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# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

**(Established by Andhra Pradesh Act No.30 of 2008)**

**Kukatpally, Hyderabad – 500 085, Andhra Pradesh (India)**

## B.TECH. MECHANICAL ENGINEERING

**I YEAR**

| Code | Subject | L | T/P/D | Credits |
|---|---|---|---|---|
| | English | 2 | - | 4 |
| | Mathematics – I | 3 | 1 | 6 |
| | Engineering Mechanics | 3 | - | 6 |
| | Engineering Physics | 3 | - | 6 |
| | Engineering Chemistry | 3 | - | 6 |
| | Computer Programming | 3 | - | 6 |
| | Engineering Drawing | 2 | 3 | 6 |
| | Computer Programming Lab. | - | 3 | 4 |
| | Engineering Physics & Engineering Chemistry Lab | - | 3 | 4 |
| | English Language Communication Skills Lab. | - | 3 | 4 |
| | Engineering Workshop | - | 3 | 4 |
| | **Total** | **19** | **16** | **56** |

**II YEAR I SEMESTER**

| Code | Subject | L | P/D | C |
|---|---|---|---|---|
| | Environmental Studies | 4 | - | 4 |
| | Probability and Statistics | 4 | - | 4 |
| | Electrical and Electronics Engineering | 4 | - | 4 |
| | Mechanics of Solids | 4 | - | 4 |
| | Thermodynamics | 4 | - | 4 |
| | Metallurgy and Materials Science | 4 | - | 4 |
| | Electrical and Electronics Engineering Lab | - | 3 | 2 |
| | Metallurgy & Mechanics of Solids Lab | - | 3 | 2 |
| | **Total** | **24** | **6** | **28** |

**II YEAR II SEMESTER**

| Code | Subject | L | T/P/D | C |
|---|---|---|---|---|
| | Production Technology | 4 | - | 4 |
| | Kinematics of Machinery | 4 | - | 4 |
| | Thermal Engineering -I | 4 | - | 4 |
| | Mechanics of Fluids and Hydraulic Machines | 4 | - | 4 |
| | Machine Drawing | - | 6 | 4 |
| | Mathematics –II | 4 | - | 4 |
| | Production Technology Lab | - | 3 | 2 |
| | Mechanics of Fluids & Hydraulic Machines Lab | - | 3 | 2 |
| | **Total** | **20** | **12** | **28** |

**III YEAR I SEMESTER**

| Code | Subject | L | T/P/D | C |
|---|---|---|---|---|
| | Managerial Economics and Financial Analysis | 4 | - | 4 |
| | Engineering Metrology | 4 | - | 4 |
| | Dynamics of Machinery | 4 | - | 4 |
| | Machine Tools | 4 | - | 4 |
| | Design of Machine Members – I | 4 | - | 4 |
| | Thermal Engineering -II | 4 | - | 4 |
| | Machine Tools & Metrology Lab | - | 3 | 2 |
| | Thermal Engineering Lab | - | 3 | 2 |
| | **Total** | **24** | **6** | **28** |

**III YEAR II SEMESTER**

| Code | Subject | L | T/P/D | C |
|---|---|---|---|---|
| | Automobile Engineering | 4 | - | 4 |
| | Finite Element Methods | 4 | - | 4 |
| | Refrigeration and Air Conditioning | 4 | - | 4 |
| | Design of Machine Members – II | 4 | - | 4 |
| | Heat Transfer | 4 | - | 4 |
| | **Open Elective**<br>Disaster Management<br>Intellectual Property Rights<br>Human Values and Professional Ethics | 4 | - | 4 |
| | Heat Transfer Lab | - | 3 | 2 |
| | Advanced Communication Skills Lab | - | 3 | 2 |
| | **Total** | **24** | **6** | **28** |

**IV YEAR I SEMESTER**

| Code | Subject | L | T/P/D | C |
|---|---|---|---|---|
| | Operations Research | 4 | - | 4 |
| | Power Plant Engineering | 4 | - | 4 |
| | CAD/CAM | 4 | - | 4 |
| | Instrumentation and Control Systems | 4 | - | 4 |
| | **ELECTIVE – I**<br>Robotics<br>Mechanical Vibrations<br>Mechatronics<br>Composite Materials<br>Industrial Management | 4 | - | 4 |
| | **ELECTIVE – II**<br>Unconventional Machining Processes<br>CNC Technology<br>Automation in Manufacturing<br>Design for Manufacturing<br>Nanotechnology | 4 | - | 4 |
| | Computer Aided Design & Manufacturing Lab | - | 3 | 2 |
| | Production Drawing Practice and Instrumentation Lab | - | 3 | 2 |
| | **Total** | **24** | **6** | **28** |

**IV YEAR II SEMESTER**

| Code | Subject | L | T/P/D | C |
|---|---|---|---|---|
| | Production Planning and Control | 4 | - | 4 |
| | **ELECTIVE – III**<br>Artificial Neural Networks<br>Total Quality Management<br>Maintenance and Safety Engineering<br>Plant Layout & Material Handling | 4 | - | 4 |
| | **ELECTIVE – IV**<br>Renewable Energy Sources<br>Jet Propulsion & Rocket Engineering<br>Computational Fluid Dynamics<br>Gas Dynamics | 4 | - | 4 |
| | Industry Oriented Mini Project | - | - | 2 |
| | Seminar | - | 6 | 2 |
| | Project Work | - | 15 | 10 |
| | Comprehensive Viva | - | - | 2 |
| | **Total** | **12** | **21** | **28** |

**Note:** All End Examinations (Theory and Practical) are of three hours duration.

**T-Tutorial L – Theory P – Practical/Drawing C – Credits**