

# Syllabus of M.Voc Automobile Technology.

Sector : Automobile.

Semister : - 1

Year :-1

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="228 528 687 640"><b>(Sem – 1)</b> <b>Paper - 1</b> <b>Automotive Engine Technology.- 1</b></p> <ol data-bbox="276 741 842 1576" style="list-style-type: none"><li>1) History of Automobile Engines and growth of Automobile sector.</li><li>2) Construction and working of I C. and E C. engines..</li><li>3) Automotive engine parts – Valve, Valve mechanism, engine cooling, lubrication system, Ignition system etc...</li><li>4) Power Transmission diagram, classification of engines..</li><li>5) New Technology in Automobiles – DTSI, VTEC, VVTEC, OHC, Hybrid engines, Electric vehicles, Automatic transmission, etc...</li><li>6) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p data-bbox="323 1682 536 1711"><b>Sem End Exam..</b></p>	<p data-bbox="876 528 1335 640"><b>(Sem – 1)</b> <b>Paper - 1</b> <b>Automotive Engine Technology.- 1</b> <b>Remove and refit of :-</b></p> <ol data-bbox="924 723 1490 1559" style="list-style-type: none"><li>1) Automobile Engines Two wheeler and four wheeler, 2 stroke and 4stroke,</li><li>2) Construction and working of I C. and E C. engines..</li><li>3) Automotive engine parts – Valve, Valve mechanism, engine cooling, lubrication system, Ignition system etc...</li><li>4) Power Transmission diagram, classification of engines..</li><li>5) New Technology in Automobiles – DTSI, VTEC, VVTEC, OHC, Hybrid engines, Electric vehicles, Automatic transmission, etc...</li><li>6) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p data-bbox="971 1659 1184 1688"><b>Sem End Exam..</b></p>

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<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p><b>(Sem – 1)</b></p> <p style="text-align: center;"><b>Paper - 2</b></p> <p style="text-align: center;"><b>Power Transmission System.</b></p> <ol style="list-style-type: none"> <li>1) Generate the engine power – check the BHP, IHP, FHP, RPM, Torque, etc..</li> <li>2) Engine power transfer to clutch unit – single plate clutch, multy plate clutch, variable clutch, etc..</li> <li>3) Clutch assembly parts and specification of all parts..</li> <li>4) Power transfer from clutch to Gear box – Working of gear box, Types of gear box, Constant mesh, sliding mesh, ,Gear shifter, reverse gear, etc..</li> <li>5) Automatic transmission system – working , parts, design, etc..</li> <li>6) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p style="text-align: center;"><b>Sem End Exam..</b></p>	<p><b>(Sem – 1)</b></p> <p style="text-align: center;"><b>Paper - 2</b></p> <p style="text-align: center;"><b>Power Transmission System.</b></p> <p style="text-align: center;"><b>Remove and refit of :-</b></p> <ol style="list-style-type: none"> <li>1) Generate the engine power – check the BHP, IHP, FHP, RPM, Torque, etc..</li> <li>2) Engine power transfer to clutch unit – single plate clutch, multy plate clutch, variable clutch, etc..</li> <li>3) Clutch assembly parts and specification of all parts..</li> <li>4) Power transfer from clutch to Gear box – Working of gear box, Types of gear box, Constant mesh, sliding mesh, ,Gear shifter, reverse gear, etc..</li> <li>5) Automatic transmission system – working , parts, design, etc..</li> <li>6) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p style="text-align: center;"><b>Sem End Exam..</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p>(Sem – 1)</p> <p style="text-align: center;"><b>Paper - 3</b></p> <p><b>Automotive body and Paint Technology.]</b></p> <ol style="list-style-type: none"> <li>1) Introduction of engineering drawing – Orthographic projection, Plan, Elevation, end view, Free hand sketches of auto parts,etc...</li> <li>2) Orthographic view of Piston, connecting rod, cam shaft, crank shaft, valve, Rocker arms, spark plug, etc..</li> <li>3) Different type of operations in fitting shop – like Marking, Cutting, filling, Hacksawing, Drilling,Reaming,etc..</li> <li>4) Different type operations in sheet metal – Bending, simple joint, and riveting, etc..</li> <li>5) Different types welding – Arc welding, Gas welding, Brazing, Soldering, Spot welding, etc..</li> <li>6) Procedure of Surfacedenting and finishing –stripping of old paint, sanding of different stages,</li> <li>7) Procedure for doing Painting – Types of paints, Lackqur coat, Rubbing,and polishing, etc..</li> <li>8) Visit to Automobile Car dealer and OJT in workshop.</li> </ol> <p><b>Sem End Exam.</b></p>	<p>(Sem – 1)</p> <p style="text-align: center;"><b>Paper - 3</b></p> <p><b>Automotive body and Paint Technology.Remove and refit of :-</b></p> <ol style="list-style-type: none"> <li>1) Introduction of engineering drawing – Orthographic projection, Plan, Elevation, end view, Free hand sketches of auto parts,etc...</li> <li>2) Orthographic view of Piston, connecting rod, cam shaft, crank shaft, valve, Rocker arms, spark plug, etc..</li> <li>3) Different type of operations in fitting shop – like Marking, Cutting, filling, Hacksawing, Drilling,Reaming,etc..</li> <li>4) Different type operations in sheet metal – Bending, simple joint, and riveting, etc..</li> <li>5) Different types welding – Arc welding, Gas welding, Brazing, Soldering, Spot welding, etc..</li> <li>6) Procedure of Surfacedenting and finishing –stripping of old paint, sanding of different stages,</li> <li>7) Procedure for doing Painting – Types of paints, Lackqur coat, Rubbing,and polishing, etc..</li> <li>8) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p><b>Sem End Exam..</b></p>

