

Basic Automotive Servicing (Two Wheeler)

Entry Qualification	:	8th std. onwards
Age	:	Minimum 14 years
Duration Of Course	:	150 hrs/ 3 Months
Course Fee	:	Rupees Six Hundred Only

Course Contents

Theory	Practical
<ul style="list-style-type: none"> <input type="checkbox"/> General health & Safety precautions to be observed in the workshop / garage <input type="checkbox"/> Over view on 5S technic (Sort, Set in order, Shine,Standardise & Sustain)-advantages in implementation of 5S <input type="checkbox"/> Nomenclature of different parts of vehicle and their locations <input type="checkbox"/> Working principle of 4 stroke petrol & diesel engines <input type="checkbox"/> Differences between petrol & diesel engines <input type="checkbox"/> Lubrication and cooling system & types of lubricants <input type="checkbox"/> Lay out of greasing points <input type="checkbox"/> Torquing & detorquing technique / procedures <input type="checkbox"/> Fuel supply layouts in both petrol & diesel engines <input type="checkbox"/> Layout of power flow from Engine to wheels. <input type="checkbox"/> Ignition system circuit & components <input type="checkbox"/> Brief introduction on ignition & injection systems <input type="checkbox"/> Brief introduction on injectors <input type="checkbox"/> Purpose of clutch, gear box & differential <input type="checkbox"/> General defects in clutch, manual gearbox <input type="checkbox"/> Types of Brake & steering systems – working principle of drum and disc brakes <input type="checkbox"/> General defects in brake systems <input type="checkbox"/> Brief introduction on battery and its maintenance <input type="checkbox"/> Tyre designation (size), reasons for general tyre defects <input type="checkbox"/> Procedure for repairing the punctured tube <input type="checkbox"/> Need & procedure for tyre rotation <p>Wheel alignment</p> <ul style="list-style-type: none"> <input type="checkbox"/> Layout of steering & suspension systems, function of each part. <input type="checkbox"/> Brief on suspension and its effects on steering <input type="checkbox"/> Steering geometry: Description and purposes of Ackerman steering, toe, castor, camber, king pin inclination/SAI (steering Axis Inclination), turning angle, included angle, set back, thrust angle & frame angle. <input type="checkbox"/> Pre alignment inspection/checks 	<ul style="list-style-type: none"> <input type="checkbox"/> Practice Health & Safety – select, use, maintain & store tools, equipments & clothing safely <input type="checkbox"/> Practice 5S technic <input type="checkbox"/> Identify / Familiarize with the tools & equipments <input type="checkbox"/> Water wash – before & after servicing <input type="checkbox"/> Difference between Two Stroke & Four Stroke Engine <input type="checkbox"/> Identify differences between Petrol & diesel Engines. <input type="checkbox"/> Identify differences between carburetor engine & MPFI Engines. <input type="checkbox"/> Check / replenish / top up – lubricating oil, brake fluid, engine coolant, power steering hydraulic oil, wind screen wiper water, battery electrolyte and transmission oil <input type="checkbox"/> Clean / replace – air cleaner, oil filter & fuel filter <input type="checkbox"/> Apply Grease to parts / through greasing points <input type="checkbox"/> Remove & refit vehicle body parts (bonnet, front bumper & door) <input type="checkbox"/> Remove and refit head lamp assembly <input type="checkbox"/> Check power plug and inspect H.T. cables <input type="checkbox"/> Clean, Check and Adjust spark plug <input type="checkbox"/> Adjust Hand brake and replace hand brake cable <input type="checkbox"/> Adjust clutch and brake pedal plays <input type="checkbox"/> Replace propeller shaft, wheel hub bearings & brake pads <input type="checkbox"/> Charge the battery <input type="checkbox"/> Check Tyre pressure & for defects, tread depth, inflate, rotate the tyres <p>Wheel alignment</p> <ul style="list-style-type: none"> <input type="checkbox"/> Check tyres, ride height, wheel bearings, ball joints, control arms bushings and sway bars, shock absorbers & struts & power steering <input type="checkbox"/> Set the aligner ready for wheel alignment tests <input type="checkbox"/> Check and rectify steering geometry with wheel aligner <p>Wheel balancing</p> <ul style="list-style-type: none"> <input type="checkbox"/> Remove tyre from vehicle <input type="checkbox"/> Check tyre & rim and also check for run out <input type="checkbox"/> Do static balancing <input type="checkbox"/> Fit the wheel assembly on the aligner and check for dynamic imbalance & rectify the defects

<ul style="list-style-type: none"> <input type="checkbox"/> Two wheel & four wheel alignment <input type="checkbox"/> Reasons for Alignment problems – steering pull, off-centre steering, steering shimmy, excessive steering effort, poor self centering and memory steer, bump steer, torque steer & steering harshness-alignment diagnostics chart & Steering problem diagnostic chart. <input type="checkbox"/> Components, brief working principle & operation of computerized wheel aligner <input type="checkbox"/> Procedure to make machine to check wheel alignment <input type="checkbox"/> Procedure for taking readings using wheel aligner, interpreting alignment readings & repair the same. <input type="checkbox"/> Procedures for test drive to confirm the repairs. <p>Wheel balancing</p> <ul style="list-style-type: none"> <input type="checkbox"/> Meaning of balance, causes & effects of imbalance, vibration. Identification of source, transfer path & responder of vibration (can be felt & can be heard) <input type="checkbox"/> Analyzing & identifying complaint <input type="checkbox"/> Procedure for road tests (vibration diagnostic) <input type="checkbox"/> Steering wheel shake – shimmy, wobble & waddle <input type="checkbox"/> Brief on static balance, dynamic balance, Mounting errors (radial & lateral) & excessive (Tyre & rim) run out-lateral & radial and mismatches <input type="checkbox"/> Brief description of wheel balancer (block diagram balancer), fixed data & data to be fed to the machine <input type="checkbox"/> Procedure for balancing the tyre, rim & assembly <input type="checkbox"/> Balancing tolerance values <input type="checkbox"/> Reasons for more imbalance 	<ul style="list-style-type: none"> <input type="checkbox"/> Fit the tyre assembly to the vehicle
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GOVT. I.T.I. NURPUR
DISTT. KANGRA (H.P.)