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| <b>Data Science</b> |
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**Semester 1**

| Sr. No. | Name of course                             |
|---------|--------------------------------------------|
| 1       | Introduction to Python Programming         |
| 2       | Mathematics for Data Science - I           |
| 3       | Statistics for Data Science - I            |
| 4       | Computational Thinking and Problem Solving |
| 5       | Excel Analytics                            |
| 6       | Communicative English                      |
| 7       | Indian Knowledge System                    |
| 8       | Digital Ethics & Data Privacy              |

**Semester 2**

| Sr. No. | Name of course                    |
|---------|-----------------------------------|
| 1       | Introduction to Data Science      |
| 2       | Mathematics for Data Science - II |
| 3       | Statistics for Data Science - II  |
| 4       | Introduction to Linux             |
| 5       | Elective from other School        |
| 6       | Advanced Communication Skills     |
| 7       | Environmental Studies             |
| 8       | Yoga and Meditation -I            |

**Semester 3**

| Sr. No. | Name of course                                    |
|---------|---------------------------------------------------|
| 1       | Data Structures & Algorithms                      |
| 2       | Data Wrangling and Preprocessing                  |
| 3       | Minor (Subject 2)                                 |
| 4       | Business Analytics                                |
| 5       | Economics for Data Scientists                     |
| 6       | AEC-I / German-I                                  |
| 7       | Data Visualization & Storytelling                 |
| 8       | Sports-I / NSS-I / NCC-I / Yoga and Meditation-II |
| 9       | Field Project                                     |

**Semester 4**

| Sr. No. | Name of course                 |
|---------|--------------------------------|
| 1       | Machine Learning 1             |
| 2       | Big Data Technologies          |
| 3       | Minor (Subject 2)              |
| 4       | Minor (Subject 2)              |
| 5       | AEC-II / German-II             |
| 6       | Git and GitHub                 |
| 7       | Sports-II / NSS-II / NCC-II    |
| 8       | Community Engagement Programme |

**Semester 5**

| Sr. No. | Name of course                |
|---------|-------------------------------|
| 1       | Machine Learning 2            |
| 2       | MLOps and Model Deployment    |
| 3       | Agile and Scrum/ SE           |
| 4       | Bioinformatics Data Analysis  |
| 5       | Financial Data Analytics      |
| 6       | Geospatial Analytic           |
| 7       | API Development & Integration |
| 8       | Minor VSEC                    |
| 9       | Field Project                 |
| 10      | Sports/NSS/Health & Wellness  |

**Semester 6**

| Sr. No. | Name of course                    |
|---------|-----------------------------------|
| 1       | Natural Language Processing       |
| 2       | Computer Vision                   |
| 3       | Neural Networks and Deep Learning |
| 4       | Web Technologies                  |
| 5       | Business Intelligence             |
| 6       | Inferencial Statistics            |
| 7       | Minor VSEC                        |
| 8       | Internship/ OJT                   |

**Semester 7**

| Sr. No. | Name of course                             |
|---------|--------------------------------------------|
| 1       | Cloud Computing Essentials                 |
| 2       | Reinforcement Learning                     |
| 3       | Artificial Intelligence                    |
| 4       | Social Network Analysis                    |
| 5       | Internet of Things (IoT) Analytics         |
| 6       | Information Retrieval (Search Engine Tech) |
| 7       | Research Methodology                       |

**Semester 8**

| Sr. No. | Name of course                  |
|---------|---------------------------------|
| 1       | Generative AI , LLMs and agents |
| 2       | Cyber Security for Data Science |
| 3       | Time Series Analysis            |
| 4       | Speech Signal Processing        |
| 5       | Simulation & Modeling           |
| 6       | Blockchain for Data Science     |
| 7       | Research Project                |