

**J. J. COLLEGE OF ARTS AND SCIENCE (Autonomous)**  
**Sivapuram, Pudukkottai – 622 422**  
**(Re-Accredited by NAAC – 4<sup>th</sup> Cycle)**  
**Affiliated to Bharathidasan University, Tiruchirappalli**  
**DEPARTMENT OF MATHEMATICS**

**Minutes of the Board of Studies Meeting**

**Meeting No.: 09**

**Date: 05 – 03 – 2024**

The Meeting of the Board of Studies in Mathematics (U.G. and P.G.) for the **sixth revision of the curricula** to be implemented from **2023-2024**, was conducted at 11.00 a.m. on Tuesday, 05.03.2024

**Members Present:**

| S.No. | Name                                                                                                                                                                | Designation                     | Signature                 |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|
| 1.    | <b>Dr. O. Uma Maheswari</b><br>Assistant Professor and Head<br>Department of Mathematics                                                                            | Chairman                        | O. Uma<br>5/3/24          |
| 2.    | <b>Dr. A. Tamilselvan</b><br>Professor and Head<br>Department of Mathematics,<br>Chair school of Mathematical Science<br>Bharathidasan University, Tiruchirappalli. | University Nominee              | A. Tamilselvan<br>5/3/24  |
| 3.    | <b>Dr. N. Anbazhagan</b><br>Professor and Head,<br>Department of Mathematics,<br>Alagappa University, Karaikudi.                                                    | Subject Expert                  | N. Anbazhagan<br>05.03.24 |
| 4.    | <b>Dr. P. Pandiyan</b><br>Professor and Head,<br>Department of Statistics,<br>Annamalai University<br>Annamalai Nagar.                                              | Subject Expert                  | P. Pandiyan<br>5/3/24     |
| 5.    | <b>Mr. A. Anandaraj</b><br>Assistant Professor                                                                                                                      | Member                          | A. Anandaraj<br>05/03/24  |
| 6.    | <b>Mr. K. Arun</b><br>Assistant Professor                                                                                                                           | Member                          | K. Arun<br>5/3/24         |
| 7.    | <b>Ms. S. Kanaka</b><br>Assistant Professor                                                                                                                         | Member                          | S. Kanaka<br>5/3/24       |
| 8.    | <b>Dr. M. Kavitha</b><br>Assistant Professor                                                                                                                        | Member                          | M. Kavitha<br>5/3/24      |
| 9.    | <b>Ms. R. Rajakumari</b><br>PG Assistant in Mathematics,<br>Government Higher Secondary School,<br>Malaiyur.                                                        | Representative from<br>Industry | ABSENT                    |
| 10.   | <b>Ms. P. Revathi</b><br>D/O VR. Pannerselvam<br>7/6 Perumalpuram street, Konapet<br>Thirumayam(TK), Pudukkottai                                                    | Alumnus                         | ABSENT                    |

The Chairman, Dr.O. Uma Maheswari chaired the meeting and welcomed all the members to the Ninth BOS Meeting. After the brief introduction the following resolutions were passed.

1. In his notification No: 1616, dated 10.08.2021, the Chief Secretary, Department of Higher Education, Government of Tamil Nadu, has given the Autonomous Colleges, the freedom to retain / reframe their syllabi, Course Structure etc., in keeping with their perceptions on Institutional / local needs.
2. The College Council at its meeting held on 16.09.2023 resolved that our Institution will gratefully accept the academic freedom and empower the Boards of Studies either to retain or to reframe their Curriculum for various Programmes under CBCS and UGC- LOCF.
3. However, the Course Structure for the U.G.& P.G. Programmes at Institutional level will have to follow a uniform pattern with minor variations depending on the discipline specific needs.
4. It is Resolved to modify and follow a total of 43 courses, 4300 marks and 141 credits for the U.G. Programmes and ~~22~~ 22 courses, 2200 marks and 90 credits for the P.G. Programmes.

