



## **Skills for Employment Investment Program (SEIP)**

# ASSESSMENT TOOL FOR AUTO MECHANICS

(LIGHT ENGINEERING SECTOR)

Finance Division, Ministry of Finance Government of the People's Republic of Bangladesh

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### PART A - THE ASSESSOR

### Instructions to Assessor

Assessment is the process of identifying a candidate's skills and knowledge set against the industry established standards in the workplace. It requires the candidate to consistently and over time demonstrate skills, knowledge and attitude that enable confident completion of workplace tasks in a variety of situations.

In judging assessment evidence, the assessor must ensure that the evidence is:

- authentic (the candidate's own work)
- valid (directly related to the current version of the endorsed competency standard)
- reliable (show that the candidate consistently meets the endorsed unit of competency)
- current (reflects the candidate's current capacity to perform the aspect of work covered by the endorsed unit of competency)
- sufficient (covers the full range of elements in the relevant unit of competency)

There are a number of assessment methods that may be employed including but not limited to:

- written examination
- oral questioning
- practical demonstration

A single unit of competency may be assessed or a group of units of competency may be assessed, either in an actual workplace or a simulated workplace environment.

### **Conducting Assessment**

Prior to commencement of assessment, candidates must have the tasks clearly explained to them. Also, the assessor should provide candidates with clear advice and information about the:

- date, time and place for assessment
- structure of assessment
- number of times performance must be demonstrated or observed
- amount or type of assistance candidates can expect
- assessment environment
- resources required for assessment
- performance standards or benchmarks relevant to the qualification

As well as informing the candidate of what they will be required to do during the assessment, the assessor will also need to explain what evidence they will need to provide in response to the various assessment tasks.

If a candidate is required to submit evidence, any explanation must include specific guidance on:

- what to include as evidence
- how to present the evidence
- how to submit the evidence and to whom

### **Assessing Competence**

Competency-based assessment does not award grades, but simply identifies if the candidate has the skills, knowledge and attitudes to undertake the required task to the specified standard.

Therefore, when assessing competency an assessor has two possible results (assessment decisions) that can be awarded:

- Competent (C)
- Not Yet Competent (NYC)

### Competent (C)

If the candidate is able to successfully answer and demonstrate what is required to the expected standard of the assessment criteria, they will be deemed as 'Competent'.

The assessor will award 'Competent' if they feel the candidate has the necessary skills, knowledge and attitudes in all assessment tasks for a given package.

### Not Yet Competent (NYC)

If the candidate is unable to answer and demonstrate competency to the expected standard, they will be deemed to be 'Not Yet Competent'.

This does not mean the candidate will need to complete all the assessment tasks again. When applying for reassessment, the focus will be on the specific assessment tasks that were not performed to the required standard.

The candidate may be required to:

- (a) undertake further training or instruction
- (b) undertake the specific assessment task again until they are deemed to be competent

### **Recording Assessment Information**

When all assessment tasks are concluded, the evidence summary sheet should be completed, signed by all parties, and any outstanding activities or issues actioned.

The assessor should ensure that all appropriate forms are completed and signed by all parties.

CHECKI	LIST FOR A	ASSESSOR
Prior to the assessment I have:	Tick (✓)	Remarks
Ensured the candidate is informed about the venue and schedule of assessment.		
Received current copies of the assessment criteria to be assessed, assessment plan and evidence plan.		
Reviewed the assessment criteria and evidence plan to ensure I clearly understood the instructions and the requirements of the assessment process.		
Identified and accommodated any special needs of the candidate.		
Checked the set-up and resources for the assessment.		
During the assessment I have:		
Introduced myself and confirmed identities of candidates.		
Collected the admission slips.		
Put candidates at ease by being friendly and helpful.		
Checked completed self-assessment guide.		
Explained to candidates the purpose, context and benefits of the assessment.		
Ensured candidates understood the assessment process and the assessment procedure.		
Provided candidates with an overview of the assessment criteria to be used.		
Gave specific and clear instructions to the candidates.		
Observed carefully the specified time limits provided in the assessment package.		
Stayed at the assessment area during the entire duration of the assessment activity.		
Ensured notes are made on unusual conditions or situations during the assessment and include these in the report.		
Did not provide any assistance during the assessment or indicated in any way whether the candidate is or is not performing the activity correctly (intervened only for health and safety reasons).		