## Syllabus of M.Voc Automobile Technology.

Sector : Automobile.

Semister : - 2

Year :-1

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p><b>(Sem – 2)</b> <b>Paper - 1</b> <b>Automotive Engine Technology.-2</b></p> <ol style="list-style-type: none"><li>1) Description of Internal consumption engines. (I.C Engine)</li><li>2) Component &amp; working of I.C. engine.</li><li>3) Construction and working of Single cylinder Two stroke Petrol engine.</li><li>4) Construction and Working of single cylinder four stroke Petrol engine.</li><li>5) Working of single cylinder four stroke Diesel engine.</li><li>6) Different between Petrol and diesel engines.</li><li>7) Spark Ignition Engines (S.I Engine)</li><li>8) Compression Ignition Engines, ( C.I.Engine )</li><li>9) New Technology in Automobiles – Air bags, DTSI, VTEC, VVTEC, OHC, Hybrid engines, Electric vehicles, Automatic transmission, etc...</li><li>10) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p><b>Sem end exam.</b></p>	<p><b>(Sem – 2)</b> <b>Paper - 1</b> <b>Automotive Engine Technology.-2</b> <b>Remove and refit of :-</b></p> <ol style="list-style-type: none"><li>1) Internal consumption engines. (I.C Engine)</li><li>2) Component &amp; working of I.C. engine.</li><li>3) Construction and working of Single cylinder Two stroke Petrol engine.</li><li>4) Construction and Working of single cylinder four stroke Petrol engine.</li><li>5) Working of single cylinder four stroke Diesel engine.</li><li>6) Different between Petrol and diesel engines.</li><li>7) Spark Ignition Engines (S.I Engine)</li><li>8) Compression Ignition Engines, ( C.I.Engine )</li><li>9) New Technology in Automobiles – DTSI, VTEC, VVTEC, OHC, Hybrid engines, Electric vehicles, Automatic transmission, etc...</li><li>10) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p><b>Sem end exam.</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p style="text-align: center;"><b>(Sem – 2)</b></p> <p><b>Paper - 2</b>  <b>Automotive Systems and Electric cars-</b></p> <ol style="list-style-type: none"> <li>1) Detail study of VVTI Technology.</li> <li>2) Detail study of Latest I- VTEC Technology.</li> <li>3) Detail study of ABS System.</li> <li>4) Detail study of EPS System and Technology.</li> <li>5) Study of Basic Electric motors, Burshless DC motor.</li> <li>6) Study of Lithium Battery ( Smart battery)</li> <li>7) Electric controler Regulators.</li> <li>8) Study of hybrid and electric Cars.</li> <li>9) Fault finding and remedies..</li> <li>10) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p><b>Sem end exam.</b></p>	<p style="text-align: center;"><b>(Sem – 2)</b></p> <p><b>Paper - 2</b>  <b>Automotive Systems and Electric cars-</b>  <b>Remove and refit of :-</b></p> <ol style="list-style-type: none"> <li>1) Detail study of VVTI Technology.</li> <li>2) Detail study of Latest I- VTEC Technology.</li> <li>3) Detail study of ABS System.</li> <li>4) Detail study of EPS System and Technology.</li> <li>5) Study of Basic Electric motors, Burshless DC motor.</li> <li>6) Study of Lithium Battery ( Smart battery)</li> <li>7) Electric controler Regulators.</li> <li>8) Study of hybrid and electric Cars.</li> <li>9) Fault finding and remedies..</li> <li>10) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p><b>Sem end exam.</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="491 600 619 674">(Sem – 2) Paper – 3</p> <p data-bbox="233 725 842 824"><b>Project on Power transmission System.</b></p> <p data-bbox="277 875 815 949">1) Visit to Automobile Car dealer and OJT in workshop..</p> <p data-bbox="228 1070 453 1104"><b>Sem end exam.</b></p>	<p data-bbox="1123 600 1251 674">(Sem – 2) Paper – 3</p> <p data-bbox="879 725 1489 857"><b>Project on Power transmission System.</b></p> <p data-bbox="927 891 1465 965">1) Visit to Automobile Car dealer and OJT in workshop..</p> <p data-bbox="874 1055 1099 1088"><b>Sem end exam.</b></p>