**Distribution of Courses - U.G.**

| Sl.No. | Part | Courses                              | No. of Courses | No. of Credits | Marks |
|--------|------|--------------------------------------|----------------|----------------|-------|
| 1.     | I    | Language Courses                     | 4              | 12             | 400   |
| 2.     | II   | English Courses                      | 4              | 12             | 400   |
| 3.     | III  | Core Courses                         | 14             | 65             | 1400  |
| 5.     |      | Project Work                         | 1              | 04             | 100   |
| 6.     |      | Discipline Specific Elective Courses | 8              | 24             | 800   |
| 7.     | IV   | Internship                           | 1              | 02             | 100   |
| 8.     |      | Skill Enhancement Courses            | 7              | 14             | 700   |
| 9.     |      | Value Education                      | 1              | 02             | 100   |
| 10.    |      | Environmental Studies                | 1              | 02             | 100   |
| 11.    |      | Foundation Course                    | 1              | 02             | 100   |
| 12.    | V    | Gender Studies                       | 1              | 01             | 100   |
| 13.    |      | Extension Activity                   | -              | 01             | -     |
| Total  |      |                                      | 43             | 141            | 4300  |

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### Distribution of Courses - P.G.

| Sl.No.       | Types of the Courses                 | No. of Courses | No. of Credits | Marks       |
|--------------|--------------------------------------|----------------|----------------|-------------|
| 1.           | Core Courses                         | 13             | 63             | 1300        |
| 2.           | Project Work                         | 01             | 05             | 100         |
| 3.           | Discipline Specific Elective Courses | 05             | 15             | 500         |
| 4.           | Internship                           | 01             | 03             | 100         |
| 5.           | Skill Enhancement Courses            | 02             | 04             | 200         |
| <b>Total</b> |                                      | <b>22</b>      | <b>90</b>      | <b>2200</b> |

5. The Revised Syllabus has been implemented from the Academic Year 2023 – 2024 onwards. In the previous Boards of Studies meeting, the Syllabus for first two Semesters have been passed. Now in the light of the Government Communication, cited in Point No. 1, the Chairman of the Boards of Studies have introduced some changes in the Syllabus for Semester I and Semester II. Such modifications are approved and passed by this Board.
6. The Course Structure mentioned in Point No: 4 for U.G.& P.G.Programmes have already been approved and passed by the Board of studies on 02.05.2023
7. In the present revision and modification, the General instructions on Curriculum Design, Course Structure, Uniformity of standards etc., given by the UGC - LOCF, AICTE, NAAC, TANSCH and the Parent University have been scrupulously followed.
8. Following the suggestion given by the Honorable members of the Academic Council in its last meeting, a course on Gender Studies has been included.
9. Resolved to include various online courses like SWAYAM - MOOCs with extra credits. The credits thus earned will be reflected in the Cumulative Mark Statement of the students.
10. Resolved to continue offering Value Added Courses.
11. List the Courses newly introduced in UG & PG and details of Percentage of Revision carried out as an appendix.
12. Resolved to have the following Core Courses for B.Sc. Mathematics Semester wise:

#### SEMESTER I

1. Algebra and Trigonometry (It is the Core Course of previous curriculum but the unit contents are changed)
2. Differential Calculus (It is the Core Course of previous curriculum but title and unit contents are changed)

#### SEMESTER II

1. Analytical Geometry(2D &3D) (It is the Core Course of previous curriculum but the unit contents are changed)

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2. Integral Calculus (It is the Core Course of previous curriculum but the title and unit contents are changed)

### SEMESTER III

1. Vector Calculus and Fourier Series (It is the Core Course of previous curriculum but the unit contents are changed)
2. Differential Equations and Laplace Transforms (It is the Core Course of previous curriculum but the unit contents are changed)

### SEMESTER IV

1. Sequences and Series (It is the DSE Course of previous curriculum retained as it is in Core course)
2. Classical Algebra and Theory of Numbers ( This course is newly introduced)