Implemented the evidence gathering process and ensured its validity, reliability, fairness and flexibility.	
Collected appropriate evidence and matched relevance to the elements, performance criteria, range of variables and evidence guide in the relevant units of competency.	
Explained the results reporting procedure to the candidate.	
Encouraged candidates to seek clarifications if in doubt about the pre- and post-assessment activity procedures.	
Asked candidates for feedback on the assessment.	
Explained legal, health and safety, and ethical issues, if applicable.	
After the assessment I have:	
Provided feedback on the assessment decision. This includes the following:	
<ul> <li>clear and constructive feedback on the assessment decision</li> </ul>	
<ul> <li>information on ways of addressing any identified gaps in competency revealed by the assessment</li> </ul>	
<ul> <li>opportunity to discuss the assessment process and outcome</li> </ul>	
<ul> <li>information on reassessment process (if necessary)</li> </ul>	
<ul> <li>information on appeal (if necessary)</li> </ul>	
Prepared the necessary assessment reports. This includes the following:	
<ul> <li>record the assessment decision using the prescribed rating sheet</li> </ul>	
<ul> <li>maintain records of the assessment procedures, evidence collected and assessment decision</li> </ul>	
endorse assessment decision to BTEB	
<ul> <li>prepare recommendations for the issuance of certificate</li> </ul>	
Thanked candidate for participating in the assessment.	

### **Assessment Evidence Guide**

The purpose of assessment is to confirm that an individual can perform to the standards expected by in the workplace, as expressed in the competency standards.

To attain the certificate of **Auto Mechanics**, a candidate must demonstrate competent skill and knowledge in all the units of competency listed below. Upon successful completion of all assessment activities, a candidate shall be awarded with a certificate.

CODE	UNIT OF COMPETENCY
Generic Competencies	
SEIP-LE-AME-01-G	Use basic mathematical concepts
SEIP-LE-AME-02-G	Carry out workplace interaction
SEIP-LE-AME-03-G	Operate in a team environment
SEIP-LE-AME-04-G	Apply basic IT skills
Sector-specific Compete	ncies
SEIP-LE-AME-01-S	Apply occupational health and safety (OHS) practice in the workplace
SEIP-LE-AME-02-S	Read and interpret sketches and drawings
SEIP-LE-AME-03-S	Use hand and power tools
SEIP-LE-AME-04-S	Apply quality system
Occupation-specific Con	npetencies
SEIP-LE-AME-01-O	Identify major components of engine
SEIP-LE-AME-02-O	Service auxiliary systems
SEIP-LE-AME-03-O	Service power transmission system
SEIP-LE-AME-04-O	Service control system
SEIP-LE-AME-05-O	Service suspension system

### **Assessment Evidence Plan**

An assessment evidence plan is a document that assists in establishing what evidence needs to be collected by the assessor to ensure that the candidate meets all the appropriate requirements of the competency standard. It usually contains a record of:

- evidence requirements as set out in the competency standard
- who will collect the evidence
- time period needed to collect the evidence

Oc	cupation:	Auto	Auto Mechanics					
Uni	it Name:	Use	Use basic mathematical concepts					
Uni	it Code:	SEIP	-LE-AME-01-G					
Ass	sessment Method:		Р	0		W		
		(inclu	rmance ding onstration and ovation)	Oral questioning	Written examination (including short-answer multiple choice, and true or false questions)			wer,
Ele	ment	Perf	Performance Criteria					W
1.	Identify calculation requirements in the	1.1.	<b>1.1.</b> Calculation requirements are identified from workplace information.					
	workplace	1.2.	Mathematical pr workplace.	oblems are constructed	d from	√		
2.	Select appropriate mathematical	2.1.	Appropriate met calculation require	hod is selected to car ements.	rry out	<b>√</b>		<b>√</b>
	methods/concepts for the calculation	2.2.	Constructed n solved with appro	nathematical problems opriate method.	are	<b>√</b>		<b>√</b>
3.	Use tools and instrument to	3.1.	Tools and instru are identified.	ments required for comp	outation	<b>√</b>		
	perform calculations	3.2.	Calculation is pe	erformed using appropriat	e tools	<b>√</b>		√

