

B.Tech in Mechanical Engineering (2018-2019)

| Sem | Course Code Course Name (L-T-P)C | | | | | | | General Proficiency Courses | Software Skill Enhancement/Soft Skill Development/Competitive Exam Preparation | Community Service | Lect. Courses | L | T | P | Weekly Contact | Credits | |
|----------------------|--|---|---|--|---|---|---|--|---|---|---------------|----|----|----|-----------------------|---------|----|
| I | MAL151 Engineering Maths-I (3-0-2) 4 | PYL150 Engineering Physics (3-0-2) 4 | CLL101 Eff. Comm.-I (1-0-2) 2 | CSL106 FOCP-I (1-0-2) 2 | MEL150 Basics of Mechanical Engineering (2-0-2) 3 | ECL110 Basics of Electrical & Electronics Engg. (3-0-2) 4 | | MER118 General Proficiency (--) 1 | | | 6 | 13 | -- | 12 | 25 | 20 | |
| II | MAL152 Engineering Maths-II (3-0-2) 4 | CHL150 Engg. Chemistry (2-0-2) 3 | CLL102 Eff. Comm.-II (1-0-2) 2 | CSL108 FOCP-II (1-0-2) 2 | MEP110 Engg Graphics & Drg (1-0-3) 3 | CLL 120 Human Values and professional Ethics (2-0-0) 2 | CSL110 Problem Solving and design thinking (2-0-2)3 | MER119 General Proficiency (--) 1 | | | 6 | 12 | -- | 13 | 25 | 20 | |
| | MED 210: Minor Project | | | | | | | | | | | | | | | | 02 |
| III | MEL215 Production Engineering (3-0-2) 4 | MEL203 Mechanics of Solids-I (3-0-2) 4 | MEL290 Thermodynamics (3-1-0) 4 | MEL205 Engg. Mechanics (3-1-0) 4 | MEP207 M/c Drawing (0-0-4) 2 | OE-1 3 Credits | | MER218 General Proficiency (--) 1 | MEP200 Special Software Solidworks/ANSYS/MATLAB/other software packages (0-0-2) 1 | | 5 | 15 | 2 | 10 | 27 | 23 | |
| IV | MEL314 Energy Conversion (3-0-2) 4 | MEL206 Theory of Machines (3-1-0) 4 | MEL208 Fluid Mechanics (3-1-0) 4 | MEL209 Materials Science and Engg. (2-0-2) 3 | OE-2 3 Credits | CLP120 Creative Writing (0-0-2) 1 | | MER219 General Proficiency (--) 1 | MEP220 Special Software Solidworks/ANSYS/MATLAB/other software packages (0-0-2) 1 | | 5 | 14 | 2 | 8 | 24 | 21 | |
| | MET 310: Industrial Training I | | | | | | | | | | | | | | | | 02 |
| V | MEL202 Heat and Mass Transfer (3-1-2) 5 | MEL207 Machine Design I (3-1-0) 4 | MEL303 Fluid Machines (2-1-2) 4 | OE-3 (Foreign Language) (1-2-0) 3 | SML300 Entrepreneurship (2-0-2) 3 Credits | MEC321 Seminar 1 Credit | | MER318 General Proficiency (--) 1 | MEP300 Special Software Solidworks/ANSYS/MATLAB/other software packages (0-0-2) 1 | MES301 CS-V (35 Hours) NC | 5 | 11 | 5 | 8 | 24 | 22 | |
| VI | MEL 326 Instrumentation & Control Engineering (3-0-2) 4 | MEL 310 Industrial Engineering (3-1-0) 4 | MEL 306 Machine Design II (2-2-0) 4 | CHL100 Environmental Studies (3-0-0) 3 | OE-4 3 Credits | MED320 Project Based Learning Tinkering lab. 1 Credit | | MER319 General Proficiency (--) 1 | CLP300 Campus to Corporate (0-0-2) 1 | MES302 CS-VI (35 Hours) 1 Credit | 5 | 14 | 3 | 4 | 21 | 21+1 | |
| | MET 410: Industrial Training-II+ Community Service (70 Hrs) | | | | | | | | | | | | | | | | 03 |
| VII | MED423 Major Project I Credits-4 | MEL401 Operations Research (2-1-0) 3 | PE-1 3 Credits | PE-2 3 Credits | PE-3 3 Credits | PE-4 3 Credits | | MER418 General Proficiency (--) 1 | | MES401 CS-VII (70 Hours) NC | 5 | 14 | 1 | | 15 | 20 | |
| VIII | MED424 Major Project II Credits-6 | PE-5 3 Credits Could be offered through MOOCs | PE-6 3 Credits Could be offered through MOOCs | | | Optional pre-placement training (6 credits). Student opting for it is not required to register for Major Project II | | MER419 General Proficiency (--) 1 | SEG400 Self Study Course GATE NC | MES402 CS-VIII (70 Hours) 2 Credit | 2 | 6 | | | 6 | 13+2 | |
| TOTAL CREDITS | | | | | | | | | | | | | | | 167 +3=170 | | |

| Set of Programme Electives for Specialization | | | | | | |
|--|--|---|---|---|---|---|
| 4 th year | | | | | | |
| Thermal Engineering | MEL312 ICE & GT (2-0-2) 3 | MEL402 RAC (2-1-2) 4 | MEL404 Power Plant Engineering (2-1-0) 3 | MEL 611-TH Renewable Energy Systems (2-1-0) 3 | MEL410 Design of Thermal Systems (2-1-0) 3 | MEL621-TH Analysis of IC Engine systems (2-1-0) 3 |
| Mechanical Engineering Design | MEL315 Mechanics of Solids II (2-1-0) 3 | MEL625-MD Vibration and Noise Engineering (2-0-2)3 | MEL627-MD Mechatronics (2-0-2)3 | MEL510 Introduction to FEM (2-1-0) 3 | MEL420 Advanced Theory of Machines (2-0-2) 3 | MEL560 Advanced Machine Design (2-1-0) 3 |
| Industrial & Production Engineering | MEL318 Modern Manufacturing Processes (3-0-0) 3 | MEL403 Computer Aided Manufacturing (2-0-2)3 | MEL627-MD Mechatronics (2-0-2)3 | MEL408 Quality Assurance and Reliability Engineering (2-1-0) 3 | MEL412 Supply Chain Management (2-1-0) 3 | MEL570 Production & Operations Management (2-1-0) 3 |
| Automobile Engineering | MEL625-MD Vibration and Noise Engineering (2-0-2) 3 | MEL319 Automobile System Engineering (2-1-0) 3 | MEL418 Vehicle Development and Testing (2-1-0) 3 | MEL627-MD Mechatronics (2-0-2)3 | MEL409 Emerging Automotive Technologies (2-1-0) 3 | MEL613-AE Automotive Safety (2-1-0) 3 |
| Minimum and maximum number of registered students in each elective should be 20 and 60 respectively. | | | | | | |