

Four Wheeler Chassis Mechanism Course – PCP (Theory & Practical) Training Schedule

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| Total course duration (400 hr) | | |
| PCP (200 hrs) | | Self learning (200 hrs) |
| Practical (80 hrs) | Theory (120 hrs) | |

| Week | Topic | Day | Pcp- topic | | | Instruction to instructor | Learning outcomes- After attending the PCP learner would be able to :- | |
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| | | | Durati on (hr) | Theory | Durati on (hr) | | | Practical |
| Week 1 | Introduction with automobile- Workshop safety & precautions | Day 1 | 2 hrs | <ul style="list-style-type: none"> • Origen of auto car to today vehicle. • Type of vehicle • General health & precautions | 3hrs | <ul style="list-style-type: none"> • Show a film on journey of automobile. • Charts on safety & health in work shop. • Demonstration of safety gadgets. | <ul style="list-style-type: none"> • Use available resources to explain, what has been covered in theory. | <ul style="list-style-type: none"> • identify the important stages and name associated with automobile evolution. • adopts the appropriate safety measures while working in a workshop. |
| | Introduction to hand tools | Day 2 | 2 hrs | List out hand tools, their use ,safety precaution while using these and usage | 4 hrs | Show hand tools used in auto repair work shops, give a feel of handling | Hand tools be shown , precaution to be taken while using these & actual practice | <ul style="list-style-type: none"> • identify & handle various tools used in workshop. • identify which tool is to be used for particular job. • adopts appropriate precautions while handling tools. |

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| Week 2 | Location of different assemblies of vehicle | Day 1 | 2 hrs | Introduction to different assemblies, principals of working, location on vehicle & functions | 3hrs | On vehicle practice - location of assemblies | To display assy. Of vehicle and let class see these and discuss various functions | <ul style="list-style-type: none"> identifies the different sub assemblies that make up an automobile. explain how vehicle moves. locate the position of various sub assemblies. |
| | Working of internal combustion engine ,4 stroke petrol | Day 2 | 2 hrs | Explain working of otto cycle & different strokes | 3hrs | Introduction of engine components, their working, construction, metal used. | Conduct class with dismantled engine for showing components of engine. | <ul style="list-style-type: none"> identify different parts of engine. differentiate between I.C & E.C. engine. explain the fundamentals of engine. |
| Week 3 | Working of Internal Combustion Engine, 4 stroke--diesel cycle | Day 1 | 2hrs | Explain working of 4 stroke in diesel cycle & difference in petrol & diesel engine | 3hrs | Introduction of engine components, their working, construction, metal used for diesel engines | Conduct class with dismantled diesel engine for showing components of engine | <ul style="list-style-type: none"> identify different parts of engine. differentiate between spark ignition & compression ignition engine. explain the working of diesel engine. |

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| | Working-details of clutch, types , functions & components | Day 2 | 2 hrs | Explain working of clutch ,principles types, & functioning | 3hrs | Introduction of clutch, components, their working ,construction ,metal used & maintenance | Conduct class with dismantled clutch for showing components | <ul style="list-style-type: none"> • explain the working principle of clutch. • identify different types of clutch. • identify various parts that make up the clutch system. |
| Week 4 | Working-details of gear box, types ,functions & ,components | Day 1 | 2hrs | Explain working of gear box ,principles types, & functioning | 3hrs | Introduction of gear box components, their working ,construction ,metal used & maintenance | Conduct class with dismantled gear box for showing components of different type of gear boxes. | <ul style="list-style-type: none"> • explain the working principle of gear box. • identify different types of gear box. • identify different components of manual gearbox. • identify which parts are usable or need replacement. |
| | Working-details of propeller shaft & universal joint, types ,functions & ,components | Day 2 | 2 hrs | Explain working of propeller shaft & universal joint,, principles types, & functioning | 3hrs | Introduction of propeller shaft & , universal joint, components, their working ,construction ,metal used & maintenance | Conduct class with dismantled propeller shaft & u j cross, for showing components of different type of gear boxes. | <ul style="list-style-type: none"> • explain the working principle and function of propeller shaft & universal joint. • identify different parts of propeller shaft & universal joint. |
| Week 5 | Working-details of Differential, functions & components | Day 1 | 2 hrs | Explain working of differential ,principles types, & functioning | 3hrs | Introduction of differential Components, their working ,construction ,metal | Conduct class with dismantled for differential Showing components of different type of gear | <ul style="list-style-type: none"> • explain the working of differential. • identify various components of a differential. |