### SEMESTER V

1. Mechanics ( This course is Retained as it is)
2. Abstract Algebra (It is the Core Course of previous curriculum but the unit contents are changed)
3. Real Analysis (It is the Core Course of previous curriculum but the unit contents are changed)
4. Operations Research (It is the Core Course of previous curriculum retained as it is)

### SEMESTER VI

1. Linear Algebra (It is the Core Course of previous curriculum but the unit contents are changed)
2. Complex Analysis (It is the Core Course of previous curriculum but the unit contents are changed)
3. Project Work (This course is in previous curriculum and Retained as it is)

## 13. Resolved to have the following Discipline Specific Elective Courses for B.Sc. Mathematics

### DSE 1

1. Numerical Methods with Applications (This course is in previous curriculum and Retained as it is)
2. Mathematical Statistics (This course is in previous curriculum and Retained as it is)

### DSE 2

1. R Programming (Practical) (Retained as it is)
2. Discrete mathematics ( This course is newly introduced)

### DSE 3 (Passed by Physics and Chemistry Department BoS)

1. Allied Physics-I
2. Allied Chemistry – I

### DSE 4 (Passed by Physics and Chemistry Department BoS)

1. Allied Physics-II(Practical)
2. Allied Chemistry-II(Practical)

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#### DSE 5

1. Numerical Methods with MATHLAB (Practical) (This course is in previous curriculum - Retained as it is)
2. Introduction to Machine Learning (This course is newly introduced)

#### DSE 6

1. Fuzzy Mathematics (This course is in previous curriculum and Retained as it is but Title Changed)
2. Combinatorial Mathematics (This course is in previous curriculum and Retained as it is)

#### DSE 7

1. Programming language with C++ (Practical) (This course is newly introduced)
2. Introduction to Data science ( This course is newly introduced)

#### DSE 8

1. Astronomy (This course is in previous curriculum and Retained as it is)
2. Graph theory and Applications (This course is in previous curriculum - Retained as it is)

### 14. Resolved to have the following Skill Enhancement Courses for B.Sc. Mathematics

#### SEMESTER I (NME) [offered to other Department]

- 1) Quantitative Aptitude-I (This course is in previous curriculum and Retained as it is)
- 2) Basic Mathematics (This course is in previous curriculum and Retained as it is)
- 3) Data analysis using R Programming (Practical) (It is newly Introduced)

#### SEMESTER II (NME) [offered to other Department]

- 4) Quantitative Aptitude-II (This course is in previous curriculum and Retained as it is)
- 5) Statistics with SPSS(Practical) (It is newly Introduced)
- 6) Bio Statistics (This course is in previous curriculum and Retained as it is)

#### SEMESTER II to VI ( SEC 3 to SEC 7)

##### SEC 3

1. A Prime on Divisibility and Number Sequences (This course is in previous curriculum and Retained as it is)

##### SEC 4

1. Data Analysis using SageMath (It is newly Introduced)
2. Computational Mathematics (It is newly Introduced)

##### SEC 5

1. Introduction to GeoGebra (It is newly Introduced)

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2. Theory of Games and Decision Theory (This course is in previous curriculum and Retained as it is)

#### SEC 6

1. Mathematics for Competitive Examination- I (This course is in previous curriculum and Retained as it is)
2. Data Analysis using SPSS (Practical) (It is newly Introduced)

#### SEC 7

1. Mathematics for Competitive Examination- II (It is newly Introduced)
2. Introduction to LATEX (Practical) (It is newly Introduced)

15. Resolved to **introduce Internship** for UG in the fifth semester (Carried out in IV Semester Vacation) and Internship for PG in third Semester (during the II Semester vacation)

16. Resolved to **introduce the Foundation Course** - Bridge Mathematics in Semester I

17. Resolved to have the following Core Courses for M.Sc. Mathematics

#### SEMESTER I

1. Algebraic structures (It is the Core Course of previous curriculum but the unit contents are changed)
2. Real Analysis- I (This course is newly introduced with same Title)
3. Ordinary Differential Equations (This course is in previous curriculum -Retained as it is)

