# ACADEMIC CURRICULA

## UNDERGRADUATE DEGREE PROGRAMMES

### Bachelor of Technology

**(B.Tech. - Four Years)**

**(Choice Based Flexible Credit System)**

**Regulations 2018**

**Volume - 1**

**(Revised in March 2019)**


**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(Deemed to be University u/s 3 of UGC Act, 1956)**

Kattankulathur, Kancheepuram District 603203, Tamil Nadu, India

# 32. B.Tech. in Mechatronics Engineering with Specialization in Robotics

## 32. (a) Mission of the Department

| | |
|---|---|
| Mission Stmt - 1 | *Provide goal-oriented, quality-based and value-added education* |
| Mission Stmt - 2 | *Inculcate communication skills, leadership, ethics and strong entrepreneurship among students for their sustained growth through teaching and learning process.* |
| Mission Stmt - 3 | *Prepare effective and responsible graduate to pursue higher studies and research for meeting global requirements by providing worldclass facilities* |
| Mission Stmt - 4 | *A curriculum that is firmly grounded in engineering fundamentals* |
| Mission Stmt - 5 | *An environment that is conducive to learning and encourages students from different genders and backgrounds* |

## 32. (b) Program Educational Objectives (PEO)

| | |
|---|---|
| PEO - 1 | *Develop innovative and sustainable products with multidisciplinary Engineering expertise.* |
| PEO - 2 | *Solve complex engineering problems by applying mechanical, electrical and computer knowledge and engage in lifelong learning in their profession.* |
| PEO - 3 | *Work or pursue higher education in multicultural, multilingual and multinational environment with competent oral and written communication.* |
| PEO - 4 | *Lead and contribute in a team entrusted with professional, social and ethical responsibilities.* |
| PEO - 5 | *Practice in engineering-related fields chosen from a broad range of industries* |

## 32. (c) Mission of the Department to Program Educational Objectives (PEO) Mapping

| | Mission Stmt - 1 | Mission Stmt - 2 | Mission Stmt - 3 | Mission Stmt - 4 | Mission Stmt - 5 |
|---|---|---|---|---|---|
| PEO - 1 | *H* | *H* | *H* | *H* | *M* |
| PEO - 2 | *H* | *H* | *M* | *M* | *H* |
| PEO - 3 | *H* | *H* | *H* | *H* | *M* |
| PEO - 4 | *M* | *M* | *H* | *H* | *M* |
| PEO - 5 | *H* | *M* | *M* | *M* | *H* |

H – High Correlation, M – Medium Correlation, L – Low Correlation

## 32. (d) Mapping Program Educational Objectives (PEO) to Program Learning Outcomes (PLO)

| | Program Learning Outcomes (PLO) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Graduate Attributes (GA) | | | | | | | | | | | | Program Specific Outcomes (PSO) | | |
| | Engineering Knowledge | Problem Analysis | Design & Development | Analysis, Design, Research | Modern Tool Usage | Society & Culture | Environment & Sustainability | Ethics | Individual & Team Work | Communication | Project Mgt. & Finance | Life Long Learning | PSO - 1 | PSO - 2 | PSO - 3 |
| PEO - 1 | *H* | *H* | *H* | *H* | *M* | *M* | *L* | *H* | *H* | *H* | *L* | *H* | *H* | *H* | *H* |
| PEO - 2 | *H* | *H* | *M* | *M* | *L* | *H* | *H* | *H* | *H* | *L* | *L* | *M* | *H* | *H* | *L* |
| PEO - 3 | *M* | *M* | *M* | *M* | *H* | *H* | *H* | *H* | *L* | *M* | *H* | *H* | *H* | *L* | *M* |
| PEO - 4 | *H* | *M* | *M* | *M* | *M* | *H* | *M* | *M* | *H* | *H* | *H* | *H* | *M* | *H* | *H* |
| PEO - 5 | *M* | *M* | *L* | *H* | *H* | *H* | *H* | *L* | *L* | *M* | *L* | *H* | *H* | *H* | *M* |

