

FATIMA COLLEGE (AUTONOMOUS)



**Re-Accredited with “A” Grade by NAAC (3rd Cycle)
74th Rank in India Ranking 2020 (NIRF) by MHRD
Maryland, Madurai- 625 018, Tamil Nadu, India**

NAME OF THE DEPARTMENT: MATHEMATICS

NAME OF THE PROGRAMME : B.Sc

PROGRAMME CODE : UAMA

ACADEMIC YEAR : 2021 – 2022

Minutes of the Board of Studies,
Department of Mathematics
To be implemented from 2021-2022 onwards

Venue : Maths Department

Convened on : 10.04.2021

Convened at : 10.30 am

Members Present : (Names with Initial and Designation)

- | | | |
|---|---|--------------------|
| 1 | Dr. Pandia Raja
Principal
Thyagaraja College,
Madurai - 625009.
Mail ID : pandiaraja.d@gmail.com | University Nominee |
| 2 | Dr. M. Navaneethakrishnan
Associate Professor & Head
Department of Mathematics
Kamaraj College
Thoothukudi - 628003
Mail ID : navaneethan65@yahoo.co.in | Subject Expert |
| 3 | Dr. D. Mathuramakrishnan
Dean of Science
Head of the Department
Department of Mathematics
National College
Trichy - 620001
Mail ID : dmathuramakrishnan@gmail.com | Subject Expert |

4.	Ms. S. Sindhuja Senior Statistical Officer National Statistical Office (FOD) Ministry of Statistics and Programme Implementation B wing 2 nd Floor, Shastri Bhavan Haddons Road Nungambakkam, Chennai-600006	Industrialist
5.	Dr. K. P. V. Preethi Assistant Professor Department of Mathematics Saiva Bhanu Kshatriya College Aruppukottai - 626101 Mail ID: vpreethi90@yahoo.com	Alumna
6.	Mrs. A. Paulin Mary	Head of the Dept.
7.	1. Mrs. A. Shree Roselin 2. Dr. Sr. M. Fatima Mary 3. Dr. C. Prasanna Devi 4. Dr. E. Helena 5. Mrs. Nigila Ragavan 6. Mrs. M. Teresa Nirmala 7. Dr. V. Vanitha 8. Mrs. R. Jenovi Rosary Deepa 9. Mrs. B. Vethamary Jacqueline 10. Mrs. J. Annal Mercy 11. Dr. K. Amutha 12. Dr. M. Rasi	Staff Members

Minutes of the Board of Studies.

1. Presentation of the Action Taken Report.

Action Taken Report for 2020-2021-UG.

S.No	Common Suggestion Offered in the Previous Board.	Action Taken For the Academic Year 2020-21
1.	The Board approved 10% Self Study Components for all UG Papers	The approved 10% Self Study Components for all UG papers was incorporated in the Syllabus.
2.	The Board passed the Syllabi for new Self-learning Course, "History of Mathematics," (19UGSLMI) for advanced learners of III UG.	The Syllabi passed by the Board for new Self-learning Course, "History of Mathematics" (19UGSLMI) for advanced learners of III UG was implemented.

Action Taken Report for 2020-2021 PG.

S.No	Common Suggestion offered in the Previous Board	Action Taken for the Academic Year 2020-21
1.	The Board approved 20% Self Study Component for all PG Papers.	The approved 20% Self Study Components for all PG papers was incorporated in the Syllabus.
2.	The Board passed the Syllabi for new Self-learning Course, "Problems	The Syllabus passed by the Board for new Self-learning Course, "Problems

in 'Advanced Mathematics' (19PGSLMI) for advanced learners of II PG.

in 'Advanced Mathematics' (19PGSLMI) for advanced learners of II PG. was implemented.

Change of Course Title - Nil.

S.No	Old Course Code	New Course Code	Old Course Title	New Course Title	Need for change.
-	-	-	-	-	-

New Courses introduced - UG.

S.No	Course Code	Course Title	Relevance To				Scope for			Need for Introduction.
			L	R	N	G	EMP	ENTRE	SD	
1.	19UGSLMI	History of Mathematics				✓	✓			Enable the students to know the origin and development of Mathematics and to know about various Mathematicians

New Courses introduced - PG.