#### SEMESTER II

1. Advanced Algebra ( This course is newly introduced)
2. Real analysis-II ( This course is newly introduced with same title)
3. Partial Differential Equations (This course is newly introduced with same Title)

#### SEMESTER III

1. Complex Analysis (This course is in previous curriculum -Retained as it is)
2. Fluid Dynamics (This course is newly introduced)
4. Topology (It is the Core Course of previous curriculum but the unit contents are changed)
3. Numerical Analysis ( This course is newly introduced)

#### SEMESTER IV

1. Functional Analysis (This course is in previous curriculum -Retained as it is)
2. Differential Geometry ( This course is newly introduced)
3. Stochastic Processes (This course is in previous curriculum -Retained as it is)
4. Project Work (This course is in previous curriculum -Retained as it is)

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**18. Resolved to have the following Discipline Specific Elective Courses, Skill Enhancement Courses and Generic Elective Courses for M.Sc. Mathematics Semester wise**

**SEMESTER I**

**DSE I**

1. Number theory and Cryptography ( This course is newly introduced)
2. Graph theory and Applications ( This course is newly introduced)
3. Formal Languages and Automata Theory ( This course is newly introduced)
4. Programming in C++ and Numerical methods (Practical) ( This course is newly introduced)

**DSE II**

1. Lie Groups and Lie Algebras ( This course is newly introduced)
2. Mathematical Programming (It is the Core Course of previous curriculum but the title and unit contents are changed)
3. Fuzzy sets and their Applications ((It is the Core Course of previous curriculum but the unit contents are changed)
4. Discrete Mathematics ( This course is newly introduced)

**SEMESTER II**

**DSE III**

1. Algebraic topology ( This course is newly introduced)
2. Mathematical statistics (This course is in previous curriculum -Retained as it is)
3. Statistics data analysis using R Programming (Practical) ( This course is newly introduced)
4. Tensor analysis and Relativity ( This course is newly introduced)

**DSE IV**

1. Wavelets ( This course is newly introduced)
2. Modeling and Simulation with Excel ( This course is newly introduced)
3. Machine Learning and Artificial Intelligence ( This course is newly introduced)
4. Neural Networks ( This course is newly introduced)

**SEMESTER III**

**DSE V**

1. Calculus of Variations and Integral Equations (This course is in previous curriculum -Retained as it is)
2. Advanced Number theory ( This course is newly introduced)
3. Ethical Attitude in Mathematical Research (This course is in previous curriculum - Retained as it is)
4. Programming in MATHLAB (Practical) (This course is in previous curriculum - Retained as it is)

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**19. Resolved to have the following Skill Enhancement Courses for M.Sc. Mathematics Semester wise**

**Skill Enhancement Courses**

**SEC1P-** Mathematical Documentation using LATEX-Practical ( This course is newly introduced)

**SEC2:1-** Numerical Ability and Reasoning (This course is newly introduced)

**SEC2:2P-** Differential Equations using SCILAB-Practical (This course is newly introduced)

**20. Resolved to offer the following Core/ Elective courses for B.Sc Computer Science/ B.Sc. Information Technology/ BCA, B.Sc. Bio Chemistry, B.Sc. Physics and Chemistry, B.Com, BBA and MBA Programmes**

**B.Sc. Computer Science**

1. Numerical Methods (It is the Core Course of previous curriculum but the title and unit contents are changed)
2. Statistical Analysis using R – (This course is newly introduced)
3. Graph theory and its applications - (This course is newly introduced)

**B.Sc. Information Technology**

1. Numerical Methods (It is the Core Course of previous curriculum but the title and unit contents are changed)

**BCA**

1. Discrete Mathematics-I (This course is newly introduced)
2. Statistical Methods and its Applications-I (This course is newly introduced)
3. Numerical Methods (It is the Core Course of previous curriculum but the title and unit contents are changed)
4. Discrete Mathematics-II (This course is newly introduced)
5. Statistical Methods and its Applications-II (This course is newly introduced)
6. Graph theory and its applications - (This course is newly introduced)