Occupation:	Auto Mechanics	Auto Mechanics						
Unit Name:	Carry out workplace into	eraction						
Unit Code:	SEIP-LE-AME-02-G							
Assessment Method:	Р	0	w					
	Performance (including demonstration and observation)	Oral questioning	Written examination (including short-answer, multiple choice, and true or false questions)			wer,		
Element	Performance Criteria			Р	0	W		
Interpret workplace communication and	1.1. Workplace codes per organisationa	s of conduct are interpred Il guidelines.	eted as	√	√			
etiquette	1.2. Appropriate lin	es of communication	n are		√			

	maintained with supervisors and colleagues.					
	1.3.	Workplace interactions are conducted in a courteous manner to gather and convey information.	√	<b>√</b>		
	1.4.	Workplace procedures and matters are comprehended.	<b>√</b>			
2. Read and understar		Workplace documents are interpreted correctly.	√			
workplace document		Visual information/symbols/signage are understood correctly and followed.	>			
	2.3.	Specific and relevant information are accessed from appropriate sources.	<			
	2.4.	Appropriate medium is used to transfer information and ideas.	<b>√</b>	√		
3. Participat	e in 3.1. e meetings	Team meetings are attended on time.		√		
and discu		Meeting procedures and etiquette are followed.		<b>√</b>		
	3.3.	Active participation is ensured, opinions are expressed and heard.		√		
	3.4.	Inputs are provided and interpreted in line with the meeting purpose.		<b>√</b>		
4. Practice profession	4.1.	Responsibilities as a team member are performed.	<b>√</b>			
at work	4.2.	Tasks are performed in accordance with workplace procedures.	<b>√</b>			
	4.3.	Confidentiality is maintained.	<b>√</b>			
	4.4.	Inappropriate and conflicting situations are avoided.		<b>√</b>		

Occupation:	Auto Mechanics	Auto Mechanics						
Unit Name:	Operate in a team envir	onment						
Unit Code:	SEIP-LE-AME-03-G							
Assessment Method:	Р	0		W				
	Performance (including demonstration and observation)	Oral questioning	(includir multiple	Written examination (including short-answer, multiple choice, and true or false questions)				
Element	Performance Criteria			Р	0	W		
Identify team goals and work processes	<b>1.1.</b> Roles and object and interpreted.							
	1.2. Roles and respo	nsibilities of team memberpreted.	ers are			<b>√</b>		

2.	2. Identify own role and responsibilities within team		Personal role and responsibilities are identified within the team environment.	<b>√</b>		
	within team	2.2.	Reporting relationships are interpreted within team and external to team.		<b>√</b>	
3.	3. Communicate and co-operate with team members	3.1.	Other teammates' tasks are identified and support provided when requested.	<b>√</b>		
		3.2.	The team is encouraged through sharing information or expertise, working together to solve problems, and putting team success first.	<b>√</b>		
			Views and opinions of other team members are interpreted and respected.	<b>√</b>		
4.	4. Practice problem solving within the team		Problems faced at the individual and team level are identified and showed insight into the root-causes of the problems.			√
		4.2.	A range of solutions and courses of action are identified together with benefits, costs, and risks associated with each.			√
		4.3.	The good ideas of others to help develop solutions are recognised and advice sought from those who have solved similar problems.			√
		4.4.	It is looked beyond the obvious and not stopped at the first answers.	<b>√</b>	<b>√</b>	

Oc	cupation:	Auto	Auto Mechanics						
Uni	it Name:	Appl	Apply basic IT skills						
Uni	it Code:	SEIF	P-LE-AME-04-G						
Ass	sessment Method:		Р	0		W			
		(includemo	ormance ading onstration and orvation)	Oral questioning	Written examination (including short-answer multiple choice, and true or false questions)				
Ele	ment	Perf	Performance Criteria			Р	0	w	
1.	Identify and use most commonly	1.1.	<b>1.1.</b> History of information technology (IT) is identified and summarised.				<b>√</b>		
	used IT tools	1.2.	Commonly used described.	I IT tools are identifie	ed and		<b>√</b>		
2.	Understand use of computer	2.1.	Basic parts of a c	omputer are identified.			√		
		2.2.	Turning on and performed.	off technique of a comp	outer is	<b>√</b>			
		2.3.	<b>2.3.</b> Working environment, functions and features of operating system is interpreted.						
		2.4.	Simple trouble-sh	nooting techniques are app	olied.	<b>√</b>			