S.No	Course Code	Course Title	Relevance to				Scope for			Need for Introduction
			L	R	N	G	EMP	ENTRE	SD	
1.	19PGSLMI	Problems in Advanced Mathematics			✓		✓			Enable the students to solve NET based problems in various branches of Mathematics.

Revised Courses - Nil.

S.No	Course Code	Course Title	No. of Units Revised with the Revised Content	% of the Revision	Need for Revision	Relevance To	Scope for

2. Updation of open Educational Resources in the list of references of each Course - UG.

S.No	Course Code	Course Title	Details of Updation
1.	19MICC/19GICC	Calculus	1. www.tutorialspoint.com 2. www.khanacademy.org

2.	19M1CC2/19G1CC2	Classical Algebra	http://www.britannica.com
3.	21M1ACP1	Allied Maths - I	www.tutorialspoint.com
4.	19M2CC3/19G2CC3	Differential Equations	www.geogebra.org/m/7K8K8K8
5.	21M2CC4/21G2CC4	Statistics	www.statisticshowto.com
6.	21M2ACP2	Allied Mathematics - II	http://www.britannica.com

Updating of Open Educational Resources in the list of References of each Course - PG.

S.No	Course Code	Course Title	Details of Updating
1.	19PG1M1	Algebra	http://books.google.co.in/books/A+text+book+of+Algebra.html
2.	19PG1M2	Real Analysis	http://onlinelibrary.wiley.com
3.	19PG1M4	Classical Mechanics	http://www.freebookcentre.net/Physics/classical-mechanics-books.html
4.	19PG2M5	Advanced Algebra	http://books.google.com/books/A+text+book+of+Algebra.html
5.	19PG2M6	Advanced Real Analysis	http://onlinelibrary.wiley.com
6.	19PG2M7	Differential Equations	http://tutorial.math.lamar.edu/classes/de-appx

7.	19P62 m8	Graph Theory	http://nlp.stanford.edu http://www.rc.ethz.ch
----	----------	--------------	--

3. Revision of Courses - UG - nil.

Revision of Courses - Pg.

S. No	Course Code	Course Title	No & Titles of Units Revised with learning Content.	% of the Revision	Need for Revision	Relevance To	Scope for							
						L	R	N	A	EMP	ENT	REG	S	P
1.	19PC3MEI	Fuzzy Sets and its applications	Unit I: CRISP sets and Fuzzy sets : Classical Logic -an overview, Fuzzy logic Unit IV Fuzzy measure Necessity Measures	10% Removed the feed back from the students (Syllabus is too heavy for 4 hours)										

Course Code Changed - PG.

S.No	Old Course Code	New Course Code	Sub. Title
1.	19PG3ME1	21PG3ME1	Fuzzy Sets and ^{its} Applications.

4. New Courses Introduced - UG.

S.No	Course Code	Course Title	Relevance To				Scope for			Need for Introduction
			L	R	N	G	EMP	ENT RE	SD	
1.	21UGM2SL	Mathematics and Economics for Competitive Exams			✓		✓		✓	To enhance employability skills.

New Course introduced - PG.

S.No	Course Code	Course Title	Relevance To				Scope for			Need for Introduction
			L	R	N	G	EMP	ENT RE	SD	
1.	21PGM2SL	Verbal and Numerical Aptitude for National Examinations			✓		✓		✓	To enhance employability skills.

5. Introduction of Purely Skill-Embedded Certificate/Diploma/Advanced Diploma Value-Added Course other than the Value-Added Course already being offered.

S.No	Course code	Course Title	Skill Sharpened	Course outcome
1.	21UGVAM1	Verbal and Non-verbal Reasoning	Analytical Reasoning Skills	1-Develop General Mental Ability 2 Apply Analytical Reasoning 3 Understand pattern Completion tricks

6. Rubrics for Internship/Project

S-NO	C ₁ 20 marks	C ₂ 20 marks	CIA Total 40 marks	External 60 marks.
1.	Follow up after 15 days	Viva-voce after completion	-	

The Board reviewed and approved the following I B.Sc Mathematics and I M.Sc Mathematics Syllabi for I and II Semesters UG.