H – High Correlation, M – Medium Correlation, L – Low Correlation

PSO – Program Specific Outcomes (PSO)

| | |
|---|---|
| PSO - 1 | *Ability to work in design, implementation and integration of engineering applications, such as electronic, mechanical, electromechanical, control and computer systems that contain software and hardware components, including sensors, actuators and controllers.* |
| PSO - 2 | *Ability to recognize and apply the recent technological advancements for developing robotic products to cater the global needs* |
| PSO - 3 | *Ability to Automate and maintain the robotic systems by using electrical and electronic devices as well as computational tools* |

## 32. (e) Program Structure:B.Tech. in Mechatronics Engineering with Specialization in Robotics

| Humanities & Social Sciences including Management Courses (H) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18LEH101J | English | 2 | 0 | 2 | 3 |
| 18LEH102J | Chinese | | | | |
| 18LEH103J | French | | | | |
| 18LEH104J | German | 2 | 0 | 2 | 3 |
| 18LEH105J | Japanese | | | | |
| 18LEH106J | Korean | | | | |
| 18PDH101T | General Aptitude | 0 | 0 | 2 | 1 |
| 18PDH102T | Management Principles for Engineers | 2 | 0 | 0 | 2 |
| 18PDH103T | Social Engineering | 2 | 0 | 0 | 2 |
| 18PDH201T | Employability Skills & Practices | 0 | 0 | 2 | 1 |
| **Total Learning Credits** | | | | | **12** |

| Professional Core Courses (C) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18MHC101J | Mechanics of Solids and Fluids | 3 | 0 | 2 | 4 |
| 18MHC102T | Electrical Machines and Actuators | 3 | 0 | 0 | 3 |
| 18MHC103T | Solid State Devices and Circuits | 3 | 0 | 0 | 3 |
| 18MHC104L | Electrical and Electronics Laboratory | 0 | 0 | 4 | 2 |
| 18MHC105J | Fluid power system and Automation | 3 | 0 | 2 | 4 |
| 18MHC106T | Kinematics and Dynamics of Rigid Bodies and Mechanisms | 3 | 1 | 0 | 4 |
| 18MHC107T | System Dynamics | 3 | 0 | 0 | 3 |
| 18MHC108J | Digital Systems and Microprocessors | 3 | 0 | 2 | 4 |
| 18MHC201J | Linear and Digital Control Systems | 3 | 0 | 2 | 4 |
| 18MHC202J | Sensors and Signal Conditioning | 3 | 0 | 2 | 4 |
| 18MHC203J | Machine Design | 3 | 0 | 2 | 4 |
| 18MHC204T | Power Electronics and Drives | 3 | 0 | 0 | 3 |
| 18MHC205J | Microcontrollers and Embedded System | 3 | 0 | 2 | 4 |
| 18MHC301J | Manufacturing Processes | 3 | 0 | 2 | 4 |
| 18MHC302J | Design of Mechatronics System | 3 | 0 | 2 | 4 |
| 18MHC350T | Comprehension | 0 | 1 | 0 | 1 |
| **Total Learning Credits** | | | | | **55** |

| Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18MHP101L | Massive Open Online Course - I | | | | |
| 18MHP102L | Industrial Training-I | 0 | 0 | 2 | 1 |
| 18MHP103L | Seminar - I | | | | |
| 18MHP104L | Massive Open Online Course - II | | | | |
| 18MHP105L | Industrial Training-II | 0 | 0 | 2 | 1 |
| 18MHP106L | Seminar - II | | | | |
| 18MHP107L | Minor Project | 0 | 0 | 6 | 3 |
| 18MHP108L | Internship (4-6 weeks) | | | | |
| 18MHP109L | Project | 0 | 0 | 20 | 10 |
| 18MHP110L | Semester Internship | | | | |
| **Total Learning Credits** | | | | | **15** |

| Open Elective Courses (O) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18MHO101T | Mechatronics | 3 | 0 | 0 | 3 |
| 18MHO102T | Model Based System Design | 3 | 0 | 0 | 3 |
| 18MHO103T | Introduction to Robotics | 3 | 0 | 0 | 3 |
| **Total Learning Credits** | | | | | **9** |