**B.Sc. Physics/ Chemistry**

1. Allied Mathematics-I- ( This course is in previous curriculum -Retained as it is)
2. Allied Mathematics- II- (This course is in previous curriculum -Retained as it is)

**B.Sc. Biochemistry**

1. Biostatistics (This course is in previous curriculum -Retained as it is)

**B.Com.**

1. Business Mathematics and Statistics (This course is newly introduced)

**BBA**

1. Business statistics (It is the Core Course of previous curriculum but the title and unit contents are changed)
2. Quantitative Aptitude-I (This course is newly introduced)

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3. Operations Research (It is the Core Course of previous curriculum but the unit contents are changed)
4. Quantitative Aptitude – II (This course is newly introduced)

#### MBA

1. Quantitative Techniques and Research Methods in Business (This course is newly introduced)
2. Applied Operations Research (It is the Core Course of previous curriculum but the title and unit contents are changed)

#### M. Sc. Biochemistry

1. Biostatistics and Data Science (This course is newly introduced)

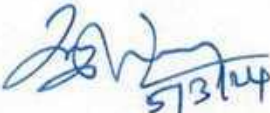
  
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**J.J. College of Arts and Science(Autonomous)**  
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**B.Sc. MATHEMATICS**

Proposed Course structure based on TANSCH and UGC-LOCF  
 (Choice Based Credit System)

Applicable for the candidates admitted from the academic year 2023-2024 onwards

| Sem.  | Part | Course Code            | Course Title                                                        | Hrs/<br>Week | Credit | Exam<br>Hrs. | Marks |       | Total<br>Marks |
|-------|------|------------------------|---------------------------------------------------------------------|--------------|--------|--------------|-------|-------|----------------|
|       |      |                        |                                                                     |              |        |              | Int.  | Ext.  |                |
| I     | I    | U1R3TL1                | Language Course – I                                                 | 6            | 3      | 3            | 25    | 75    | 100            |
|       | II   | U1R3EL1                | English Language Course – I                                         | 6            | 3      | 3            | 25    | 75    | 100            |
|       | III  | U1R3MACC1              | Algebra and Trigonometry                                            | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U1R3MACC2              | Differential Calculus                                               | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U1R3 MADSE1:1/<br>1:2  | Numerical Methods with<br>Applications /<br>Mathematical Statistics | 4            | 3      | 3            | 25    | 75    | 100            |
|       |      | U1R3CSSEC1(NME)        | SEC-1 Office Automation                                             | 2            | 2      | 3            | 25    | 75    | 100            |
|       |      | U1R3MAFC               | FC-Bridge Mathematics                                               | 2            | 2      | 3            | 25    | 75    | 100            |
| Total |      |                        |                                                                     | 30           | 23     | -            | -     | -     | 700            |
| II    | I    | U2R3TL2                | Language Course – II                                                | 6            | 3      | 3            | 25    | 75    | 100            |
|       | II   | U2R3EL2                | English Language Course – II                                        | 6            | 3      | 3            | 25    | 75    | 100            |
|       | III  | U2R3MACC3              | Analytical Geometry(2D&3D)                                          | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U2R3MACC4              | Integral Calculus                                                   | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U2R3 MADSE2:1P/<br>2:2 | R Programming-Practical/<br>Discrete mathematics                    | 4            | 3      | 3            | 40/25 | 60/75 | 100            |
|       | IV   | U2R3SEC2(NME)          | SEC-2 (To be opted from other<br>department)                        | 2            | 2      | 3            | 25    | 75    | 100            |
|       |      | U2R3MASEC3             | A Prime on Divisibility and<br>Number Sequences                     | 2            | 2      | 3            | 25    | 75    | 100            |
| Total |      |                        |                                                                     | 30           | 23     | -            | -     | -     | 700            |
| III   | I    | U3R3TL3                | Language Course – III                                               | 6            | 3      | 3            | 25    | 75    | 100            |
|       | II   | U3R3EL3                | English Language Course – III                                       | 6            | 3      | 3            | 25    | 75    | 100            |
|       | III  | U3R3MACC5              | Vector Calculus and Fourier<br>Series                               | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U3R3MACC6              | Differential Equations and<br>Laplace Transforms                    | 5            | 5      | 3            | 25    | 75    | 100            |
|       |      | U3R3 MADSE3:1/<br>3:2  | Allied Physics-I/<br>Allied Chemistry-I                             | 4            | 3      | 3            | 25    | 75    | 100            |
|       | IV   | U3R3MASEC4:1/<br>4:2   | Data Analysis using SageMath/<br>Computational Mathematics          | 2            | 2      | 3            | 25    | 75    | 100            |
|       |      | U3R3VE                 | Value Education                                                     | 2            | 2      | 3            | 25    | 75    | 100            |
| Total |      |                        |                                                                     | 30           | 23     | -            | -     | -     | 700            |