19 MICE1/19 GICE1 - Calculus

19 MICE2/19 GICE2 - Classical Algebra

21 MIAEP1 - Allied Mathematics - I

19 M2CC3/19 G2CC3 - Differential Equations

21 M2CC4/21 G2CC4 - Statistics

21 M2AEP2 - Allied Mathematics - II

PG

19 PG1M1 - Algebra

19 PG1M2 - Real Analysis

19 PG1M3 - Number Theory

19 PG1M4 - Classical Mechanics

19 PG1EDC/19 PG2EDC -

19 PG2M5 - Advanced Algebra

19 PG2M6 - Advanced Real Analysis

19 PG2M7 - Differential Equations

19 PG2M8 - Graph Theory.

Computer programming with C and object Oriented Programming with C++ are shifted from V Semester and VI Semester

to I year as Allied papers in I Semester and II Semester & Statistics and Advanced

Statistics will be shifted from I Semester and II Semester to Semester II and Semester IV as Major papers. 10% of the Syllabus is reduced in PC-IV Semester Elective paper "Fuzzy Sets and its applications". The board approved the Syllabus for the new Self learning Extra Credit Courses 21UGLM2SL, "Mathematics and Economics for Competitive Exams" - interdisciplinary (Offered by Mathematics and Economics Dept) which will be introduced in II Semester for IUG advanced learners and 21PCLM2SL - Verbal and Numerical Aptitude for National Examinations" - Interdisciplinary (Offered by Mathematics and English Dept) in II Semester for IPh

Advanced learners. They also approved the Syllabus of the new Value added Crash Course 21UGVAM1, "Verbal and Non verbal Reasoning". The board also approved the following Allied Courses offered by the Mathematics Department (SF) to B.Sc Statistics, BBA, and B.Sc. IT & BCA

B.Sc. Statistics

1. 21G1ACST1 - Calculus
2. 21G2ACST2 - Algebra
3. 21G3ACST3 - Linear Programming
4. 21G4ACST4 - Linear Algebra

BBA

21G2AC02 - Mathematics for Management

BSc - IT & BCA

21 G1AC1/21G1ACT1 - Discrete Mathematics

21 G2AC12/21G2ACT2 - Operations Research

Other Suggestions:

1. Credit distribution may be in proportion to number of hrs/Core/allied/elective
 - a. Core paper more teaching hours - more credits.
 - b. Allied paper - comparatively less
 - c. Then elective.
2. 10% Self Study may be in the application level not in the beginning (Unit I) for PC.
3. At PC level we should concentrate on UAC/CSIR/Research, too much weightage is given for library - 10 hrs (3 hr/semester for I PC and 2 hr/semester for II PC) that may be avoided and more papers may be introduced.
4. As we have to support the students to identify Companies/organizations for internship, it is difficult in first year PC, it should not be compulsory.
5. offering interdisciplinary papers (EDC) at PC level may dilute the core Curriculum
6. In II semester, project should be monitored by the staff, working hours may be given
7. Instead of giving internship in first year and Project in II year (PC) students

may be given option. Students those who are interested in getting jobs and pursuing higher studies can do internship and Project respectively

8. For OBE 60% internal, 30% External and 10% Survey, TANSCAE guidelines CIA - 25% and 75% External. Discuss about your 40% CIA and 60% External.
9. For Reference, the latest edition may be given

<u>Name</u>	<u>Signature</u>
1. Mrs. A. Paulin Mary	A. Paulin
2. Dr. Pandia Raja	
3. Dr. M. Navaneethakrishnan	M. Navaneethakrishnan
4. Dr. D. Mukharamakrishnan	D. Mukharamakrishnan
5. Ms. S. Sindhuja	
6. Dr. K.P.V. Preethi	V. Preethi
7. Dr. N. Malathi	N. Malathi
8. Mrs. A. Sheela Roselin	A. Sheela Roselin
9. Dr. Sr. M. Fatima Mary	M. Fatima Mary
10. Dr. C. Prasanna Devi	C. Prasanna Devi

11. Dr. E. Helena	Helena
12. Mrs. Nigile Ragavan	Nigile
13. Mrs. M. Teresa Nirmala	M. Teresa Nirmala
14. Dr. V. Vaniltha	V. Vaniltha
15. Mrs. R. Jenovi Rosary Deepa	R. Jenovi
16. Mrs. B. Veltamany Jacqueline	B. Veltamany
17. Mrs. J. Annal Mercy	J. Annal

