

**PES's Modern College of Arts, Science and Commerce(Autonomous),
Ganeshkhind, Pune 16
Department of Mathematics
Structure of MSc(Mathematics)**

| Semester | Vertical | Name of the Paper | Theory/ Practical | No of Credits | CIE | ESE | Total |
|----------|----------|---|----------------------|------------------|-----|-----|-------|
| I | Major | Advance Course in Linear Algebra | Theory | 4 | 40 | 60 | 100 |
| | | Real Analysis | Theory | 4 | 40 | 60 | 100 |
| | | Advance Course in Group | Theory | 4 | 40 | 60 | 100 |
| | | Practical in Python Programming -I | Practical | 2 | 20 | 30 | 50 |
| | DSE | Advance Calculus | Theory | 4 | 40 | 60 | 100 |
| | | Advance course in Ordinary Differential Equations | Theory | 4 | 40 | 60 | 100 |
| | Minor | Research Methodology | Theory | 2 | 20 | 30 | 50 |
| | Minor | Research Methodology | Practical | 2 | 20 | 30 | 50 |
| II | Major | Advance Course in Complex Analysis | Theory | 4 | 40 | 60 | 100 |
| | | General Topology | Theory | 4 | 40 | 60 | 100 |
| | | Rings and Modules | Theory | 4 | 40 | 60 | 100 |
| | | Introduction to MS-Excel | Practical | 2 | 20 | 30 | 50 |
| | DSE | Advance Course in Numerical Analysis | Theory | 4 | 40 | 60 | 100 |
| | | OR | | | | | |
| | | Advance course in Ordinary Differential Equations | Theory | 4 | 40 | 60 | 100 |
| | Minor | On Job Training | OJT | 4 | 40 | 60 | 100 |
| | | Functional Analysis | Theory | 4 | 40 | 60 | 100 |

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|-----|-------|---|-----------|---|----|----|-----|
| III | Major | Field Theory | Theory | 4 | 40 | 60 | 100 |
| | | Integral Equations | Theory | 4 | 40 | 60 | 100 |
| | | Practical in Combinatorics | Practical | 2 | 20 | 30 | 50 |
| | DSE | Mathematical Techniques using Python | Theory | 2 | 20 | 30 | 50 |
| | | Mathematica Practical Based on Mathematical Techniques using Python | Practical | 2 | 20 | 30 | 50 |
| | | OR | | | | | |
| | | Advance Complex Analysis | Theory | 2 | 20 | 30 | 50 |
| | | Mathematica Practical Based on Advance Complex Analysis | Practical | 2 | 20 | 30 | 50 |
| | Minor | Research Project | Practical | 4 | 20 | 30 | 50 |
| IV | Major | Fourier Series and Boundary Value | Theory | 4 | 40 | 60 | 100 |
| | | Differential Geometry | Theory | 4 | 40 | 60 | 100 |
| | | Probability and Statistics | Theory | 4 | 40 | 60 | 100 |
| | DSE | Introduction to Data Science | Theory | 2 | 20 | 30 | 50 |
| | | Mathematica Practical Based on Introduction | Practical | 2 | 20 | 30 | 50 |
| | | OR | | | | | |
| | | Number Theory and its applications | Theory | 2 | 20 | 30 | 50 |
| | | Mathematics Practical Bases on Number Theory | Practical | 2 | 20 | 30 | 50 |
| | Minor | Research Project | Practical | 6 | 60 | 90 | 150 |