| Basic Science Courses (B) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18PYB101J | Physics: Electromagnetic Theory, Quantum Mechanics, Waves and Optics | 3 | 1 | 2 | 5 |
| 18CYB101J | Chemistry | 3 | 1 | 2 | 5 |
| 18MAB101T | Calculus and Linear Algebra | 3 | 1 | 0 | 4 |
| 18MAB102T | Advanced Calculus and Complex Analysis | 3 | 1 | 0 | 4 |
| 18MAB201T | Transforms and Boundary Value Problems | 3 | 1 | 0 | 4 |
| 18MAB202T | Numerical Methods for Engineers | 3 | 1 | 0 | 4 |
| 18MAB301T | Probability and Statistics | 3 | 1 | 0 | 4 |
| 18BTB101T | Biology | 2 | 0 | 0 | 2 |
| **Total Learning Credits** | | | | | **32** |

| Engineering Science Courses (S) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18MES101L | Engineering Graphics and Design | 1 | 0 | 4 | 3 |
| 18MES103L | Civil and Mechanical Engineering Workshop | 1 | 0 | 4 | 3 |
| 18EES101J | Basic Electrical and Electronics Engineering | 3 | 1 | 2 | 5 |
| 18CSS101J | Programming for Problem Solving | 3 | 0 | 4 | 5 |
| 18MHS201T | Thermodynamics and Heat Transfer | 3 | 0 | 0 | 3 |
| **Total Learning Credits** | | | | | **19** |

| Professional Elective Courses (E) (Any 6 Elective Courses) | | | | | |
|---|---|---|---|---|---|
| Course Code | Course Title | Hours/ Week L | T | P | C |
| 18MHE451T | Robotics | 3 | 0 | 0 | 3 |
| 18MHE452T | Mechanics of Manipulation | 3 | 0 | 0 | 3 |
| 18MHE453T | Mobile Robotics | 3 | 0 | 0 | 3 |
| 18MHE454T | Robot Control | 3 | 0 | 0 | 3 |
| 18MHE455T | Computer Vision and Its Applications | 3 | 0 | 0 | 3 |
| 18MHE456T | Advanced Computer Vision | 3 | 0 | 0 | 3 |
| 18MHE457T | Vision Guided Robotics | 3 | 0 | 0 | 3 |
| 18MHE458T | Advanced Robotics | 3 | 0 | 0 | 3 |
| 18MHE459T | Applied Robotics | 3 | 0 | 0 | 3 |
| 18MHE460T | Planning and Decision Making in Robotics | 3 | 0 | 0 | 3 |
| 18MHE461T | Artificial Intelligence for Robotics and Vision | 3 | 0 | 0 | 3 |
| 18MHE462T | Systems Engineering and Management for Robotics | 3 | 0 | 0 | 3 |
| **Total Learning Credits** | | | | | **18** |

| Mandatory Courses (M) | | | | | |
|---|---|---|---|---|---|
| Code | Course Title | L | T | P | C |
| 18PDM101L | Professional Skills and Practices | 0 | 0 | 2 | 0 |
| 18PDM201L | Competencies in Social Skills | 0 | 0 | 2 | 0 |
| 18PDM203L | Entrepreneurial Skill Development | | | | |
| 18PDM202L | Critical and Creative Thinking Skills | 0 | 0 | 2 | 0 |
| 18PDM204L | Business Basics for Entrepreneurs | | | | |
| 18PDM301L | Analytical and Logical Thinking Skills | 0 | 0 | 2 | 0 |
| 18PDM302L | Entrepreneurship Management | | | | |
| 18LEM101T | Constitution of India | 1 | 0 | 0 | 0 |
| 18LEM102J | Value Education | 1 | 0 | 1 | 0 |
| 18GNM101L | Physical and Mental Health using Yoga | 0 | 0 | 2 | 0 |
| 18GNM102L | NSS | 0 | 0 | 2 | 0 |
| 18GNM103L | NCC | | | | |
| 18GNM104L | NSO | | | | |
| 18LEM109T | Indian Traditional Knowledge | 1 | 0 | 0 | 0 |
| 18LEM110L | Indian Art Form | 0 | 0 | 2 | 0 |
| 18CYM101T | Environmental Science | 1 | 0 | 0 | 0 |