10/04/2021

FATIMA COLLEGE (AUTONOMOUS), MADURAI-18**DEPARTMENT OF MATHEMATICS***For those who joined in June 2019 onwards***PROGRAMME CODE:****PART – I – TAMIL / FRENCH / HINDI- 12 CREDITS****PART – I – TAMIL****Offered by The Research Centre of Tamil**

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
1.	I	19TL1C1	Language-Modern Literature - பொதுத்தமிழ் - இக்கால இலக்கியம்	5	3	40	60	100
2.	II	19TL2C2	Language - Bakthi Literature - பொதுத்தமிழ் - பக்தி இலக்கியம்	5	3	40	60	100
3.	III	19TL3C3	Language- Epic Literature - பொதுத்தமிழ் - காப்பிய இலக்கியம்	5	3	40	60	100
4.	IV	19TL4C4	Language-Sangam Literature - பொதுத்தமிழ் - சங்க இலக்கியம்;	5	3	40	60	100
TOTAL				20	12			

PART – I – FRENCH

Offered by The Department of French

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
1.	I	19RL1C1	PART 1 LANGUAGE FRENCH - LE NIVEAU INTRODUCTIF	5	3	40	60	100
2.	II	19RL2C2	PART 1 LANGUAGE FRENCH - LE NIVEAU DÉCOUVERTE	5	3	40	60	100
3.	III	19RL3C3	PART 1 LANGUAGE FRENCH - LE NIVEAU INTERMEDIAIRE – LA CIVILISATION, LA LITTERATURE ET LA GRAMMAIRE	5	3	40	60	100
4.	IV	19RL4C4	PART 1 LANGUAGE FRENCH - LE NIVEAU DE SUIVRE – LA CIVILISATION, LA LITTERATURE ET LA GRAMMAIRE	5	3	40	60	100
TOTAL				20	12			

Offered by The Department of Hindi

S. NO	SE M.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
1.	I	19DL1C1	PART 1 LANGUAGE HINDI - बोलचाल की हिंदी	5	3	40	60	100
2.	II	19DL2C2	PART 1 LANGUAGE HINDI - कार्यालयीन हिंदी	5	3	40	60	100
3.	III	19DL3C3	PART 1 LANGUAGE HINDI - हिंदी साहित्य का आदिकाल और भक्तिकाल	5	3	40	60	100
4.	IV	19DL4C4	PART 1 LANGUAGE HINDI - हिंदी साहित्य का आधुनिक काल	5	3	40	60	100
TOTAL				20	12			

PART – II -ENGLISH – 12 CREDITS**Offered by The Research Centre of English**

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT . MKs
1.	I	19EL1LB/ 19EL1WB	BASIC COMMUNICATIVE ENGLISH	5	3	40	60	100
2.		19EL1LI/ 19EL1WI	INTERMEDIATE COMMUNICATIVE ENGLISH					

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT . MK s
3.		19EL1LA/ 19EL1W A	ADVANCED COMMUNICATIVE ENGLISH					
4.	II	19EL2LB/ 19EL2WB	ENGLISH COMMUNICATION SKILLS	5	3	40	60	100
5.		19EL2LI/ 19EL2WI	ENGLISH FOR EMPOWERMENT					
6.		19EL2LA/ 19EL2WA	ENGLISH FOR CREATIVE WRITING					
7.	III	19EL2LA/ 19EL2WA	ENGLISH FOR DIGITAL ERA	5	3	40	60	100
8.	IV	19EL4LN/ 19EL4WN	ENGLISH FOR INTEGRATED DEVELOPMENT	5	3	40	60	100
TOTAL				20	12			

PART – III -MAJOR, ALLIED & ELECTIVES – 95 CREDITS

MAJOR CORE COURSES INCLUDING PRACTICALS : 60 CREDITS

S. NO	SEM .	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
1.	I	19M1CC1/ 19G1CC1	Calculus	6	4	40	60	100
2.		19M1CC2/ 19G1CC2	Classical Algebra	6	4	40	60	100
3.	II	19M2CC3/ 19G2CC3	Differential Equations	6	4	40	60	100