# Syllabus of M.Voc Automobile Technology.

**Sector : Automobile.**

**Semister : - 3**

**Year :-2**

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p><b>(Sem – 3)</b> <b>Paper – 1</b></p> <p style="text-align: center;"><b>AutomotiveService Technology and Driving Skills.</b></p> <p>1) Engine –Does not start , Runs but misfiring.. engine over heat, Noisy , power , Vabrations , lacks</p> <p>2) Fuel system.- Smokey exhaust , Excessive fuel consumption.,</p> <p>3) Cooling system – Engine over heat,. Leakage of cooling system</p> <p>4) Electricals system.- all electric equipments of vehicles..</p> <p>5) Brake system – mechanicak, hydraulic, Disk brake, ABS brakes,etc..</p> <p>6) Air conditioning - AC gas leakage, Low cooling,etc..</p> <p>7) Motor Vehicles Rules – related to Number plate location, lights, Safety aspect in tyre, brake, steering,</p> <p>8) Registration of vehicle, permit, fitness, Rules to driving habbits, offences and penalties.</p> <p>9) .Enviroment pollution, Automotive Insurance, Driving Skills, etc...</p> <p>10) Visit to Automobile Car dealer and OJT in workshop..</p> <p><b>Sem end exam</b></p>	<p><b>(Sem – 3)</b> <b>Paper – 1</b></p> <p style="text-align: center;"><b>AutomotiveService Technology and Driving Skills.</b></p> <p><b>Remove and refit of :-</b></p> <p>1) Engine –Does not start , Runs but misfiring.. engine over heat, Noisy , power , Vabrations , lacks</p> <p>2) Fuel system.- Smokey exhaust , Excessive fuel consumption.,</p> <p>3) Cooling system – Engine over heat,. Leakage of cooling system</p> <p>4) Electricals system.- all electric equipments of vehicles..</p> <p>5) Brake system – mechanicak, hydraulic, Disk brake, ABS brakes,etc..</p> <p>6) Air conditioning - AC gas leakage, Low cooling,etc..</p> <p>7) Motor Vehicles Rules – related to Number plate location, lights, Safety aspect in tyre, brake, steering,</p> <p>8) Registration of vehicle, permit, fitness, Rules to driving habbits, offences and penalties.</p> <p>9) .Enviroment pollution, Automotive Insurance, Driving Skills, etc...</p> <p>10) Visit to Automobile Car dealer and OJT in workshop..</p> <p><b>Sem end exam.</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p style="text-align: center;"><b>(Sem – 3)</b> <b>Paper – 2</b></p> <p><b>Automotive Electrical and Electronic.</b></p> <ol style="list-style-type: none"> <li>2) Study of Electronic control modem. ECM..</li> <li>3) Study of various type of sensors in automobile vehicles.</li> <li>4) DTSI Technology of Bajaj Pulsar motorcycle..</li> <li>5) Digital Speedo &amp;Odo meters &amp; sensors..</li> <li>6) Detail study of BLDC motor of Electric Scooters..</li> <li>7) Study of Lethenam Smart battery, Liquid Battery , Dry battery..