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| | | | | | | used & maintenance | boxes. | <ul style="list-style-type: none"> identify which parts of differential are useful or need replacement. |
| | Working-details of Front & rear axel, functions & ,components | Day 2 | 2 hrs | Explain working of front & rear axel ,principles types, & functioning, principles types, & functioning | 3hrs | Introduction of Components, the front & rear axel their working ,construction ,metal used & maintenance | Conduct class with dismantled for front & rear axel Showing components of different type of gear boxes. | <ul style="list-style-type: none"> explain the working of rear axle. identify various components of a rear axle. |
| Week 6 | Working-details of Chassis & suspension functions & ,components | Day 1 | 2 hrs | Explain working of chassis & suspension types, & functioning, principles | 3hrs | Introduction of Components, the chassis & suspension their working ,construction ,metal used & maintenance | Conduct class with dismantled f chassis & suspension Showing components of different type of chassis & suspension | <ul style="list-style-type: none"> explain the function of chassis and suspension system. identify type of construction of chassis required for an automobile. identify which parts are usable or need replacement. |
| | Working-details of Steering system Functions & ,components | Day 2 | 2 hrs | Explain working of steering system types, & Functioning, principles types, | 3hrs | Introduction of Components, the steering system their working ,construction ,metal used & maintenance | Conduct class with dismantled f steering system showing components of different type of chassis & suspension. Wheel balancing & wheel alignment machine | <ul style="list-style-type: none"> explain the function of steering system. state the Ackerman geometry of steering. list the different types of steering linkages. define different front axles. |
| Week 7 | Working-details of Brake system Functions & | Day 1 | 2 hrs | Explain working of brake system & Functioning, principles types | 3hrs | Introduction of Components, the brake system their working | Conduct class with dismantled for showing brake system components of | <ul style="list-style-type: none"> identify different types of brake system used. explain the working |

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| | ,components | | | | | ,construction ,metal used & maintenance | different type of chassis & suspension. Wheel balancing & wheel alignment machine | <ul style="list-style-type: none"> of brake system. identify different components of brake system. identify which parts are usable or need replacement. |
| | Working-details of Tyer & tube Functions & ,components | Day 2 | 2hrs | Explain working of tyer & tube & Functioning, principles types | 3hrs | Introduction of tyer & tube components, the their working, construction, metal used & maintenance | Conduct class with dismantled for showing components of different type of tyer & tube balancing of wheels | <ul style="list-style-type: none"> Explain the importance of the tyre in a vehicle. Identify various types of hub. Distinguish between different types of tyres. Cary out wheel balancing. |
| Week 8 | Function of battery in vehicle ,its construction | Day 1 | 2 hrs | Explain working of battery & Functioning, principles | 3hrs | Introduction of Battery Components, the their working ,construction ,metal used & maintenance | Conduct class with dismantled battery for showing components of different types of battery of vehicle. | <ul style="list-style-type: none"> explain the functions and working principle used in battery. identify the material used in battery. |
| | Battery checking, Charging & method for maintenance | Day 2 | 2hrs | Different method for maintaining proper functioning of battery. | 3hrs | Introduction of Battery Components, their working, maintenance | Conduct class with equipment for showing battery of vehicle | <ul style="list-style-type: none"> identify different components of battery. carry out maintenance according to set procedure. |
| Week 9 | Tyre puncture | Day 1 | 2 hrs | How to remove tyre from vehicle , fix | 3hrs | Introduction of Tyer puncture | Conduct class with equipment | <ul style="list-style-type: none"> carry out tyre repair in case of puncture. |