|       |       |                      |                                                                                   |              |        |              |           |           |                |
|-------|-------|----------------------|-----------------------------------------------------------------------------------|--------------|--------|--------------|-----------|-----------|----------------|
| IV    | I     | U4R3TL4              | Language Course – IV                                                              | 5            | 3      | 3            | 25        | 75        | 100            |
|       | II    | U4R3EL4              | English Course – IV                                                               | 5            | 3      | 3            | 25        | 75        | 100            |
|       | III   | U4R3MACC7            | Sequences and Series                                                              | 6            | 5      | 3            | 25        | 75        | 100            |
|       |       | U4R3MACC8            | Classical Algebra and Theory of Numbers                                           | 5            | 5      | 3            | 25        | 75        | 100            |
|       |       | U4R3 MADSE4:1P /4:2P | Allied Physics- II- Practical<br>Allied Chemistry- II- Practical                  | 3            | 3      | 3            | 40        | 60        | 100            |
|       | IV    | U4R3MASEC5:1/ 5:2    | Introduction to GeoGebra/<br>Theory of Games and Decision Theory                  | 2            | 2      | 3            | 25        | 75        | 100            |
|       |       | U4R3MASEC6:1/ 6:2P   | Mathematics for Competitive Examination-I/<br>Data Analysis using SPSS- Practical | 2            | 2      | 3            | 25/<br>40 | 75/<br>60 | 100            |
|       |       | U4R3ES               | Environmental Studies                                                             | 2            | 2      | 3            | 25        | 75        | 100            |
|       | Total |                      |                                                                                   |              | 30     | 25           | -         | -         | -              |
| Sem.  | Part  | Course Code          | Course Title                                                                      | Hrs/<br>Week | Credit | Exam<br>Hrs. | Marks     |           | Total<br>Marks |
| V     | III   | U5R3MACC9            | Mechanics                                                                         | 6            | 5      | 3            | 25        | 75        | 100            |
|       |       | U5R3MACC10           | Abstract Algebra                                                                  | 5            | 4      | 3            | 25        | 75        | 100            |
|       |       | U5R3MACC11           | Real Analysis                                                                     | 5            | 4      | 3            | 25        | 75        | 100            |
|       |       | U5R3MACC12           | Operations Research                                                               | 4            | 4      | 3            | 25        | 75        | 100            |
|       |       | U5R3MADSE5:1P / 5:2  | Numerical Methods with<br>MATHLAB-Practical /<br>Introduction to Machine Learning | 5            | 3      | 3            | 40/<br>25 | 60/<br>75 | 100            |
|       |       | U5R3MADSE6:1/ 6:2    | Fuzzy Mathematics /<br>Combinatorial Mathematics                                  | 5            | 3      | 3            | 25        | 75        | 100            |
|       |       | U5R3MAINT            | Internship                                                                        | -            | 2      | -            | -         | -         | 100            |
| Total |       |                      |                                                                                   | 30           | 25     | -            | -         | -         | 700            |
| VI    | III   | U6R3MACC13           | Linear Algebra                                                                    | 5            | 4      | 3            | 25        | 75        | 100            |
|       |       | U6R3MACC14           | Complex Analysis                                                                  | 5            | 4      | 3            | 25        | 75        | 100            |
|       |       | U6R3MACC15PW         | Project Work                                                                      | 6            | 4      | -            | -         | -         | 100            |
|       |       | U6R3MADSE7:1P/ 7:2   | Programming Language with<br>C++ - Practical /<br>Introduction to Data Science    | 5            | 3      | 3            | 40/<br>25 | 60/<br>75 | 100            |
|       |       | U6R3MADSE8:1/ 8:2    | Astronomy / Graph Theory and<br>its Applications                                  | 5            | 3      | 3            | 25        | 75        | 100            |
|       | IV    | U6R3MASEC7:1/ 7:2P   | Mathematics for Competitive Examination-II /<br>Introduction to LATEX – Practical | 3            | 2      | 3            | 25/<br>40 | 75/<br>60 | 100            |
|       | V     | U6R3GS               | Gender Studies                                                                    | 1            | 1      | 3            | 25        | 75        | 100            |
|       |       | Extension Activity   | -                                                                                 | 1            | -      | -            | -         | -         |                |

