



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme

B.Tech. : Mechanical Engineering 2nd Year - III Semester

| THEORY | | | | | | | | | | | |
|------------------------------|----------|---------------------|--|------------------|---|----|---------|-----|-----|-------|------|
| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr |
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | |
| | | | | | | | | | | | |
| 1 | BSC | 3ME2-01 | Advance Engineering Mathematics-I | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 2 | HSMC | 3ME1-02/ 3ME1-03 | Technical Communication/ Managerial Economics and Financial Accounting | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 |
| 3 | ESC | 3ME3-04 | Engineering Mechanics | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 |
| 4 | PCC | 3ME4-05 | Engineering Thermodynamics | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 5 | | 3ME4-06 | Materials Science and Engineering | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 6 | | 3ME4-07 | Mechanics of Solids | 3 | 1 | 0 | 3 | 40 | 160 | 200 | 4 |
| Sub Total | | | | 16 | 1 | 0 | | 170 | 680 | 850 | 17 |
| PRACTICAL & SESSIONAL | | | | | | | | | | | |
| 7 | PCC | 3ME4-21 | Machine drawing practice | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 8 | | 3ME4-22 | Materials Testing Lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 9 | | 3ME4-23 | Basic Mechanical Engineering Lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 10 | | 3ME4-24 | Programming using MATLAB | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 11 | PSIT | 3ME7-30 | Industrial Training | 0 | 0 | 1 | | 0 | 0 | 50 | 1 |
| 12 | SODE CA | 3ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | 0 | 0 | 0 | | 0 | 0 | 25 | 0.5 |
| Sub- Total | | | | 0 | 0 | 13 | | 180 | 120 | 375 | 7.5 |
| TOTAL OF III SEMESTER | | | | 16 | 1 | 13 | | 350 | 800 | 1225 | 24.5 |

L: Lecture, T: Tutorial, P: Practical, Cr: Credits

ETE: End Term Exam, IA: Internal Assessment



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme

B.Tech. : Mechanical Engineering 2nd Year - IV Semester

THEORY

| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr |
|------------------|----------|---------------------|--|---------------------|---|---|---------|-----|-----|-------|-----|
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | |
| | | | | | | | | | | | |
| 1 | BSC | 4ME2-01 | Data analytics | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 |
| 2 | HSM C | 4ME1-03/ 4ME1-02 | Managerial Economics and Financial Accounting/ Technical Communications | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 |
| 3 | | ESC | 4ME3-04 | Digital Electronics | 2 | 0 | 0 | 2 | 20 | 80 | 100 |
| 4 | PCC | 4ME4-05 | Fluid Mechanics and Fluid Machines | 3 | 1 | 0 | 3 | 40 | 160 | 200 | 4 |
| 5 | | 4ME4-06 | Manufacturing Processes | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 6 | | 4ME4-07 | Theory of machines | 3 | 1 | 0 | 3 | 40 | 160 | 200 | 4 |
| Sub Total | | | | 15 | 2 | 0 | | 170 | 680 | 850 | 17 |

PRACTICAL & SESSIONAL

| | | | | | | | | | | | |
|-----------------------------|----------------|---------|---|----|---|----|--|-----|-----|------|------|
| 7 | PCC | 4ME3-21 | Digital Electronics lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 8 | | 4ME4-22 | Fluid Mechanics lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 9 | | 4ME4-23 | Production practice lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 10 | | 4ME4-24 | Theory of machines Lab | 0 | 0 | 3 | | 45 | 30 | 75 | 1.5 |
| 11 | SO DE CA | 4ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | 0 | 0 | 0 | | 0 | 0 | 25 | 0.5 |
| Sub- Total | | | | 0 | 0 | 12 | | 180 | 120 | 325 | 6.5 |
| TOTAL OF IV SEMESTER | | | | 15 | 2 | 12 | | 350 | 800 | 1175 | 23.5 |