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| | | | | puncture & type | | Components, their working & ,maintenance | for showing repair of tyer puncture | |
| | Tyre rotation & its importance | Day 2 | 2 hrs | How to take care of tyre & reasons for wear & tear | 3hrs | Practice of lifting vehicle on jack with safety. For tyer rotation | Conduct class with equipment for lifting vehicle for tyer rotation | <ul style="list-style-type: none"> • handle vehicle lifting equipment. • carry out tyre rotation check and alignment. |
| Week 10 | Lubricants type , Its use | Day 1 | 2hrs | Explain working of different type of lubricants used & Functioning | 4hrs | Introduction of Lubricants their working & ,maintenance | Conduct class with equipment for showing how lubrication is done for chassis systems | <ul style="list-style-type: none"> • identify different grades of motor oil. • locate the passage of oil through chassis system. • carry out lubrication in chassis system. |
| | Servicing of vehicle | Day 2 | 2 hrs | Explain importance of washing of vehicle | 4hrs | Practical washing of under chassis of vehicle | Conduct class with equipment for showing washing of vehicle under chassis | <ul style="list-style-type: none"> • carry out washing of vehicle under chassis |
| Week 11 | Servicing of vehicle | Day 1 | 2 hrs | Explain importance of changing of engine oil, gear oil, & differential oil plus checking of brake oil, coolant | 4hrs | Practical of Changing of engine oil, gear oil, & differential oil plus checking of brake oil, coolant | Conduct practical on vehicle of Changing of engine oil, gear oil, & differential oil plus checking of brake oil, coolant to demonstrate | <ul style="list-style-type: none"> • identify which part of vehicle required servicing and carry out servicing as per requirement. • carry out checks for oiling of different parts. |

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| | Servicing of vehicle | Day 2 | 2hrs | Explain how to do washing of interior of vehicle, body & engine compartment | 4hrs | Practical on washing of interior of vehicle, body & engine compartment | Conduct practical on vehicle washing of interior of vehicle, body t & engine compartment | <ul style="list-style-type: none"> • carry out checks for coolant. • carry out washing of vehicle interior, body & engine compartment. |
| Week 12 | Defects and rectifications of clutch | Day 1 | 2 hrs | Explain how to do defect location in a vehicle, & procedure to rectify same | 3hrs | Practical on defect rectification of clutch | Conduct practical on defect location and rectification Of clutch | <ul style="list-style-type: none"> • identify & locate defect of the clutch system and carry out rectification. |
| | Defects and rectifications of gear box, types , | Day 2 | 2hrs | Explain how to do defect location in a vehicle gear box and shifting mechanism and rectification | 3hrs | Practical on defect rectification of gear box | Conduct practical on defect location and rectification in a gear box. | <ul style="list-style-type: none"> • identify & locate defect of the gear box and carry out rectification. |
| Week 13 | Defects and rectifications of propeller shaft & universal joint | Day 1 | 2 hrs | Explain how to do defect location in a vehicle propeller shaft & universal joint and rectification. | 3hrs | Practical on defect rectification of propeller shaft & universal joint. | Conduct practical on defect location and rectification Of propeller shaft & universal joint. | <ul style="list-style-type: none"> • identify & locate defect of the propeller shaft & universal joint and carry out rectification. |

