

CURRICULUM for B.Sc. DATA SCIENCE

| Document Prepared in "Board of Studies" held on | Document Approved in "Academic Council" held on |
|---|---|
| Date: <u>08/05/2024</u> | Date: <u>19/08/2024</u> |

Controlled Copy



| S.No | COURSE CODE | COURSE CATE- GORY | COURSE TITLE | Contact Hours | L | Т | P | С | |
|------|----------------|-------------------------|--|------------------|----|---|---|----|--|
| | THEORY | | | | | | | | |
| 1. | 246EN1A12TM | HS | English | 2 | 2 | 0 | 0 | 2 | |
| 2. | 246MA1A11TO | BS | Linear Algebra and Statistics | 4 | 3 | 1 | 0 | 4 | |
| 3. | 246PH1A11TC | BS | Applied Physics | 3 | 3 | 0 | 0 | 3 | |
| 4. | 244IT1A14TA | PC | Data Visualization using R, Python, Watson | 3 | 3 | 0 | 0 | 3 | |
| 5. | 242EE1A13TB | PC | Digital System Design | 3 | 3 | 0 | 0 | 3 | |
| | | | PRACTICAL | | | | | | |
| 6. | 244DS1A19PA | VAC | VAC-1 Google Tools | 0 | 0 | 0 | 0 | 0 | |
| 7. | 244IT1A14PA | PC | Data Visualization using R, Python, Watson Laboratory | 4 | 0 | 0 | 4 | 2 | |
| 8. | 246EN1A12PF | HS | Communication Skills Laboratory | 2 | 0 | 0 | 2 | 1 | |
| | Total | | | 21 | 14 | 1 | 6 | 18 | |

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| | | | THEORY | | | | | |
| 1. | 244IT1A24TA | PC | Introduction to AI* | 3 | 3 | 0 | 0 | 3 |
| 2. | 244IT1A24TB | PC | Object Oriented Programming and Data Structure* | 3 | 3 | 0 | 0 | 3 |
| 3. | 244IT1A24TC | PC | Operating System* | 3 | 3 | 0 | 0 | 3 |
| 4. | 244IT1A24TD | PC | Database Management System* | 3 | 3 | 0 | 0 | 3 |
| 5. | 244IT1A24TE | PC | Business Intelligence* | 3 | 3 | 0 | 0 | 3 |
| | | | PRACTICAL | | | | | |
| 6. | 244IT1A29PA | VAC | VAC-2 Deep Learning using Python* | 0 | 0 | 0 | 0 | 0 |
| 7. | 244IT1A24PB | PC | Object Oriented Programming and Data Structure Laboratory* | 2 | 0 | 0 | 2 | 1 |
| 8. | 244DS1A24PD | PC | Database Management System Laboratory* | 2 | 0 | 0 | 2 | 1 |
| 9. | 244IT1A24PE | PC | Business Intelligence Laboratory* | 4 | 0 | 0 | 4 | 2 |
| 10. | 244IT1A27PA | IP | Internship* | 0 | 0 | 0 | 0 | 2 |
| | Total | | | | 15 | 0 | 8 | 21 |

 $^{^{*}}$ Common Course for Both B.Sc.Robotics & Artificial Intelligence and B.Sc. Data Science

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| | THEORY | | | | | | | | |
| 1. | 244IT1A34TA | PC | Computer Networks* | 3 | 3 | 0 | 0 | 3 | |
| 2. | 244IT1A34TB | PC | Design Thinking /Devops/Agile* | 3 | 3 | 0 | 0 | 3 | |
| 3. | 244DS1A34TC | PC | Data Mining | 3 | 3 | 0 | 0 | 3 | |
| 4. | 244DS1A34TD | PC | Introduction to Data Science | 3 | 3 | 0 | 0 | 3 | |
| 5. | 244DS1A34TE | PC | Cloud Computing | 3 | 3 | 0 | 0 | 3 | |
| 6. | 244DS1A34TF | PC | Web Programming | 3 | 3 | 0 | 0 | 3 | |
| | | | PRACTICAL | | | | | | |
| 7. | 244IT1A39PA | VAC | VAC-3 Microsoft Office Tools * | 0 | 0 | 0 | 0 | 0 | |
| 8. | 244IT1A34PB | PC | Design Thinking/ Devops /Agile Laboratory* | 4 | 0 | 0 | 4 | 2 | |
| 9. | 244DS1A34PC | PC | Data Mining Laboratory | 4 | 0 | 0 | 4 | 2 | |
| | Total | | | 26 | 18 | 0 | 8 | 22 | |

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| | | | THEORY | | | | | |
| 1. | 244IT1A44TA | PC | Predictive Modelling* | 3 | 3 | 0 | 0 | 3 |
| 2. | 244DS1A44TB | PC | Machine Learning | 3 | 3 | 0 | 0 | 3 |
| 3. | 244DS1A44TC | PC | Big Data Analytics | 3 | 3 | 0 | 0 | 3 |
| 4. | 244DS1A44TD | PC | Java Programming | 3 | 3 | 0 | 0 | 3 |
| 5. | 244IT1A44TB | PC | Internet of Things | 3 | 3 | 0 | 0 | 3 |
| | | | PRACTICAL | | | | | |
| 6. | 244IT1A49PA | VAC | VAC-4 RPA (Robotics Process Automation)* | 0 | 0 | 0 | 0 | 0 |
| 7. | 244IT1A44PA | PC | Predictive Modelling Laboratory* | 4 | 0 | 0 | 4 | 2 |
| 8. | 244DS1A44PD | PC | Java Programming Laboratory | 4 | 0 | 0 | 4 | 2 |
| | Total | | | 23 | 15 | 0 | 8 | 19 |

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| | | | THEORY | | | | | |
| 1. | 244DS1A54TA | PC | Deep Learning | 3 | 3 | 0 | 0 | 3 |
| 2. | 244IT1A54TB | PC | Text Analytics* | 3 | 3 | 0 | 0 | 3 |
| 3. | 244DS1A45TG | PE | Social Network Analytics | 3 | 3 | 0 | 0 | 3 |
| 4. | 244DS1A54TC | PC | Software Project Management | 3 | 3 | 0 | 0 | 3 |
| | | | PRACTICAL | | | | | |
| 5. | 244IT1A59PA | VAC | VAC-5 AWS (Amazon Web Services) – Cloud* | 0 | 0 | 0 | 0 | 0 |
| 6. | 244IT1A54PB | PC | Text Analytics Laboratory* | 4 | 0 | 0 | 4 | 2 |
| 7. | 244DS1A57PA | IP | Phase I Project | 0 | 0 | 0 | 0 | 7 |
| | Total | | | 16 | 12 | 0 | 4 | 21 |

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| | THEORY | | | | | | | |
| 1. | 244IT1A64TA | PC | Spark / Scala Fundamentals* | 3 | 3 | 0 | 0 | 3 |
| 2. | 244DS1A55TD | PE | Software Testing | 3 | 3 | 0 | 0 | 3 |
| | PRACTICAL | | | | | | | |
| 3. | 244DS1A67PA | IP | Phase II Project | 0 | 0 | 0 | 0 | 15 |
| | Total | | | 6 | 6 | 0 | 0 | 21 |

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