|             |  |                                                |         |     |   |   |   |      |
|-------------|--|------------------------------------------------|---------|-----|---|---|---|------|
|             |  | Extra Credit Online Courses-<br>[SWAYAM-MOOCs] | -       | [4] | - | - | - | -    |
| Total       |  |                                                | 30      | 22  | - | - | - | 700  |
| Grand Total |  |                                                | 141 [4] |     |   |   |   | 4300 |

**Group C (NME-SEC) (Offered to other Departments)**

1. Quantitative Aptitude-I
2. Basic Mathematics
3. Quantitative Aptitude-II
4. Statistics with R/ SPSS
5. Bio Mathematics
6. Data Analysis by using SPSS

*A. Tamil*  
05/03/24  
(A. TAMILSELVA)

*3. S. S. S.*

*A. S. S.*

*O. Uma*  
5/3/24

*S. S. S.*  
5/3/24

*A. A.*  
05/03/24

*M. S. S.*  
5/3/24

*S. S. S.*  
5/3/24



# J.J. College of Arts and Science(Autonomous)

J.J.Nagar, Sivapuram Post, Pudukkottai - 622 422

## M.Sc. MATHEMATICS

Proposed Course structure based on TANSCH and UGC-LOCF

(Choice Based Credit System)

Applicable for the candidates admitted from the academic year 2023-2024 onwards

| Sem | Course Code                   | Course Title                                                                                                                                                                   | Hours/<br>Week | Credit    | Exam<br>Hours | Int<br>.  | Ex<br>t.  | MAR<br>KS  |
|-----|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|---------------|-----------|-----------|------------|
| I   | P1R3MACC1                     | Algebraic Structure                                                                                                                                                            | 7              | 5         | 3             | 25        | 75        | 100        |
|     | P1R3MACC2                     | Real Analysis – I                                                                                                                                                              | 7              | 5         | 3             | 25        | 75        | 100        |
|     | P1R3MACC3                     | Ordinary Differential Equations                                                                                                                                                | 6              | 4         | 3             | 25        | 75        | 100        |
|     | P1R3MADSE1:1/1:<br>2:1:3/1:4P | Number Theory and<br>Cryptography /<br>Graph Theory and Applications /<br>Formal languages and Automata<br>Theory /<br>Programming in C++ and<br>Numerical Methods (Practical) | 5              | 3         | 3             | 25/<br>40 | 75/<br>60 | 100        |
|     | P1R3MADSE2:1/<br>2:2/2:3/2:4  | Lie Groups and Lie Algebras /<br>Mathematical Programming /<br>Fuzzy sets and Their applications<br>/ Discrete Mathematics                                                     | 5              | 3         | 3             | 25        | 75        | 100        |
|     |                               | <b>TOTAL</b>                                                                                                                                                                   | <b>30</b>      | <b>20</b> |               |           |           | <b>500</b> |
| II  | P2R3MACC4                     | Advanced Algebra                                                                                                                                                               | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P2R3MACC5                     | Real Analysis – II                                                                                                                                                             | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P2R3MACC6                     | Partial Differential Equations                                                                                                                                                 | 6              | 4         | 3             | 25        | 75        | 100        |
|     | P2R3MADSE3:1/3:<br>2:3:3P/3:4 | Algebraic Topology /<br>Mathematical statistics /<br>Statistics Data Analysis Using R<br>Programming /<br>Tensor Analysis and Relativity                                       | 4              | 3         | 3             | 25/<br>40 | 75/<br>60 | 100        |