## 32. (f) Program Articulation:B.Tech. in Mechatronics Engineering with Specialization in Robotics

| Course Code | Course Name | Program Learning Outcomes (PLO) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Graduate Attributes | | | | | | | | | | | | PSO | | |
| | | Engineering Knowledge | Problem Analysis | Design & Development | Analysis, Design, Research | Modern Tool Usage | Society & Culture | Environment & Sustainability | Ethics | Individual & Team Work | Communication | Project Mgt. & Finance | Life Long Learning | PSO - 1 | PSO - 2 | PSO - 3 |
| 18MHS201T | Thermodynamics and Heat Transfer | H | H | M | M | M | L | M | M | L | M | L | H | M | M | L |
| 18MHC101J | Mechanics of Solids and Fluids | H | M | M | M | M | L | M | L | M | M | L | H | H | H | H |
| 18MHC102T | Electrical Machines and Actuators | H | M | M | M | M | L | M | L | M | M | M | H | H | H | H |
| 18MHC103T | Solid State Devices and Circuits | H | H | M | M | M | L | L | L | M | M | M | M | M | M | M |
| 18MHC104L | Electrical and Electronics Laboratory | H | H | H | H | M | L | L | L | M | L | M | H | L | H | L |
| 18MHC105J | Fluid power system and Automation | H | H | M | H | M | L | M | M | L | L | M | H | M | L | M |
| 18MHC106T | Kinematics and Dynamics of Rigid Bodies and Mechanisms | H | H | H | H | M | L | L | L | M | M | M | M | L | L | L |
| 18MHC107T | System Dynamics | H | H | H | H | M | L | L | L | H | L | M | H | H | H | L |
| 18MHC108L | Digital Systems and Microprocessors | H | H | M | H | M | L | M | M | L | L | M | H | M | L | M |
| 18MHC201J | Linear and Digital Control Systems | H | H | M | M | M | L | L | L | M | M | M | M | M | M | M |
| 18MHC202J | Sensors and Signal Conditioning | H | H | H | H | M | M | M | L | L | L | M | M | L | L | L |
| 18MHC203J | Machine Design | H | H | H | H | M | L | M | L | H | L | M | H | M | H | L |
| 18MHC204T | Power Electronics and Drives | H | H | M | H | M | L | L | L | M | M | M | H | M | M | L |
| 18MHC205J | Microcontrollers and Embedded System | H | H | M | M | H | H | H | L | M | L | L | H | H | M | M |
| 18MHC301J | Manufacturing Processes | H | H | M | M | M | L | L | L | M | M | M | M | M | M | M |
| 18MHC302J | Design of Mechatronics System | H | H | M | M | M | L | L | L | M | M | H | M | M | M | M |
| 18MHE451T | Robotics | H | H | M | H | M | L | L | L | M | M | M | H | M | M | M |
| 18MHE452T | Mechanics of Manipulation | H | H | M | H | M | L | L | L | M | M | M | H | M | M | M |
| 18MHE453T | Mobile Robotics | H | H | M | H | M | L | L | L | M | M | M | H | M | M | M |
| 18MHE454T | Robot Control | H | H | H | H | M | M | H | M | M | M | H | H | M | M | H |
| 18MHE455T | Computer Vision and Its Applications | H | H | H | H | L | M | H | L | L | L | L | H | H | M | M |
| 18MHE456T | Advanced Computer Vision | H | M | M | M | M | L | M | L | M | M | M | H | H | H | H |
| 18MHE457T | Vision Guided Robotics | H | H | H | H | M | L | L | L | L | L | L | M | M | M | M |
| 18MHE458T | Advanced Robotics | H | H | H | H | M | M | H | L | L | L | L | H | M | M | M |
| 18MHE459T | Applied Robotics | H | H | H | H | M | L | L | L | M | M | M | M | M | M | M |
| 18MHE460T | Planning and Decision Making in Robotics | H | H | H | H | H | M | M | L | M | L | M | H | H | H | M |
| 18MHE461T | Artificial Intelligence for Robotics and Vision | H | H | H | H | M | H | M | L | M | M | H | M | M | H | M |
| 18MHE462T | Systems Engineering and Management for Robotics | H | H | M | H | M | L | L | L | M | M | M | H | M | M | M |
| 18MHP101L | Massive Open Online Course - I | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP102L | Industrial Training-I | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP103L | Seminar - I | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP104L | Massive Open Online Course - II | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP105L | Industrial Training-II | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP106L | Seminar - II | H | M | M | M | M | M | M | M | H | H | H | M | H | H | H |
| 18MHP107L | Minor Project | H | H | H | H | H | M | M | H | H | H | H | H | H | M | M |
| 18MHP108L | Internship (4-6 weeks) | H | H | H | H | H | M | M | H | H | H | H | H | H | M | M |
| 18MHP109L | Project | H | H | H | H | H | M | M | H | H | H | H | H | H | M | M |
| 18MHP110L | Semester Internship | H | H | H | H | H | M | M | H | H | H | H | H | H | M | M |
| | Program Average | H | H | H | H | H | M | M | H | H | H | H | H | H | M | M |