3.	Work with word processing	3.1.	Word processing application appropriate to perform activity is operated.		<b>√</b>	
	application	3.2.	Basic typing technique to document is applied.			√
		3.3.	Word processing techniques to document are employed.		<b>√</b>	
<b>3.4.</b> Personal CV writing using suitable processing techniques is practiced.						<b>√</b>
		3.5.	Saving and retrieving technique of a document is used.	<b>√</b>		
4.	Access email and search the internet	4.1.	Use of email account in online environment is explained.		<b>√</b>	
		4.2.	Writing and sending of workplace emails is completed.			<b>√</b>
		4.3.	Different browsers to work online are identified and selected.		<b>√</b>	
		4.4.	Browse different web portals and apply proper search techniques.		<b>√</b>	

Occ	cupation:	Auto	Mechanics					
Uni	t Name:	Apply	Apply occupational health and safety (OHS) practice in the workplace					;
Uni	t Code:	SEIP	-LE-AME-01-S					
Ass	sessment Method:		Р	0		W		
		Performance (including demonstration and observation)  Oral questioning Written expended (including multiple of true or fall to the content of the content o			ng sho choic	rt-ans e, and	wer, I	
Ele	ment	Perf	ormance Criteria			Р	0	W
1.	Identify OHS policies and	1.1.	OHS policies and interpreted.	d safe operating procedu	res are			<b>√</b>
	procedures	procedures  1.2. Safety signs and symbols are identified and followed.						
		1.3.		cuation procedures and sures are interpreted corre			<b>√</b>	
2.	Apply personal health and safety practices	2.1.	•		I in the otective	<b>√</b>		
		2.2.	Common health is	ssues are recognised.			<b>√</b>	
		2.3.	Common safety is	ssues are identified.		<b>√</b>		
3.	Report hazards and risks	3.1.	Hazards and risks	s are identified.		<b>√</b>		
		3.2.	Hazards and risk interpreted.	s assessment and contr	ols are	√		

4.	Respond to emergencies	4.1.	Respond to alarms and warning devices.	√	
	-	4.2.	Emergency response plans and procedures are responded to.	<b>√</b>	
		4.3.	First aid procedures during emergency situations are identified.	√	

Oc	cupation:	Auto	Mechanics					
Uni	Unit Name: Read and interpret sketches and drawings							
Uni	it Code:	SEIP	P-LE-AME-02-S					
Ass	Assessment Method:		Р	0		W		
		(inclu	rmance Iding Instration and Invation)	Oral questioning	Written examination (including short-answer multiple choice, and true or false questions)		wer,	
Ele	Element		rformance Criteria			Р	0	W
1.	Interpret information and specifications	1.1.	Appropriate ma identified and coll	<b>√</b>				
		1.2.	Information and interpreted and a	specifications in the mar pplied.	nuals is	<b>√</b>		
2.	Read and interpret sketches and	2.1.	Relevant sketche job requirement.	es and drawings are ident	ified for	<b>√</b>		
	drawings	2.2.	<b>2.2.</b> Key terms and abbreviations are identified and interpreted.			<b>√</b>		
		2.3.	2.3. Signs and symbols are identified and interpreted.					
		2.4.		nsions, sketches, drawin correctly read and interpr		√		

Occupation:	Auto Mechanics	uto Mechanics					
Unit Name:	Use hand and power to	Jse hand and power tools					
Unit Code:	SEIP-LE-AME-03-S	SEIP-LE-AME-03-S					
Assessment Method:	Р	0	W				
	Performance (including demonstration and observation)	Oral questioning	Written examination (including short-answer, multiple choice, and true or false questions)				
Element	Performance Criteria			Р	0	W	
Identify and inspect hand and power	1.1. Appropriate hand and power tools are identified.			<b>√</b>			
tools	<b>1.2.</b> Application of recognised.	hand and power to	ols is		<b>√</b>		