S. NO	SEM .	COURSE CODE	COURSE TITLE	HRS	CRE DITS	CIA Mks	ESE Mks	TOT. MKs
4.		19M2CC4/ 19G2CC4	Statistics	6	4	40	60	100
5.	III	19M3CC5/ 19G3CC5	Modern Algebra	6	4	40	60	100
6.		19M3CC6/ 19G3CC6	Vector Calculus and Fourier Transforms	6	4	40	60	100
7.	IV	19M4CC7/ 19G4CC7	Sequences and Series	6	4	40	60	100
8.		19M4CC8/ 19G4CC8	Linear Algebra	6	4	40	60	100
9.	V	19M5CC9/ 19G5CC9	Real Analysis	5	4	40	60	100
10.		19M5CC10/ 19G5CC10	Statics	5	4	40	60	100
11.		19M5CC11/ 19G5CC11	Linear Programming	5	4	40	60	100
12.		19M5CC12/ 19G5CC12	Graph Theory	5	4	40	60	100
13.	VI	19M6CC13/ 19G6CC13	Complex Analysis	5	4	40	60	100
14.		19M6CC14/ 19G6CC14	Dynamics	5	4	40	60	100
15.		19M6CC15/ 19G6CC15	Operations Research	5	4	40	60	100
TOTAL				83	60			

ALLIED COURSES- 20 CREDITS

S. N O	SEM.	COURSE CODE	COURSE TITLE	HR S	CRE DITS	CIA Mks	ESE Mk s	TOT. MKs
1.	I	21B1ACM1/ 21B1ACG1	Computer Programming in C	3	5	40	60	100
2.	I	21B1ACM2/ 21B1ACG2	C-Practicals	2		40	60	100
3.	I	19P1ACM1/ 19P1ACG1	Allied Physics-I	5	5	40	60	100
4.	II	21B2ACM3/ 21B2ACG3	Object Oriented Programming with C++	3	5	40	60	100
5.	II	21B2ACM4/ 21B2ACG4	C++ - Practical	2		40	60	100
6.	II	19P2ACM2/ 19P2ACG2	Allied Physics-II	5	5	40	60	100
TOTAL				20	20			

ELECTIVES-15 CREDITS

S. No	SEM.	COURSE CODE	COURSE TITLE	H RS	CRE DITS	CIA Mks	ESE Mk s	TOT . Mks
1.	V	19M5ME1 / 19G5ME1 & 19M5MEP1 / 19G5MEP1 / 19M5ME2 / 19G5ME2	Computer Programming in C & C-Practicals / Fuzzy Mathematics	3+ 2/ 5	3+2/ 5	40+ 40/ 40	60+ 60/ 60	100 + 100 / 100
2.	VI	19M6ME3 / 19G6ME3 & 19M6MEP2 / 19G6MEP2 / 19M6ME4 / 19G6ME4	Object Oriented Programming with C++ & C++ - Practical / Theory of Numbers	3+ 2/ 5	3+2/ 5	40+ 40/ 40	60+ 60/ 60	100 + 100 / 100

S. No	SEM.	COURSE CODE	COURSE TITLE	H RS	CRE DITS	CIA Mks	ESE Mk s	TOT . Mks
3.		19M6ME5 / 19G6ME5 / 19M6ME6/ 19G6ME6	Lattices and Boolean Algebra / Discrete Mathematics	5	5	40	60	100
TOTAL				15	15			

ALLIED COURSES OFFERED FOR OTHER DEPARTMENTS

S. No	SEM.	COURSE CODE	COURSE TITLE	H RS	CRE DITS	CIA Mks	ESE Mk s	TOT . Mks
1.	I	19M1ACP1	Allied Mathematics – I (offered to Physics Department)	5	5	40	60	100
2.	II	19M2ACP2	Allied Mathematics – II (offered to Physics Department)	5	5	40	60	100
3.	III	19C3ACM1	Allied Mathematics – I (offered to Chemistry Department)	5	5	40	60	100
4.	IV	19C4ACM2	Allied Mathematics – II (offered to Chemistry Department)	5	5	40	60	100
5.	III	19B3ACM1	Linear Programming (offered to Computer Science Department)	5	5	40	60	100
6.	IV	19B4ACM2	Algebra and Graph Theory (offered to Computer Science Department)	5	5	40	60	100
7.	I	19G1ACI1/ 19G1ACJ1	Discrete Mathematics (offered to BCA & IT)	5	5	40	60	100
8.	II	19G2ACI2/ 19G2ACJ2	Operations Research (offered to BCA & IT)	5	5	40	60	100

