**MANAV RACHNA UNIVERSITY**

**DEPARTMENT OF MATHEMATICS**

**M.Sc. MATHEMATICS**

**SEMESTER - 1**

| SUBJECT CODES | SUBJECT NAME | **OFFERING DEPARTMENT | *COURSE NATURE (HARD/SOFT/WORKSHOP/ NTCC) | COURSE TYPE (CORE/ELECTIVE / UNIVERSITY COMPULSORY) | L | P | O | NO. OF CONTACT HOURS PER WEEK | NO. OF CREDITS |
|---|---|---|---|---|---|---|---|---|---|
| MAH501 | ABSTRACT ALGEBRA | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH502 | TOPOLOGY-I | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH503 | DIFFERENTIAL EQUATIONS | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH504 | GRAPH THEORY | MA | HARD | ELECTIVE | 4 | 0 | 0 | 4 | 4 |
| MAH505 | OPERATIONS RESEARCH | MA | | | | | | | |
| MAH513 | FUZZY SETS & FUZZY LOGIC | MA | | | | | | | |
| MAH507 | MATHS LAB- I | MA | HARD | CORE | 0 | 4 | 0 | 4 | 2 |
| MAW508 | SCILAB | MA | WORKSHOP | ELECTIVE | 0 | 3 | 0 | 3 | 1.5 |
| MAW509 | MATHEMATICA | | | | | | | | |
| MAW537 | ADVANCED SPSS | | | | | | | | |
| MAW225 | ADVANCED LaTeX | | | | | | | | |
| MAW538 | ADVANCED STATISTICS USING EXCEL | | | | | | | | |
| RDO501 | INTRODUCTION TO RESEARCH | | SOFT | OUTCOME BASED | 1 | 2 | 0 | 3 | 2 |
| | **TOTAL (L-P-O/CONTACT HOURS/CREDITS)** | | | | **17** | **9** | | **26** | **21.5** |

**SEMESTER - 2**

| SUBJECT CODES | SUBJECT NAME | **OFFERING DEPARTMENT | *COURSE NATURE (Hard/Soft/ Workshop/ NTCC) | COURSE TYPE (Core/Elective / University Compulsory) | L | P | O | NO. OF CONTACT HOURS PER WEEK | NO. OF CREDITS |
|---|---|---|---|---|---|---|---|---|---|
| MAH510 | ADVANCED LINEAR ALGEBRA | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH511 | COMPLEX ANALYSIS | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH512 | MEASURE THEORY | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH513 | FUZZY SETS & FUZZY LOGIC | MA | HARD | ELECTIVE | 4 | 0 | 0 | 4 | 4 |
| MAH514 | MATHEMATICAL STATISTICS | | | | | | | | |
| MAH504 | GRAPH THEORY | | | | | | | | |
| MAH505 | OPERATIONS RESEARCH | | | | | | | | |
| MAH623 | ADVANCED OPERATIONS RESEARCH | | | | | | | | |
| MAH621 | CODING THEORY | | | | | | | | |
| MAH515 | TOPOLOGY-II | | | | | | | | |
| MAH516 | MATHS LAB-II | MA | HARD | CORE | 0 | 4 | 0 | 4 | 2 |
| MAW508 | SCILAB | MA | WORKSHOP | ELECTIVE | 0 | 3 | 0 | 3 | 1.5 |
| MAW509 | MATHEMATICA | | | | | | | | |
| MAW537 | ADVANCED SPSS | | | | | | | | |
| MAW225 | ADVANCED LaTeX | | | | | | | | |
| MAW538 | ADVANCED STATISTICS USING EXCEL | | | | | | | | |
| RDO502 | SCIENTIFIC RESEARCH - I | | SOFT | OUTCOME BASED | 0 | 3 | 0 | 3 | 2 |
| | **TOTAL (L-P-O/CONTACT HOURS/CREDITS)** | | | | **17** | **9** | **0** | **26** | **21.5** |
| | | | | | | | | | |
| MAO517 | SUMMER TRAINING POST 2nd SEMESTER | | | | | | | | **3** |