				1	1	
		1.3.	Usability of hand and power tools is checked and verified.	<b>√</b>		
2.	Use hand tools properly and safely	2.1.	Appropriate hand tools are selected.	<b>√</b>		
		2.2.	Safety precautions are ensured before using hand tools.	<b>√</b>		
		2.3.	Unsafe or faulty hand tools are identified and marked for repair.	<b>√</b>		
			Measuring tools are checked and calibrated before use.	√		
		2.5.	Use hand tools properly and safely to perform work activity.	<b>√</b>		
3.	Operate power tools properly and	3.1.	Appropriate power tools are selected.	<b>√</b>		
	safely	3.2.	Power supply outlet and electrical cord are inspected and confirmed safe for use in accordance with established workplace safety requirements.	<b>√</b>		
		3.3.	Safety precautions are ensured before using power tools in accordance with manufacturer's operating specification.	<b>√</b>		
		3.4.	Proper sequence of operation applied for using power tools.	<b>√</b>		
		3.5.	Unsafe or faulty power tools are identified and marked for repair.	<b>√</b>		
		3.6.	Operate power tools properly and safely to perform work activity.	<b>√</b>		
4.	Clean and maintain hand and power tools	4.1.	Dust and foreign matter is removed from hand and power tools in accordance to workplace standards.	<b>√</b>		
		4.2.	Condition of hand and power tools is checked after use and reported.	√		
		4.3.	Appropriate lubricant is applied after use and prior to storage.	<b>√</b>		
			Measuring tools are checked and calibrated after use.	<b>√</b>		
		4.5.	Defective hand and power tools are inspected and repaired or replaced.	√		
		4.6.	Hand and power tools are stored and secured in accordance with workplace requirements.	√		

Occupation:	Auto Mechanics
Unit Name:	Apply quality system
Unit Code:	SEIP-LE-AME-04-S

Assessment Method:		Р	0		W		
	(includemo	ormance oding onstration and ovation)	Oral questioning	Written examination (including short-answe multiple choice, and true or false questions)			wer,
Element	Perf	ormance Criteria			Р	0	w
Work within a quality system	1.1.		procedures are strictly folk quality improvement syste		<b>√</b>		
	1.2.	Duties are perfor of quality improve	med in accordance with coment system.	lemand	<b>~</b>		
	1.3.	Defects are dete	ected and reported accoring procedures.	ding to	<b>√</b>		
	1.4.	<b>1.4.</b> Quality service is ensured and delivered to customer in providing a product or service.					
2. Apply and monitor quality system	2.1.	Performance identified.	measurement systems	are		√	
improvement	2.2.	Specifications an	nd standard operating pro established.	cedure		<b>√</b>	
	2.3.	Performance is a	ssessed at regular interva	ls.	√		
	2.4.		ected and reported to a dard operating procedure.		<b>√</b>		
	2.5.	Process improve to and implement	ment procedures are conted.	tributed	<b>√</b>		
	2.6.		internal/external custom hips is contributed to.	er and	<b>√</b>		
	2.7.		operation or quality of pro nitored to ensure cu		<b>√</b>		
3. Apply standard procedures for each job	3.1.		lying product or service t requirements is understo		<b>√</b>	<b>√</b>	
	3.2.	Responsibility is t	taken for quality of own wo	ork.	√		
	3.3.	Quality system followed.	procedures for each j	ob are	<b>√</b>		
	3.4.	Conformance to case at all situation	specification is ensured in ons.	n every	<b>√</b>		

Occupation:	Auto Mechanics							
Unit Name:	Identify major compone	entify major components of engine						
Unit Code:	SEIP-LE-AME-01-O	EIP-LE-AME-01-O						
Assessment Method:	Р	0	w					
	Performance (including	Oral questioning	Written examination (including short-answer,					

						noice, and re questions)			
Element Performance Criteria					Р	0	W		
1.	Identify types of engine	1.1.	Types of engine a	are identified				√	
	J		Working princip explained.	le of diffe	rent engine	es are		√	
2.	components of engine	2.1.	Major component	s of engine a	re identified.			<b>√</b>	
		2.2.	Location of major	components	are identifie	d.	<b>√</b>	√	
	2.3. Relationship between major components is described.					ents is			<b>√</b>