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| | Defects and rectifications of differential | Day 2 | 2hrs | Explain how to do defect location in a vehicle differential and rectification | 3hrs | Practical on defect rectification of Differential | Conduct practical on defect location and rectification Of differential | <ul style="list-style-type: none"> identify & locate defect of the differential and carry out its rectification |
| Week 14 | Defects and rectification of Front & rear axel, | Day 1 | 2hrs | Explain how to do defect location in a vehicle Front & rear axel | 3hrs | Practical on defect rectification of Front & rear axel | Conduct practical on defect location and rectification of front & rear axel | <ul style="list-style-type: none"> identify & locate defect of the front & rear axle and carry out its rectification. |
| | Defects and rectification of Chassis & suspension functions & ,components | Day 2 | 2hrs | Explain how to do defect location in a vehicle Chassis & suspension functions | 3hrs | Practical on defect rectification of Chassis & suspension functions | Conduct practical on defect location and rectification Of chassis & suspension functions | <ul style="list-style-type: none"> identify & locate defect of the Chassis & suspension system and carry out its rectification |
| Week 15 | Defects & rectification of Steering system Functions & components | Day 1 | 2 hrs | Explain how to do defect location in a vehicle steering system | 3hrs | Practical on defect rectification of Steering system | Conduct practical on defect location and rectification of steering system | <ul style="list-style-type: none"> identify defect of the steering system and carry out its rectification |
| | Defects & rectification of Brake system Functions & components | Day 2 | 2 hrs | Explain how to do defect location in a vehicle brake system | 3hrs | Practical on defect rectification of Brake system | Conduct practical on defect location and rectification Of brake system | <ul style="list-style-type: none"> identify defect of the brake system and carry out its rectification. |

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| Week 16 | Defects & rectification of electrical systems related to head lights, back ,parking & indicator lights | Day 1 | 2hrs | Explain how to do Remove & refit head lamp, parking, indicator & brake lights | 3hrs | Practical on defect rectification of Head lamp, parking, indicator & brake lights | Conduct practical on defect location and rectification Of Head lamp, parking, indicator & brake lights | <ul style="list-style-type: none"> identify & locate the defect of the electrical system and carry out its rectification. |
| | Measuring & marking | Day 2 | 2 hrs | Explain equipments used for measuring various jobs | 3hrs | Practical handling of equipments, their units, use etc | Explain type of measuring equipments use, their handling, Reading units | <ul style="list-style-type: none"> identify & handle different measuring & marking tools. read the measuring units. carry out the use of these tools. |
| Week 17 | Basic computer knowledge | Day 1 | 2 hrs | Basic computer knowledge | 3hrs | Handling of computer on basic operations | Show basic computer usage an practice. | <ul style="list-style-type: none"> switch on computer and open document to attend information |
| | Work shop Documentation | Day 1 | 2 hrs | Job card, spare part demand, collection of spare part from store, | 3hrs | Handling of documents and understanding their purpose. | Practice on set documentation procedure. | <ul style="list-style-type: none"> carry out documentation related to workshop. |

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| Week 18 | Self assessment on safety measures | Day 1 | 3 hrs | <ul style="list-style-type: none"> • Explaining questions by way of discussions • Objective questions on • Workshop safety & precautions while handling equipment | 4hr | Class to demonstrate safety drill | ----- | ----- |
| | Self assessment on engine. | Day 2 | 3 hrs | <ul style="list-style-type: none"> • Explaining questions by way of discussions • Objective questions on Engine while handling job | | ----- | ----- | ----- |
| Week 19 | Self assessment on transmission assembly & ,Steering & brake system | Day 1 | 3 hrs | <ul style="list-style-type: none"> • Explaining questions by way of discussions on transmission assembly ,Steering & brake system. • Objective questions on transmission assembly & ,Steering & brake system, while handling job | | ----- | ----- | ----- |
| | Self assessment on Road safety. | Day 2 | 3hrs | <ul style="list-style-type: none"> • Road rules other soft skills of driving Documentation of vehicle, driver. • Objective questions on steering & brake system while handling job. <p>Show documents to class and discuss its clauses</p> | | ----- | ----- | ----- |