L: Lecture, T: Tutorial, P: Practical, Cr: Credits

ETE: End Term Exam, IA: Internal Assessment



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech. : Mechanical Engineering 3rd Year –V Semester

| THEORY | | | | | | | | | | | | |
|-----------------------|-------------|-----------------------------------|---|------------------|----------|----------|---------|------------|------------|-------------|-----------|--|
| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr | |
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | | |
| | | | | | | | | | | | | |
| 1 | ESC | 5ME3-01 | Mechatronic Systems | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 | |
| 2 | PCC/ PEC | 5ME4-02 | Heat Transfer | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 3 | | 5ME4-03 | Manufacturing Technology | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 4 | | 5ME4-04 | Design of Machine Elements I | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 5 | | 5ME4-05 | Principles of Management | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 | |
| 6 | | Professional Elective I (any one) | | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| | | 5ME5-11 | Steam Engineering | | | | | | | | | |
| | | 5ME5-12 | Automobile Engineering | | | | | | | | | |
| | | 5ME5-13 | Non Destructive Evaluation & Testing | | | | | | | | | |
| | | Sub Total | | 16 | 0 | 0 | | 160 | 640 | 800 | 16 | |
| PRACTICAL & SESSIONAL | | | | | | | | | | | | |
| 7 | ESC | 5ME3-21 | Mechatronic Lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 | |
| 8 | PCC | 5ME4-22 | Heat Transfer lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 | |
| 9 | | 5ME4-23 | Production Engineering Lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 | |
| 10 | | 5ME4-24 | Machine Design Practice I | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 | |
| 11 | PSIT | 5ME7-30 | Industrial Training | 0 | 0 | 1 | 1 | 75 | 50 | 125 | 2.5 | |
| 12 | SODE CA | 5ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | | | | | | 25 | 25 | 0.5 | |
| | | Sub- Total | | 0 | 0 | 9 | | 195 | 155 | 350 | 7 | |
| | | TOTAL OF V SEMESTER | | 16 | 0 | 9 | | 355 | 795 | 1150 | 23 | |

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ETE: End Term Exam, IA: Internal Assessment*



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B. Tech.: Mechanical Engineering 3rd Year – VI Semester

| THEORY | | | | | | | | | | | | |
|-----------------------------|-------------|------------------------------------|---|------------------|----------|-----------|---------|------------|------------|-------------|-------------|--|
| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr | |
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | | |
| | | | | | | | | | | | | |
| 1 | ESC | 6ME3-01 | Measurement and Metrology | 2 | 0 | 0 | 2 | 20 | 80 | 100 | 2 | |
| 2 | PCC/ PEC | 6ME4-02 | CIMS | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 3 | | 6ME4-03 | Mechanical Vibrations | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 4 | | 6ME4-04 | Design of Machine Elements II | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 5 | | 6ME4-05 | Quality Management | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| 6 | | Professional Elective II (any one) | | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 | |
| | | 6ME5-11 | Refrigeration and Air Conditioning | | | | | | | | | |
| | | 6ME5-12 | NON Conventional Machining Methods | | | | | | | | | |
| | | 6ME5-13 | MEMS and Microsystems | | | | | | | | | |
| Sub Total | | | | 17 | 0 | 0 | | 170 | 680 | 850 | 17 | |
| PRACTICAL & SESSIONAL | | | | | | | | | | | | |
| 7 | PCC | 6ME4-21 | CIMS Lab | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 | |
| 8 | | 6ME4-22 | Vibration Lab | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 | |
| 9 | | 6ME4-23 | Machine Design Practice II | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 | |
| 10 | | 6ME4-24 | Thermal Engineering Lab I | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 | |
| 11 | SODE CA | 6ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | | | | | | 25 | 25 | 0.5 | |
| Sub- Total | | | | 0 | 0 | 12 | | 180 | 145 | 325 | 6.5 | |
| TOTAL OF VI SEMESTER | | | | 17 | 0 | 12 | | 350 | 825 | 1175 | 23.5 | |