Occupation:	Auto Mechanics	Auto Mechanics						
Unit Name:	Service auxiliary system	าร						
Unit Code:	SEIP-LE-AME-02-O							
Assessment Method:	Р	0		W				
	Performance (including demonstration and observation)  Oral questioning Written exar (including standard multiple choose true or false)				rt-ans e, and	wer,		
Element	Performance Criteria			Р	0	W		
1. Prepare for work	1.1. Read and interpre	et specifications and instru	uctions.	<b>√</b>				
		<b>1.2.</b> Identify and select appropriate personal protective equipment (PPE).						
	<b>1.3.</b> Identify and se equipment.							
2. Service fuel system	2.1. Major component	2.1. Major components of fuel system are identified.						
	<b>2.2.</b> Functions of majo	or components are describ	ed.			<b>√</b>		
	2.3. Major componer necessary.	nts are tested and repla	aced, if	<b>√</b>				
3. Service cooling system	<b>3.1.</b> Major compone identified.	ents of cooling system	m are		<b>√</b>			
	<b>3.2.</b> Functions of majo	or components are describ	ed.		<b>√</b>			
	3.3. Fan belt tension i	s adjusted.		<b>√</b>				
	<b>3.4.</b> Radiator and eng	<b>3.4.</b> Radiator and engine flushing is performed.						
	3.5. Major componer necessary.	nts are tested and repla	aced, if	<b>√</b>				
4. Service lubricating system	<b>4.1.</b> Major componer identified.	nts of lubrication syste	em are	<b>√</b>				

		4.2.	Functions of major components are described.		>	
		4.3.	Major components are tested and replaced, if necessary.	>		
5.	Service ignition system	5.1.	Major components of ignition system are identified.	>		
		5.2.	Functions of major components are described.		>	
		5.3.	Major components are tested and replaced, if necessary.	>		
6.	Service starting system	6.1.	Major components of starting system are identified.	>		
		6.2.	Functions of major components are described.		^	
		6.3.	Major components are tested and replaced, if necessary.	<b>√</b>		

Occupation:	Auto Mechanics						
Unit Name:	Service power transn	nission system					
Unit Code:	SEIP-LE-AME-03-O						
Assessment Method:	Р	0		W			
	Performance (including demonstration and observation)	Oral questioning	Written (includir multiple true or f	ng sho choic	rt-ans e, and	wer,	
Element	Performance Criteria			Р	0	W	
1. Prepare for work	1.1. Read and inter	1.1. Read and interpret specifications and instructions.					
	<b>1.2.</b> Identify and select appropriate personal protective equipment.						
	1.3. Identify and equipment.						
2. Service clutch system	2.1. Major compone	ents of clutch system are ide	entified.	<b>√</b>			
,	2.2. Functions of m	ajor components are descrit	oed.		<b>√</b>		
	<b>2.3.</b> Adjustment ar carried out.	nd bleeding of clutch sys	stem is	<b>√</b>			
	<b>2.4.</b> Major compor necessary.	ents are tested and repla	aced, if	<b>√</b>			
3. Service gear box	3.1. Major compone	ents of gear box are identifie	d.	<b>√</b>			
	3.2. Functions of m	ajor components are descrit	oed.		√		
	3.3. Change of gea	r oil is carried out.		<b>√</b>			
	3.4. Major compor	nents are tested and repla	aced, if	<b>√</b>			

			necessary.			
4.	Service differential system	4.1.	Major components of differential system are identified.		<b>√</b>	
		4.2.	Functions of major components are described.		√	
		4.3.	Adjustment and oil change is carried out.	<b>√</b>		
		4.4.	Major components are tested and replaced, if necessary.	√		
5.	Service propeller shaft and universal	5.1.	Major components of propeller shaft and universal joint are identified.	<b>√</b>		
	joint 5.2	5.2.	Functions of major components are described.			<b>√</b>
		5.3.	Major components are tested and replaced, if necessary.	<b>√</b>		
6.	Service axel and CV joints	6.1.	Major components of axel and CV joints are identified.	<b>√</b>		
			Functions of major components are described.			<b>√</b>
		6.3.	Major components are tested and replaced, if necessary.	<b>√</b>		

Occupation:	Auto	Auto Mechanics					
Unit Name:	Serv	Service control system					
Unit Code:	SEIF	SEIP-LE-AME-04-O					
Assessment Method:		P O			W		
	(includemo	Performance Oral questioning Written ex (including demonstration and observation) true or false		ing (includia stration and multiple		rt-ans e, and	wer,
Element	Perf	Performance Criteria			Р	0	W
1. Prepare for work	1.1.	1.1. Read and interpret specifications and instructions.			<b>√</b>		
	1.2.	<b>1.2.</b> Identify and select appropriate personal protective equipment.			√		
	1.3.	<b>1.3.</b> Identify and select job specific tools and equipment.  √			<b>√</b>		
2. Service brake system	2.1.	2.1. Major components of brake system are identified.   √					
	2.2. Functions of major components are described.   √						
	2.3.	2.3. Adjustments and bleeding of brake system is carried out.   √					
	2.4.	Major componer necessary.	nts are tested and repla	aced, if	<b>√</b>		