</li> <li>8) Electric controler Regulators –</li> <li>9) Study of Air bags, ABS system, EPS system,etc..</li> <li>10)Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p><b>Sem end exam</b></p>	<p style="text-align: center;"><b>(Sem – 3)</b> <b>Paper – 2</b></p> <p><b>Automotive Electrical and Electronic.</b> <b>Remove and refit of :-</b></p> <ol style="list-style-type: none"> <li>1) Study of Electronic control modem. ECM..</li> <li>2) Study of various type of sensors in automobile vehicles.</li> <li>3) DTSI Technology of Bajaj Pulsar motorcycle..</li> <li>4) Digital Speedo &amp;Odo meters &amp; sensors..</li> <li>5) Detail study of BLDC motor of Electric Scooters..</li> <li>6) Study of Lethenam Smart battery, Liquid Battery , Dry battery..</li> <li>7) Electric controler Regulators –</li> <li>8) Study of Air bags, ABS system, EPS system,etc..</li> <li>11)Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p><b>Sem end exam</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="240 367 368 405"><b>(Sem – 3)</b></p> <p data-bbox="491 409 619 443"><b>Paper – 3</b></p> <p data-bbox="277 486 786 519"><b>Rules and regulations in Automobiles.</b></p> <ol data-bbox="277 562 786 1301" style="list-style-type: none"> <li>1) Study of Euro III vehicles.</li> <li>2) Study of Euro IV vehicles.</li> <li>3) Bharat Stage (BS) III Norms.</li> <li>4) Bharat stage (BS) IV Norms.</li> <li>5) Upcoming BS VI norms.</li> <li>6) Private Vehicles Rules..</li> <li>7) Tourist vehicles Rules..</li> <li>8) Heavy goods Vehicles..</li> <li>9) RTO Rules and Regulations..</li> <li>10) Study of all types Traffic Road Signs.</li> <li>11) Motor vehicle Act.1988</li> <li>12) Motor vehicle Act. 2018</li> <li>13) Visit to RTO office for study..</li> </ol> <p data-bbox="228 1359 443 1397"><b>Sem end exam</b></p>	<p data-bbox="879 367 1007 405"><b>(Sem – 3)</b></p> <p data-bbox="874 409 1002 443"><b>Paper – 3</b></p> <p data-bbox="922 486 1431 519"><b>Rules and regulations in Automobiles.</b></p> <ol data-bbox="922 562 1431 1301" style="list-style-type: none"> <li>1) Study of Euro III vehicles.</li> <li>2) Study of Euro IV vehicles.</li> <li>3) Bharat Stage (BS) III Norms.</li> <li>4) Bharat stage (BS) IV Norms.</li> <li>5) Upcoming BS VI norms.</li> <li>6) Private Vehicles Rules..</li> <li>7) Tourist vehicles Rules..</li> <li>8) Heavy goods Vehicles..</li> <li>9) RTO Rules and Regulations..</li> <li>10) Study of all types Traffic Road Signs.</li> <li>11) Motor vehicle Act.1988</li> <li>12) Motor vehicle Act. 2018</li> <li>13) Visit to RTO office for study..</li> </ol> <p data-bbox="874 1359 1090 1397"><b>Sem end exam</b></p>

# Syllabus of M.Voc Automobile Technology.

Sector : Automobile.