## 32. (g) Implementation Plan: B.Tech. in Mechatronics Engineering with Specialization in Robotics

**Semester - I**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18LEH10XJ | Chinese / French / German / Japanese/ Korean | 2 | 0 | 2 | 3 |
| 18MAB101T | Calculus and Linear Algebra | 3 | 1 | 0 | 4 |
| 18CYB101J | Chemistry | 3 | 1 | 2 | 5 |
| 18CSS101J | Programming for Problem Solving | 3 | 0 | 4 | 5 |
| 18MES103L | Civil and Mechanical Engineering Workshop | 1 | 0 | 4 | 3 |
| 18PDM101L | Professional Skills and Practices | 0 | 0 | 2 | 0 |
| 18LEM102J | Value Education | 1 | 0 | 1 | 0 |
| 18GNM102L | NSS | 0 | 0 | 2 | 0 |
| 18GNM103L | NCC | | | | |
| 18GNM104L | NSO | | | | |
| **Total Learning Credits** | | | | | **20** |

**Semester - II**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18LEH101J | English | 2 | 0 | 2 | 3 |
| 18MAB102T | Advanced Calculus and Complex Analysis | 3 | 1 | 0 | 4 |
| 18PYB101J | Physics: Electromagnetic Theory, Quantum Mechanics, Waves and Optics | 3 | 1 | 2 | 5 |
| 18MES101L | Engineering Graphics and Design | 1 | 0 | 4 | 3 |
| 18EES101J | Basic Electrical and Electronics Engineering | 3 | 1 | 2 | 5 |
| 18PDH101T | General Aptitude | 0 | 0 | 2 | 1 |
| 18LEM101T | Constitution of India | 1 | 0 | 0 | 0 |
| 18GNM101L | Physical and Mental Health using Yoga | 0 | 0 | 2 | 0 |
| **Total Learning Credits** | | | | | **21** |

**Semester - III**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MAB201T | Transforms and Boundary Value Problems | 3 | 1 | 0 | 4 |
| 18MHS201T | Thermodynamics and Heat Transfer | 3 | 0 | 0 | 3 |
| 18MHC101J | Mechanics of Solids and Fluids | 3 | 0 | 2 | 4 |
| 18MHC102T | Electrical Machines and Actuators | 3 | 0 | 0 | 3 |
| 18MHC103T | Solid State Devices and Circuits | 3 | 0 | 0 | 3 |
| 18MHC104L | Electrical and Electronics Laboratory | 0 | 0 | 4 | 2 |
| 18PDH103T | Social Engineering | 2 | 0 | 0 | 2 |
| 18PDM201L | Competencies in Social Skills | 0 | 0 | 2 | 0 |
| 18PDM203L | Entrepreneurial Skill Development | | | | |
| 18CYM101T | Environmental Science | 1 | 0 | 0 | 0 |
| **Total Learning Credits** | | | | | **21** |