| SEMESTER - 3 | | | | | | | | | |
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| **SUBJECT CODES** | **SUBJECT NAME** | ****OFFERING DEPARTMENT** | ***COURSE NATURE (Hard/Soft/ Workshop/ NTCC)** | **COURSE TYPE (Core/Elective / University Compulsory)** | **L** | **P** | **O** | **NO. OF CONTACT HOURS PER WEEK** | **NO. OF CREDITS** |
| MAH618 | FUNCTIONAL ANALYSIS | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH619 | DIFFERENTIAL GEOMETRY | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH620 | DYNAMICS OF RIGID BODY | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH513 | FUZZY SETS & FUZZY LOGIC | MA | HARD | ELECTIVE | 4 | 0 | 0 | 4 | 4 |
| MAH621 | CODING THEORY | | | | | | | | |
| MAH630 | CRYPTOGRAPHY | | | | | | | | |
| MAH623 | ADVANCED OPERATIONS RESEARCH | | | | | | | | |
| MAH514 | MATHEMATICAL STATISTICS | | | | | | | | |
| MAH624 | FOURIER ANALYSIS | | | | | | | | |
| MAH625 | MATHS LAB-III | MA | HARD | CORE | 0 | 4 | 0 | 4 | 2 |
| MCS231 | BASICS OF ECONOMICS | MC | SOFT | ELECTIVE ALLIED (BASKET OF | 1 | 2 | 0 | 3 | 2 |
| MCS232 | INTRODUCTION TO FINANCE | | | | | | | | |
| RDO601 | SCIENTIFIC RESEARCH - II | | SOFT | OUTCOME BASED | 0 | 3 | 0 | 3 | 2 |
| | **TOTAL (L-P-O/CONTACT HOURS/CREDITS)** | | | | **17** | **6** | **2** | **25** | **22** |
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| **SEMESTER - 4** | | | | | | | | | |
| **SUBJECT CODES** | **SUBJECT NAME** | ****OFFERING DEPARTMENT** | ***COURSE NATURE (Hard/Soft/ Workshop/ NTCC)** | **COURSE TYPE (Core/Elective / University Compulsory)** | **L** | **P** | **O** | **NO. OF CONTACT HOURS PER WEEK** | **NO. OF CREDITS** |
| MAH635 | CALCULUS OF VARIATION & INTEGRAL EQUATIONS | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH628 | FLUID MECHANICS | MA | HARD | CORE | 4 | 0 | 0 | 4 | 4 |
| MAH629 | ALGEBRAIC TOPOLOGY | MA | HARD | ELECTIVE | 4 | 0 | 0 | 4 | 4 |
| MAH630 | CRYPTOGRAPHY | | | | | | | | |
| MAH627 | WAVELET ANALYSIS | | | | | | | | |
| MAH506 | MATHEMATICAL MODELLING & SIMULATION | | | | | | | | |
| MAH636 | DIFFERETIABLE MANIFOLDS | | | | | | | | |
| MAH632 | THEORY OF ELASTICITY & FRACTURE MECHANICS | | | | | | | | |
| MAH633 | MATHS LAB-IV | MA | HARD | CORE | 0 | 4 | 0 | 4 | 2 |
| RDO602/ MAN634 | PROJECT | MA | NTCC | CORE | 0 | 0 | 6 | 6 | 6 |
| MAW508 | SCILAB | MA | WORKSHOP | ELECTIVE (ANY ONE) | 0 | 3 | 0 | 3 | 1.5 |
| MAW509 | MATHEMATICA | | | | | | | | |
| MAW537 | ADVANCED SPSS | | | | | | | | |
| MAW225 | ADVANCED LaTeX | | | | | | | | |
| MAW538 | ADVANCED STATISTICS USING EXCEL | | | | | | | | |
| | **TOTAL (L-P-O/CONTACT HOURS/CREDITS)** | | | | **12** | **7** | **6** | **25** | **21.5** |
| | | | | | | | | **GRAND TOTAL OF CREDITS** | **89.5** |

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