3.	Service steering system	3.1.	Major components of steering system are identified.	√	
		3.2.	Functions of major components are described.		<b>√</b>
		3.3.	Adjustment of steering system is carried out.	<b>√</b>	
		3.4.	Major components are tested and replaced, if necessary.	<b>√</b>	

Occupation:	Auto Mechanics						
Unit Name:	Servi	ce suspension sys	tem				
Unit Code:	SEIP	-LE-AME-05-O					
Assessment Method:			0		W		
	(included) (included)	Performance Oral questioning Written ex (including demonstration and observation) True or fail			ng sho choice	rt-ans e, and	wer,
Element	Perfo	ormance Criteria			Р	0	W
1. Prepare for work	1.1.	1.1. Read and interpret specifications and instructions.			<b>√</b>		
	1.2.	<b>1.2.</b> Identify and select appropriate personal protective equipment (PPE).			<b>√</b>		
	1.3.	<b>1.3.</b> Identify and select job specific tools and equipment.			<b>√</b>		
2. Test and change shock absorber	2.1. Types of shock absorber are identified.			√			
	<b>2.2.</b> Function of shock absorber are described.				√		
	2.3. Shock absorber is tested and replaced, if necessary.			<b>√</b>			
3. Test and change leaf and coil spring	3.1.	3.1. Components of leaf spring are identified.			√		
	3.2.	Types of leaf spri	ng and coil spring are ider	ntified.	√		
	3.3.	Function of lea described.	f spring and coil sprir	ng are			√
	3.4.	Service of leaf sp	ring is carried out.		√		
	<b>3.5.</b> Leaf and coil spring are tested and replaced, if necessary.   √						
4. Test and change torsion and stabiliser	<b>4.1.</b> Function of torsion and stabiliser bar described.					<b>√</b>	
bar	<b>4.2.</b> Service of torsion bar and stabiliser bar is carried out.				√		
	4.3.	Torsion and stabi if necessary.	liser bar are tested and re	placed,	<b>√</b>		

5.	Test and change bush and mountings	5.1.	Type of bush and mountings are identified.	√	
	-	5.2.	unctions of bush and mountings are described.		√
		5.3.	Bush and mountings are tested and replaced, if necessary.	<b>√</b>	

### PART B - THE CANDIDATE

### Instructions to Candidate

To be assessed as competent, you must provide evidence which demonstrates that you can perform to the necessary standard the various elements of this unit of competency that comprise of the Certificate in Auto Mechanics. Assessment of competency requires you to consistently demonstrate skill, knowledge and aptitude (through a variety of assessment tools such as multiple choice, short-answer questions, oral questioning, workplace observation, and practical demonstration) that enables confident completion of workplace tasks in a variety of situations.

In judging the evidence, your assessor must ensure that the evidence is:

- authentic (your own work)
- valid (directly related to the current version of the units of competency)
- reliable (consistently demonstrates of your knowledge and skill)
- current (shows your current capacity to perform the work)
- sufficient (covers the full range of elements comprised within the units of competency)

Furthermore, the assessment process must:

- provide for valid, reliable, flexible and fair assessment
- provide for judgment to be made on the basis of sufficient evidence
- offer valid, authentic and current evidence
- include workplace requirements

There are two types of assessment:

- 1. <u>Knowledge Assessment</u> is designed to enable assessment against the various *elements* contained within the units of competency through a variety of activities such as multiple choice, short-answer questions, oral questioning. It is essentially examining your theoretical knowledge.
  - This provides the assessor with substantial evidence of your knowledge and aptitude to perform the work relating to the specific unit of competency, in conjunction with other assessment tools such as workplace observation.
  - You should complete the knowledge assessment as directed by the assessor and follow all instructions as and when given. If you are unable to complete the knowledge assessment, please speak to the assessor about alternative assessment solutions.
- 2. <u>Skill Assessment</u> is designed to enable assessment against the various *performance criteria* contained within the units of competency through, for example, demonstration of skill in a simulated or actual work environment. In essence, it is an examination of your practical ability.
  - This provides the assessor with substantial evidence of your ability to perform the work relating to the specific unit of competency to the standard expected by industry (the benchmark).
  - You should complete the skill assessment as directed by the assessor and follow all instructions as and when given, ensuring your own health and safety.