PART – IV – 20 CREDITS

- **VALUE EDUCATION**
- **ENVIRONMENTAL AWARENESS**
- **NON-MAJOR ELECTIVE**
- **SKILL BASED COURSES**

S. No	SEM.	COURSE CODE	COURSE TITLE	H RS	CRE DITS	CIA Mks	ESE Mk s	TOT. Mks
1.	I	21G1VE1	Personal Values	1	1	40	60	100
2.		19M1NME/ 19G1NME	Quantitative Aptitude	2	2	40	60	100
3.	II	21G2VE2	Values for Life	1	1	40	60	100
4.		19M2NME/ 19G2NME	Quantitative Aptitude	2	2	40	60	100
5.	III	19G3EE1	Environmental Education	1	1	40	60	100
6.		19M3SB1/ 19G3SB1	Applications of Calculus and Differential Equations	2	2	40	60	100
7.	IV	19G4EE2	Gender Studies	1	1	40	60	100
8.		19M4SB2/ 19G4SB2	Foundations of Mathematics	2	2	40	60	100
9.	V	19M5SB3/ 19G5SB3	Data Interpretation and Analytical Aptitude	2	2	40	60	100
10.		19M5SB4/ 19G5SB4	Cryptography	2	2	40	60	100
11.	VI	19M6SB5/ 19G6SB5	MATLAB	2	2	40	60	100
12.		19M6SB6/ 19G6SB6	Combinatorial Mathematics	2	2	40	60	100
TOTAL				20	20			

PART – V – 1 CREDIT**OFF-CLASS PROGRAMMES - ALL PART-V****SHIFT - I**

S. No	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	TOT. Mks
1.	I - IV	21S4PED	Physical Education	30/ SEM	1	100
2.		21S4NSS	NSS			
3.		21S4NCC	NCC			
4.		21S4WEC	Women Empowerment Cell			
5.		21S4ACUF	AICUF			

SHIFT - II

S. No	SEM.	COURSE CODE	COURSE TITLE	HRS	CR EDI T	TOT. Mks
1.	I - IV	21S4PED	Physical Education	30/ SEM	1	100
2.		21S4YRC	Youth Red Cross			
3.		21S4NSS	NSS			
4.		21S4RTC	Rotaract			
5.		21S4WEC	Women Empowerment Cell			
6.		21S4ACUF	AICUF			

OFF-CLASS PROGRAMMES**ADD-ON COURSES**

COURSE CODE	COURSE TITLE	HR S.	CRE DITS	SEME STER IN WHIC H THE COUR SE IS OFFER ED	CIA Mks	ES E Mk s	TOT AL Mks
19UAD2CA	COMPUTER APPLICATIONS (offered by the department of PGDCA for Shift I)	40	2	I & II	40	60	100
19UADFCA	ONLINE SELF LEARNING COURSES- Foundation Course for Arts	40	2	I	40	60	100
19UADFCS	ONLINE SELF LEARNING COURSE- Foundation Course for Science	40	2	II	40	60	100
21UADES3	Social & Professional Ethics	15	1	III	40	60	100

COURSE CODE	COURSE TITLE	HR S.	CRE DITS	SEME STER IN WHIC H THE COUR SE IS OFFER ED	CIA Mks	ES E Mks	TOT AL Mks
21UADES4	Personality Development	15	1	IV	40	60	100
21UADES5	Family Life Education	15	1	V	40	60	100
21UADES6	Life Skills	15	1	VI	40	60	100
19UAD5HR	HUMAN RIGHTS	15	2	V	100	-	100
19UADRS	OUTREACH PROGRAMME- Reach Out to Society through Action ROSA	100	3	V & VI	100	-	100
19UADPR	PROJECT	30	4	VI	40	60	100
19UADRC	READING CULTURE	10/ Se mes ter	1	II-VI	-	-	-
TOTAL			20				