**Semester - IV**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MAB202T | Numerical Methods for Engineers | 3 | 1 | 0 | 4 |
| 18BTB101T | Biology | 2 | 0 | 0 | 2 |
| 18MHC105J | Fluid power system and Automation | 3 | 0 | 2 | 4 |
| 18MHC106T | Kinematics and Dynamics of Rigid Bodies and Mechanisms | 3 | 1 | 0 | 4 |
| 18MHC107T | System Dynamics | 3 | 0 | 0 | 3 |
| 18MHC108J | Digital Systems and Microprocessors | 3 | 0 | 2 | 4 |
| 18PDH102T | Management Principles for Engineers | 2 | 0 | 0 | 2 |
| 18PDM202L | Critical and Creative Thinking Skills | 0 | 0 | 2 | 0 |
| 18PDM204L | Business Basics for Entrepreneurs | | | | |
| **Total Learning Credits** | | | | | **23** |

**Semester - V**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MAB301T | Probability and Statistics | 3 | 1 | 0 | 4 |
| 18MHC201J | Linear and Digital Control Systems | 3 | 0 | 2 | 4 |
| 18MHC202J | Sensors and Signal Conditioning | 3 | 0 | 2 | 4 |
| | Professional Elective – 1 | 3 | 0 | 0 | 3 |
| | Professional Elective – 2 | 3 | 0 | 0 | 3 |
| | Professional Elective – 3 | 3 | 0 | 0 | 3 |
| | Open Elective – 1 | 3 | 0 | 0 | 3 |
| 18MHP101L | Massive Open Online Course - I | 0 | 0 | 2 | 1 |
| 18MHP102L | Industrial Training-I | | | | |
| 18MHP103L | Seminar - I | | | | |
| 18PDM301L | Analytical and Logical Thinking Skills | 0 | 0 | 2 | 0 |
| 18PDM302L | Entrepreneurship Management | | | | |
| 18LEM110L | Indian Art Form | 0 | 0 | 2 | 0 |
| **Total Learning Credits** | | | | | **25** |

**Semester - VI**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MHC203J | Machine Design | 3 | 0 | 2 | 4 |
| 18MHC204T | Power Electronics and Drives | 3 | 0 | 0 | 3 |
| 18MHC205J | Microcontrollers and Embedded System | 3 | 0 | 2 | 4 |
| 18MHC350T | Comprehension | 0 | 1 | 0 | 1 |
| | Professional Elective – 4 | 3 | 0 | 0 | 3 |
| | Professional Elective – 5 | 3 | 0 | 0 | 3 |
| | Open Elective – 2 | 3 | 0 | 0 | 3 |
| 18MHP104L | Massive Open Online Course - II | 0 | 0 | 2 | 1 |
| 18MHP105L | Industrial Training-II | | | | |
| 18MHP106L | Seminar - II | | | | |
| 18PDH201T | Employability Skills and Practices | 0 | 0 | 2 | 1 |
| 18LEM109T | Indian Traditional Knowledge | 1 | 0 | 0 | 0 |
| **Total Learning Credits** | | | | | **23** |

**Semester - VII**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MHC301J | Manufacturing Processes | 3 | 0 | 2 | 4 |
| 18MHC302J | Design of Mechatronics System | 3 | 0 | 2 | 4 |
| | Professional Elective – 6 | 3 | 0 | 0 | 3 |
| | Open Elective – 3 | 3 | 0 | 0 | 3 |
| 18MHP107L | Minor Project | 0 | 0 | 6 | 3 |
| 18MHP108L | Internship (4-6 weeks) | | | | |
| **Total Learning Credits** | | | | | **17** |

**Semester - VIII**

| Code | Course Title | Hours/ Week L | T | P | C |
|---|---|---|---|---|---|
| 18MHP109L | Project | 0 | 0 | 20 | 10 |
| 18MHP110L | Semester Internship | | | | |
| **Total Learning Credits** | | | | | **10** |