Semister : - 4

Year :-2

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="228 528 352 562"><b>(Sem – 4)</b></p> <p data-bbox="491 568 616 602"><b>Paper – 1</b></p> <p data-bbox="320 645 754 678"><b>Hybrid Vehicles and Electronics.</b></p> <ol data-bbox="277 725 842 1464" style="list-style-type: none"><li>1) Study of Mahindra Scorpio Hybrid Vehicle –</li><li>2) Study of MarutiSuzukisHybrid Ciaz car..</li><li>3) Study of sensor control Electric motor.</li><li>4) Study of car computer, ECM.</li><li>5) Study of Electric charging..</li><li>6) Synergy drive – Energy monitor..</li><li>7) Kinetic Energy to Electric energy..</li><li>8) Study of Inverter..</li><li>9) Diagnosis the Electronic system with Scanner..</li><li>10) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p data-bbox="228 1547 443 1581"><b>Sem end exam</b></p>	<p data-bbox="1123 528 1248 562"><b>(Sem– 4)</b></p> <p data-bbox="876 568 1000 602"><b>Paper – 1</b></p> <p data-bbox="968 645 1402 678"><b>Hybrid Vehicles and Electronics.</b></p> <p data-bbox="979 685 1273 719"><b>Remove and refit of :-</b></p> <ol data-bbox="924 766 1489 1505" style="list-style-type: none"><li>1) Study of Mahindra Scorpio Hybrid Vehicle –</li><li>2) Study of MarutiSuzukisHybrid Ciaz car..</li><li>3) Study of sensor control Electric motor.</li><li>4) Study of car computer, ECM.</li><li>5) Study of Electric charging..</li><li>6) Synergy drive – Energy monitor..</li><li>7) Kinetic Energy to Electric energy..</li><li>8) Study of Inverter..</li><li>9) Diagnosis the Electronic system with Scanner..</li><li>10) Visit to Automobile Car dealer and OJT in workshop..</li></ol> <p data-bbox="876 1525 1091 1559"><b>Sem end exam</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="228 409 352 443"><b>(Sem – 4)</b></p> <p data-bbox="491 450 616 483" style="text-align: center;"><b>Paper – 2</b></p> <p data-bbox="228 524 711 557"><b>Sedan and SUV VehiclesTechnology.</b></p> <ol data-bbox="277 602 836 1167" style="list-style-type: none"> <li>1) Study of ScodaOctiva Sedan car and his technology..</li> <li>2) Study of Honda Civic Sedan Technology..</li> <li>3) Study of Audy sedan Technology..</li> <li>4) Study of ( SUV ) Sport utility vehicles.. like – Mahindra XUV 500, Renault duster, Hyundai Creta, ToyotCresta,</li> <li>5) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p data-bbox="228 1189 443 1223"><b>Sem end exam</b></p>	<p data-bbox="882 409 1007 443"><b>(Sem – 4)</b></p> <p data-bbox="882 450 1007 483" style="text-align: center;"><b>Paper – 2</b></p> <p data-bbox="890 524 1449 557" style="text-align: center;"><b>Sedan and SUV VehiclesTechnology.</b></p> <p data-bbox="890 564 1182 598" style="text-align: center;"><b>Remove and refit of :-</b></p> <ol data-bbox="924 642 1489 1207" style="list-style-type: none"> <li>1) Study of ScodaOctiva Sedan car and his technology..</li> <li>2) Study of Honda Civic Sedan Technology..</li> <li>3) Study of Audy sedan Technology..</li> <li>4) Study of ( SUV ) Sport utility vehicles.. like – Mahindra XUV 500, Renault duster, Hyundai Creta, ToyotCresta,</li> <li>5) Visit to Automobile Car dealer and OJT in workshop..</li> </ol> <p data-bbox="882 1229 1091 1263" style="text-align: center;"><b>Sem end exam</b></p>

<b>Knowledge Evaluation Theory.</b>	<b>Performance Evaluation Practical.</b>
<p data-bbox="491 409 619 479" style="text-align: center;">(Sem – 4) Paper – 3</p> <p data-bbox="268 530 810 575"><b>Project on Hybrid Vehicles.</b></p> <p data-bbox="277 622 817 696">1) Visit to Automobile Car dealer and OJT in workshop..</p>	<p data-bbox="1139 409 1267 443" style="text-align: center;">(Sem – 4)</p> <p data-bbox="874 450 1002 483">Paper – 3</p> <p data-bbox="916 530 1458 575"><b>Project on Hybrid Vehicles.</b></p> <p data-bbox="925 622 1465 696">1) Visit to Automobile Car dealer and OJT in workshop..</p>

