## BTECH - DATA SCIENCE, ECONOMICS AND BUSINESS Course Plan 2021 - 25

| SEM 1 | Freshmore Course Title                      |
|-------|---|
|       | Fundamentals of Computational Thinking      |
|       | Engineering Mathematics in Action           |
|       | Foundations of Physical World               |
|       | Design Thinking                             |
|       | Innovation Lab & Grand Challenge Studio - I |
|       | The Art of Thinking & Reasoning             |

| SEM 2 | Freshmore Course Title                       |
|-------|--|
|       | Programming and Data Structures              |
|       | Mathematics of Uncertainity                  |
|       | Nature's Machines                            |
|       | Fundamentals of Microeconomics               |
|       | Reimagining Technology and Society           |
|       | Innovation Lab & Grand Challenge Studio - II |

| SEM 3 | Freshmore Course Title                               |
|-------|--|
|       | Data Science and Artificial Intelligence             |
|       | Calculus in Higher Dimensions                        |
|       | Electronic System Engineering                        |
|       | Intelligent Machines                                 |
|       | Ethics and Communication of Technological Innovation |
|       | Innovation Lab & Grand Challenge Studio - III        |

| SEM 4 | Course Title                                      |
|-------|---|
|       | Optimization                                      |
|       | Macroeconomics                                    |
|       | Marketing Analytics                               |
|       | Introduction to Data Mining & Pattern Recognition |
|       | Communication Lab -3                              |
|       | Innovation Lab & Grand Challenge Studio - IV      |
|       | Elective Courses                                  |
|       | Design and Analysis of Algorithms                 |

| SEM 5 | Course Title                           |
|-------|--|
| •     | Machine Learning & Pattern Recognition |
|       | Econometrics                           |
|       | Finance                                |
|       | Advanced Statistics                    |

| Innovation Lab & Grand Challenge Studio - V |
|---|
| Elective Courses                            |
| Microeconomics of Development               |

| SEM 6 | Course Title                                 |
|-------|--|
|       | Deep Learning                                |
|       | Market, Competition, and Public Policy       |
|       | Game Theory                                  |
|       | Time Series Analysis                         |
|       | Innovation Lab & Grand Challenge Studio - VI |
|       | Elective Courses                             |
|       | Behavioral Economics                         |
|       | Indian Economy and Financial Systems         |
|       | Reinforcement Learning                       |

| SEM 7 | Course Title                             |
|-------|--|
|       | Elective Courses                         |
|       | Environmental Economics                  |
|       | Financial Econometrics                   |
|       | Human-Tech Interaction                   |
|       | Personnel Economics                      |
|       | Machine Learning in Dynamic Environments |
|       | Health Economics                         |

| I | SEM 8 | Course Title                |
|---|-------|-----------------------------|
|   |       | Internship/Project/Research |
|   |       | Elective Courses            |