EXTRA CREDIT COURSES

COURSE CODE	COURSE	HR S.	CREDIT S	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA MK S	ESE MK S	TOTAL MARK S
21UGM2S LE1	Mathematics and Economics for Competitive Exams	-	2	II	40	60	100
19UGSLM1/ 19UGSLG1	History of Mathematics	-	2	VI	40	60	100
	MOOC COURSES / International Certified online Courses (Department Specific Courses/any other courses) * Students can opt other than the listed course from UGC-SWAYAM UGC / CEC	-	Minimum 2 Credits	I – VI	-	-	

OFF CLASS PROGRAMMES

21UGVAM1 – Value Added Crash Course (Verbal and Non Verbal Reasoning)

19UGVACM1 - Value Added Certificate Course (Speed Arithmetic)

19UGVAG1 – Value Added Crash Course (Computational Mathematics)

SELF LEARNING COURSE FOR I UG*For those who joined in 2021 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE		CATEGORY	HRS/WEEK
UAMA	21UGM2SLE1	Mathematics And Economics For Competitive Exams		Lecture	-

COURSE DESCRIPTION

This course is designed to extend skills in problem solving and to foster mathematical creativity

COURSE OBJECTIVES

To enhance the problem solving skills, to improve the basic mathematical skills and to help students who are preparing for any type of competitive examinations

Unit I: BASIC NUMERACY AND DATA INTERPRETATION

HCF and LCM of Numbers – Fraction – Percentage – Average – Ratio and Proportion – Problems on Simple Equations – Chain Rule – Data Interpretation

Unit II: LOGICAL REASONING AND ANALYTICAL ABILITY

Introduction – Reasoning based on Ranking - Reasoning based on Team Formations– Quantitative Reasoning – Sequences and Series – Blood Relations –Direction Test – Puzzles Test – Non-verbal Reasoning

Unit III: GENERAL MENTAL ABILITY

Introduction – Syllogisms – Logical Deductions – Statement and Conclusions –Assertion and Reason – Mathematical operations – Set theory, Venn diagrams and Network diagrams – Permutations and Combinations

Unit IV: SOCIO-ECONOMIC PROBLEMS OF INDIA

Demography of India – National Population Policy – Targets of NPP-features. Poverty – Types- Poverty line – Parameters to measure poverty – Way to reduce poverty – Tendulkar committee report. Employment and

Unemployment- underemployment – measures of unemployment in India- unemployment rate – Types of unemployment.

Unit V: MONEY, BANKING AND CAPITAL MARKETS

Money – Indian Financial Market –Money market – functions – call money market- Bill market – Commercial bills – Treasury bills – Types – promissory note – certificate of deposit – Measures of money supply in India.

Banking sector – RBI – Administration – functions – credit control by RBI – Scheduled commercial banks – foreign banks- Scheduled cooperative banks

Capital Market: Meaning – Industrial securities market-stock exchange in India- stock market indices- National stock exchange – indices of NSE – Bombay stock exchange- indices

References:

1. General Studies Paper II for Civil Services Preliminary Examination, Arun Sharma, Madhukar Kumar Bhagat, Abhijit Guha, McGraw Hill Education India Pvt. Limited, 2012
2. Test of Reasoning for Competitive Examinations, Edgar Thorpe, Tata McGraw Hill Education India Pvt. Limited, 2007
3. Numerical Ability and Quantitative Aptitude, P. K. Mittal, Galgotia Publications, Pvt Limited, 2004

COURSE OUTCOME

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Solve some real life problems on numbers	K2 & K4	PSO1
CO 2	Ability to understand logical reasoning	K3	PSO2
CO 3	Solve problems involving Permutations and Combinations	K2 & K4	PSO4
CO 4	Awareness on overall social and economic problems of India.	K1, K2 & K3	PSO3
CO 5	Gained knowledge on the functions of banking sector, money market and capital market	K2 & K4	PSO5

Mapping of COs with PSOs

CO/ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	2	2	2	2
CO2	2	3	2	2	2
CO3	2	2	2	3	2
CO4	2	2	3	2	2
CO5	2	2	2	2	3

Mapping of COs with POs

CO/ PO	PO1	PO2	PO3	PO4
CO1	3	3	2	2
CO2	2	3	2	2
CO3	3	3	2	2
CO4	2	2	3	2
CO5	2	2	2	3

Note: ☐ Strongly Correlated – **3** ☐ Moderately Correlated – **2**
 ☐ Weakly Correlated -**1**

