second Allied Course – III (AC)	Management Accounting	4		3	25	75	
	IV	Non-Major Elective II @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either Basic Tamil if Tamil language was not studied in school level **or** Special Tamil if Tamil language was studied upto 10th & 12th std.	Quantitative Aptitude II	2	2	3	25	75	100
		TOTAL		**30**	**23**	**-**	**-**	**-**	**700**

V	III	Core Course -IX (CC)	Numerical Methods and MATLAB	5	5	3	25	75	100
		Core Course – X (CC)	Real Analysis	5	5	3	25	75	100
		Core Course – XI (CC)	Statics	5	5	3	25	75	100
		Core Practical – I (CP)	MATLAB Programming Lab	5	4	3	40	60	100
		Major Based Elective – I (Any one from Group - A)		5	4	3	25	75	100
	IV	Skill Based Elective I	Introduction to Latex	3	2	3	25	75	100
		Soft Skills Development		2	2	3	25	75	100
		TOTAL		**30**	**27**	**-**	**-**	**-**	**700**
VI	III	Core Course - XII (CC)	Linear Algebra	5	5	3	25	75	100
		Core Course - XIII (CC)	Complex Analysis	5	5	3	25	75	100
		Core Course - XIV (CC)	Dynamics	5	4	3	25	75	100
		Major Based Elective II (Any one from Group - B)		5	4	3	25	75	100
		Major Based Elective III (Any one from Group - C)		5	3	-	25	75	100
	IV	Skill Based Elective – II	Mathematics for Competitive Examinations	3	2	3	25	75	100
	V	Gender Studies		2	1	3	25	75	100
		Extension Activities **		-	1	-	-	-	-
		TOTAL		**30**	**25**	**-**	**-**	**-**	**700**
		GRAND TOTAL		**180**	**150**	**-**	**-**	**-**	**4300**

LIST OF ALLIED COURSES:

First Allied Course (Any one)

1. Computer Science
2. Physics
3. Financial Accounting

Second Allied Course (Any one)

1. Chemistry
2. Mathematical Statistics
3. Management Accounting

LIST OF MAJOR BASED ELECTIVE COURSES:

Group A (Any one)

1. Operations Research
2. Stochastic Processes

Group B (Any one)

1. Graph Theory
2. Introduction to Python Programming

Group C (Any one)

1. Astronomy
2. Number Theory

Sl. No.	Part	Types of the Course	No. of Courses	No. of Credits	Marks
1.	I	Language Courses	4	12	400
2.	II	English Courses	4	12	400
3.		Core Courses	14	70	1400
4.		Core Practical	1	4	100
5.		Allied Courses I & II	4	16	400
6.	III	Allied Practical	2	4	200
7.		Major Based Elective Courses	3	6	300
8.		Add –on Course (Professional English I & II)	2	8	200
9.		Non Major Elective Courses	2	4	200
10.		Skill Based Elective Courses	2	4	200
11.	IV	Soft Skill Development	1	2	100
12.		Value Education	1	2	100
13.		Environmental Studies	1	2	100
14.	V	Gender Studies	1	1	100
15.		Extension Activities	1	1	--
16.	VI	Naan Mudhalvan Scheme	1	2	100
		Total	**44**	**150**	**4300**

PROGRAMME LEARNING OBJECTIVES:

- To have a comprehension of the instruments required to have the option to quantitatively examine and comprehend the common and social world,
- To be able to take care of issues, think scientifically, and reason quantitatively.
- To be able to get to and convey Mathematical data.
- To take an interest effectively in Mathematics related occasions in particular Conferences/Seminars/Workshops and Quiz programs.

PROGRAMME OUTCOMES:

Area information: Demonstrate information on essential ideas, standards and uses of the particular science discipline.

Logical and Technical Skills: Ability to deal with/utilize suitable apparatuses/strategies/gear with a comprehension of the standard working methods, wellbeing perspectives/impediments.

Basic reasoning and Problem settling: Identify and basically break down appropriate issues in the important order utilizing proper instruments and strategies just as ways to deal with coming to feasible end results/arrangements.

Individual and collaboration: Exhibit the possibility to successfully achieve assignments freely and as a part or pioneer in various groups, and in multidisciplinary settings.

Powerful Communication: Communicate successfully in spoken and composed structure just as through electronic media with mainstream researchers just as with society on the loose.

Society: Analyse the effect of logical and innovative advances on nature and society and the requirement for reasonable improvement.

Morals: Commitment to proficient morals and duties.

Deep-rooted learning: Ability to participate in long-lasting learning with regard to the fast advancements in the control.

PROGRAMME SPECIFIC OUTCOMES:

- Explicate the concepts of pure and applied Mathematics by demonstrating the knowledge and understanding of the mathematical principles in multidisciplinary environments.
- Demonstrate a computational ability in solving a wide array of mathematical problems.
- Utilize mathematical skills of the logical and scientific approach.
- Appreciate the beauty of Mathematics with the attainment of proficiency in problem solving, computational skills, critical thinking, technical and quantitative reasoning.

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