

## School of Basic Sciences

### M.Sc. Sustainability (2 Years)

#### Course Structure & Credit Distribution (Total Credits: 85)

| Course Type                                                                                                                | Course Name                                                                      | L  | T | P | C  |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----|---|---|----|
|  SEMESTER I – Foundation Courses          |                                                                                  |    |   |   |    |
|  DSC                                      | Natural Resource Management                                                      | 3  | 0 | 0 | 3  |
|  DSC                                      | Environment Laws and Policies                                                    | 4  | 0 | 0 | 4  |
|  DSC                                      | Nature Conservation and Climate Solution                                         | 4  | 0 | 0 | 4  |
|  DSE                                      | Discipline Specific Elective – I                                                 | 4  | 0 | 0 | 4  |
|  UC                                       | Data Analytics, AI & Research Methodology for Physical and Mathematical Sciences | 2  | 0 | 1 | 3  |
| Semester I Total                                                                                                           |                                                                                  | 20 | 0 | 1 | 21 |
|  SEMESTER II – Core & Advanced Courses   |                                                                                  |    |   |   |    |
|  DSC                                    | Environmental Impact Assessment & Corporate Social Responsibility (CSR)          | 4  | 0 | 0 | 4  |
|  DSC                                    | Sustainable Economy                                                              | 4  | 0 | 0 | 4  |
|  DSC                                    | Global Climate Change and Mitigation                                             | 4  | 0 | 0 | 4  |
|  DSE                                    | Discipline Specific Elective – II                                                | 4  | 0 | 0 | 4  |
|  DSE                                    | Discipline Specific Elective – III                                               | 4  | 0 | 0 | 4  |
| Semester II Total                                                                                                          |                                                                                  | 20 | 0 | 0 | 20 |
|  SEMESTER III – Advanced Sustainability |                                                                                  |    |   |   |    |
|  UC                                     | AI-Driven Research, Data Visualization & Professional Scientific Communication   | 2  | 0 | 1 | 3  |
|  DSC                                    | Decarbonization Technology and Net-Zero System                                   | 4  | 0 | 1 | 5  |
|  DSE                                    | Discipline Specific Elective – IV                                                | 4  | 0 | 0 | 4  |
|  DSE                                    | Discipline Specific Elective – V                                                 | 4  | 0 | 0 | 4  |
|  DSE                                    | Discipline Specific Elective – VI                                                | 4  | 0 | 0 | 4  |
|  PBL                                    | Dissertation / Project – I                                                       | 0  | 0 | 4 | 4  |
| Semester III (Inorganic) Total                                                                                             |                                                                                  | 18 | 0 | 6 | 24 |
|  SEMESTER IV – Research & Dissertation  |                                                                                  |    |   |   |    |

|                                                                                                                                       |                                                     |    |   |   |    |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----|---|---|----|
|  PBL                                                 | Project                                             | 0  | 0 | 0 | 12 |
| Semester IV Total                                                                                                                     |                                                     | 0  | 0 | 0 | 12 |
|  DSE Basket- Green & Sustainable Fuels               |                                                     |    |   |   |    |
|  DSE                                                 | Energy, Environment and Renewable Energy Techniques | 4  | 0 | 0 | 4  |
|  DSE                                                 | Fuels, Combustion and Cleaner Technology            | 4  | 0 | 0 | 4  |
|  DSE                                                 | Bioenergy and Conversion Systems                    | 4  | 0 | 0 | 4  |
|  DSE                                                 | Green Chemical Technologies                         | 4  | 0 | 0 | 4  |
|  DSE                                                 | Microbial Technology for Biofuel Production         | 4  | 0 | 0 | 4  |
|  DSE                                                 | Solar Thermal Energy Conversion                     | 4  | 0 | 0 | 4  |
|  DSE                                                 | Solid Waste Management to Energy Conversion         | 4  | 0 | 0 | 4  |
|  DSE Basket – Sustainable Agriculture & Food Systems |                                                     |    |   |   |    |
|  DSE                                                 | Food, Nutrition, Health and Agriculture             | 3  | 0 | 1 | 4  |
|  DSE                                                 | Climate Smart Agriculture                           | 3  | 0 | 1 | 4  |
|  DSE                                                 | Agri-Entrepreneurship                               | 3  | 0 | 1 | 4  |
|  DSE                                                 | GIS, Remote Sensing & Precision Agriculture         | 3  | 0 | 1 | 4  |
|  DSE                                               | Agribusiness and Sustainable Marketing              | 3  | 0 | 1 | 4  |
|  DSE                                               | Sustainable Rural Development Strategies            | 3  | 0 | 1 | 4  |
|  DSE                                               | Sustainable Agri Practices                          | 3  | 0 | 1 | 4  |
|  DSE Basket – Sustainable Energy                   |                                                     |    |   |   |    |
|  DSE                                               | Energy Conservation and Management                  | 3  | 1 | 0 | 4  |
|  DSE                                               | Renewable Energy Systems                            | 3  | 1 | 0 | 4  |
|  DSE                                               | Building Energy & Sustainability                    | 3  | 1 | 0 | 4  |
|  DSE                                               | Solar Energy Systems                                | 3  | 1 | 0 | 4  |
|  DSE                                               | Solar Architecture & Energy-Efficient Buildings     | 3  | 1 | 0 | 4  |
|  DSE                                               | Energy Resources, Economics & Environment           | 3  | 1 | 0 | 4  |
| D  SE                                              | Sustainable Energy Storage Systems                  | 3  | 1 | 0 | 4  |
|  PROGRAMME TOTAL                                   |                                                     |    |   |   |    |
|                                                                                                                                       | Overall Credits                                     | 58 | 0 | 7 | 85 |

### Legend

 **DSC** – Discipline Specific Course     
  **UC** – University Core Course     
  **DSE** – Discipline Specific Elective     
  **PBL** – Project Based Learning