COURSE DESIGNER:

All department staff members

Forwarded By



(Dr.A.Paulin Mary)

HOD's

Signature & Name

III B.Sc. MATHEMATICS SELF LEARNING COURSE SEMESTER- VI

For those who joined in 2019 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UAMA /USMA	19UGSLM1/ 19UGSLG1	HISTORY OF MATHEMATICS	Lecture	-	2

COURSE DESCRIPTION

This course helps the learners to study the historical development of mathematics. The emphasis will be on mathematical concepts, problem solving, and pedagogy from a historical perspective.

COURSE OBJECTIVES

Students will demonstrate their knowledge of basic historical facts; they will demonstrate understanding of the development of mathematics and mathematical thought.

UNIT I: FOUNDATION OF MATHEMATICS

The Axiomatic Method- Geometry according to Euclid- Euclid's Common Notions-Euclid's Postulates- Non-Euclidean Geometry –The formal Axiomatic Method-The Formal Axiomatic Method applied to arithmetic –The Traditional axiomatic method(Euclid's) applied to geometry- Description of the formal axiomatic method- Analysis of axiomatic method- Consistency of an axiom system- Completeness of an axiom system- Categoricalness of an axiom system- Advantages and Disadvantages of an axiomatic method.

UNIT II: THE ANCIENT, MEDIEVAL PERIOD AND MIDDLE AGE

The Beginnings- The Ancient and Medieval Period- Mesopotamia –Egypt, Greece: Thales and Pythagoras- Pythagorean arithmetic – Pythagorean geometry- The Athenian School-Hellenistic Mathematics –Alexandria Euclid, Archimedes and Apollonius- Pappus and Diophantus- The Middle Ages.

UNIT III: THE MODERN AGES

The Modern Period – The Sixteenth century: The rise of analysis- The Seventeenth Century: Descartes, Pascal, Newton Leibniz- Kepler's Laws- Newton- Leibniz – The Bernoullis – The Eighteenth Century- The Nineteenth Century- Twentieth Century: Ramanujan.

UNIT IV: HISTORY OF ALGEBRA, GEOMETRY AND CALCULUS

Algebra- Geometry- Euclidean geometry – Analytic geometry- Non-Euclidean geometry-Projective geometry- Topology and Measure theory- Calculus.

UNIT V: MEN OF MATHEMATICS

Archimedes – Aristotle – Aryabhata I – Aryabhata II- Bhaskara I- Bhaskara II-Boole-Brahmagupta- Cantor- Euler – Gauss- Hilbert- Mahavira –Narayana Pandita- Newton – Ramanujan- Riemann- Bertrand Russell- Sridhara-Varahamihira.

TEXT BOOK :

1. History of Mathematics by Narayanan .K.S and Narashimhan.K

REFERENCES:

1. History of Mathematics by Boyar, Carl B
2. History of Mathematics by Tabak , John
3. History of Mathematics by Sundaram. M

COURSE OUTCOME

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Describe the development of mathematics across and within civilizations around the world	K2 & K4	PSO4
CO 2	Explain how different cultures have affected and been affected by the history of mathematics.	K3	PSO5
CO 3	Recognize the distinction between formal and intuitive mathematics	K2 & K4	PSO3
CO 4	Research historical mathematical concepts and present the conclusions of them.	K1, K2 & K3	PSO3
CO 5	Present the history of mathematics in written forms.	K2 & K4	PSO5

Mapping of COs with PSOs

CO/ PSO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	2	1	2	3	2
CO2	2	2	2	2	3
CO3	2	2	3	2	2
CO4	2	2	3	2	2
CO5	2	2	2	2	3

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	2	2	3	2	2
CO2	2	3	2	2	2
CO3	2	2	3	2	2
CO4	2	2	2	3	2
CO5	2	3	2	2	2

Note: ☐ Strongly Correlated – 3 ☐ Moderately Correlated – 2
 ☐ Weakly Correlated -1

COURSE DESIGNER:**B.Vethamary Jacqueline****Forwarded By**

(Dr.A.Paulin Mary)**HOD's Signature & Name**