L: Lecture, T: Tutorial, P: Practical, Cr: Credits

ETE: End Term Exam, IA: Internal Assessment



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech.: Mechanical Engineering 4th Year – VII Semester

| THEORY | | | | | | | | | | | |
|-----------------------|----------|---------|---|------------------|----------|----------|---------|------------|------------|------------|-----------|
| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr |
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | |
| | | | | | | | | | | | |
| 1 | PEC | 7ME5-11 | I. C. Engines | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 2 | | 7ME5-12 | Operations Research | | | | | | | | |
| 3 | | 7ME5-13 | Turbomachines | | | | | | | | |
| 4 | OE | | Open Elective-I | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| | | | Sub Total | 6 | 0 | 0 | | 60 | 240 | 300 | 6 |
| PRACTICAL & SESSIONAL | | | | | | | | | | | |
| 5 | PCC | 7ME4-21 | FEA Lab | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 |
| 6 | | 7ME4-22 | Thermal Engineering Lab II | 0 | 0 | 3 | 3 | 45 | 30 | 75 | 1.5 |
| 7 | | 7ME4-23 | Quality Control Lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 |
| 8 | PSIT | 7ME7-30 | Industrial Training * | 1 | 0 | 0 | 1 | 75 | 50 | 125 | 2.5 |
| 9 | | 7ME7-40 | Seminar * | 2 | 0 | 0 | 2 | 60 | 40 | 100 | 2 |
| 10 | SODE CA | 7ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | 0 | 0 | 0 | | 0 | 25 | 25 | 0.5 |
| | | | Sub- Total | 3 | 0 | 8 | | 255 | 195 | 450 | 9 |
| | | | TOTAL OF VII SEMEESTER | 9 | 0 | 8 | | 315 | 435 | 750 | 15 |

**for the purpose of counting teaching load*

L: Lecture, T: Tutorial, P: Practical, Cr: Credits

ETE: End Term Exam, IA: Internal Assessment



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Teaching & Examination Scheme B.Tech.: Mechanical Engineering 4th Year – VIII Semester

| THEORY | | | | | | | | | | | |
|-----------------------|----------|---------|---|------------------|----------|----------|---------|------------|------------|------------|-------------|
| SN | Category | Course | | Contact hrs/week | | | Marks | | | | Cr |
| | | Code | Title | L | T | P | Exm Hrs | IA | ETE | Total | |
| | | | | | | | | | | | |
| 1 | PEC | 8ME5-11 | Hybrid and Electric Vehicles | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| 2 | | 8ME5-12 | Supply and Operations Management | | | | | | | | |
| 3 | | 8ME5-13 | Additive Manufacturing | | | | | | | | |
| 4 | OE | | Open Elective - II | 3 | 0 | 0 | 3 | 30 | 120 | 150 | 3 |
| | | | Sub Total | 6 | 0 | 0 | | 60 | 240 | 300 | 6 |
| PRACTICAL & SESSIONAL | | | | | | | | | | | |
| 5 | PCC | 8ME4-21 | Industrial Engineering Lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 |
| 6 | | 8ME4-22 | Metrology Lab | 0 | 0 | 2 | 2 | 30 | 20 | 50 | 1 |
| 7 | PSIT | 8ME7-50 | Project ** | 3 | 0 | 0 | 3 | 210 | 140# | 350 | 7 |
| 8 | SODE CA | 8ME8-00 | Social Outreach, Discipline & Extra Curricular Activities | 0 | 0 | 0 | | 0 | 25 | 25 | 0.5 |
| | | | Sub- Total | 3 | 0 | 4 | | 270 | 205 | 475 | 9.5 |
| | | | TOTAL OF VIII SEMEESTER | 9 | 0 | 4 | | 330 | 445 | 775 | 15.5 |

**for the purpose of counting teaching load*

#Evaluation by one internal and one external examiner (External examiner will preferably be from Industry)

L: Lecture, T: Tutorial, P: Practical, Cr: Credits

ETE: End Term Exam, IA: Internal Assessment