|     | P2R2MADSE4:1<br>/4:2P/4:3/4:4 | Wavelets /<br>Modeling & Simulation with<br>Excel /<br>Machine Learning and AI /<br>Neural Networks                                                                            | 4              | 3         | 3             | 25/<br>40 | 75/<br>60 | 100        |
|     | P2R3MASECIP                   | Mathematical Documentation<br>using LATEX - Practical                                                                                                                          | 4              | 2         | 3             | 40        | 60        | 100        |
|     |                               | <b>TOTAL</b>                                                                                                                                                                   | <b>30</b>      | <b>22</b> |               |           |           | <b>600</b> |
| III | P3R3MACC7                     | Complex Analysis                                                                                                                                                               | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P3R3MACC8                     | Fluid Dynamics                                                                                                                                                                 | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P3R3MACC9                     | Topology                                                                                                                                                                       | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P3R3MACC10                    | Numerical Analysis                                                                                                                                                             | 6              | 5         | 3             | 25        | 75        | 100        |
|     | P2R3MADSE5:1/<br>5:2/5:3/5:4P | Calculus of Variations and<br>Integral Equations/<br>Advanced Number Theory /<br>Ethical Attitude in Mathematical<br>Research/                                                 | 3              | 3         | 3             | 25/<br>40 | 75/<br>60 | 100        |

|    |                   |                                                                       |              |           |   |       |       |             |
|----|-------------------|-----------------------------------------------------------------------|--------------|-----------|---|-------|-------|-------------|
|    |                   | Programming in MATHLAB (Practical)                                    |              |           |   |       |       |             |
|    | P3R3MASEC2:1/2:2P | Numerical Ability and Reasoning / Differential Equations using SCILAB | 3            | 2         | 3 | 25/40 | 75/60 | 100         |
|    | P3R3MAINT         | Internship                                                            | -            | 3         | - | -     | -     | 100         |
|    |                   | <b>TOTAL</b>                                                          | <b>30</b>    | <b>28</b> |   |       |       | <b>700</b>  |
| IV | P4R3MACC11        | Functional Analysis                                                   | 6            | 5         | 3 | 25    | 75    | 100         |
|    | P4R3MACC12        | Differential Geometry                                                 | 6            | 5         | 3 | 25    | 75    | 100         |
|    | P4R3MACC13        | Stochastic Processes                                                  | 6            | 5         | 3 | 25    | 75    | 100         |
|    | P4R3MACC14PW      | Project Work                                                          | 12           | 5         | - | -     | -     | 100         |
|    |                   | Extra Credit Online Courses- [SWAYAM-MOOCs]                           |              | [4]       |   |       |       |             |
|    |                   | <b>TOTAL</b>                                                          | <b>30</b>    | <b>20</b> |   |       |       | <b>300</b>  |
|    |                   | <b>GRAND TOTAL</b>                                                    | <b>90[4]</b> |           |   |       |       | <b>2200</b> |

*A. Tamil Selvan*  
05/03/24  
(A. TAMILSELVAN)

3. *[Signature]*

4. *[Signature]*  
SPW

O. Uma *[Signature]*  
5/3/24

*[Signature]*  
5/3/24

A. A. *[Signature]*  
08/03/24

M. *[Signature]*  
5/3/24

*[Signature]*  
5/3/24