Once you have been assessed as competent against all of the units of competency comprising of the qualification being undertaken, you will be awarded your certificate.

You assessor will discuss in more detail the requirements for assessment for each unit of competency at the appropriate time.

And please do not panic if you are not assessed as competent on any part of your qualification at your first attempt. Your assessor will discuss with you any identified skill and knowledge gaps, work through those with you and assist you as much as possible in attaining competency.

### **Self-Assessment Guide**

Before undertaking any assessment, you should review the list of skills, knowledge and aptitudes relating to the assessment (drawn from the units of competency, its various elements and performance criteria) to determine whether you have current competency in these areas.

If you believe you can demonstrate the skills and knowledge required and can successfully complete the various assessment activities, you should then proceed to discuss your assessment with the assessor and complete Assessment Agreement.

However, should you not believe, for whatever reason, that you are not able to successfully complete the various assessment activities, then speak with the assessor. The assessor will assist you in identifying any skill and knowledge gaps, work through those with you and assist you as much as possible in attaining competency.

Please complete the self-assessment checklist below and discuss with the assessor.

Qualification:	Auto Mechanics
Units of	Generic units:
competency:	Use basic mathematical concepts
	Carry out workplace interaction
	Operate in a team environment
	Apply basic IT skills
	Sector-specific units:
	Apply occupational health and safety (OHS) practice in the workplace
	Read and interpret sketches and drawings
	Use hand and power tools
	Apply quality system
	Occupation-specific units:
	Identify major components of engine
	Service auxiliary systems
	Service power transmission system
	Service control system
	Service suspension system

### Instructions:

- Read each of the questions in the left-hand column of the chart
- Place a tick  $(\sqrt{})$  in the appropriate box opposite each question to indicate your answer

Can I?	YES	NO
Identify calculation requirements from workplace information		
Construct mathematical problems from workplace		
Select appropriate method to carry out calculation requirement		

	Solve constructed mathematical problems with appropriate	
	method	
•	Identify tools and instruments required for computation	
•	Perform calculation using appropriate tools and equipment	
•	Interpret workplace codes of conduct as per organizational guidelines	
•	Maintain appropriate lines of communication with supervisors and colleagues.	
•	Conduct workplace interactions in a courteous manner to gather and convey information	
•	Comprehend workplace procedures and matters	
•	Interpret correctly workplace documents	
•	Understand correctly and follow visual information/symbol/signage	
•	Access specific and relevant information from appropriate sources	
•	Use appropriate medium to transfer information and ideas	
•	Attend team meetings on time to ensure active participation	
•	Follow meeting procedures and etiquette	
•	Ensure active participation, express and hear opinions	
•	Respect opinions and ideas of others and their importance in the development of relationships	
•	Provide and interpret inputs in line with the meeting purpose	
•	Perform responsibilities as a team member	
•	Perform tasks in accordance with workplace procedures	
•	Maintain confidentiality	
•	Avoid inappropriate and conflicting situations	
•	Interpret roles and objectives of the team	
•	Interpret roles and responsibilities of the team members	
•	Identify personal role and responsibilities within the team environment	
•	Interpret reporting relationships within team and external to team	
•	Identify and provide support t other teammates' tasks	
•	Encourage the team through sharing information or expertise, working together to solve problems putting team success first	
•	Interpret and respect views and opinions of other team members	
•	Identify problems faced at the individual and team level and shows insight into the root-causes of the problems	
•	Identify a range of solutions and courses of action together with benefits, costs, and risks associated with each	

•	Recognise the good ideas of others to help develop solutions and seek advice from those who've solved similar problems	
	Look beyond the obvious and not stop at the first answers	
•	Identify and summarise history of information technology (IT)	
	Identify and describe commonly used IT tools	
•	Identify basic parts of a computer	
•	Perform turning on and off technique of a computer	
•	Interpret working environment, functions and features of operating system	
•	Apply simple trouble-shooting techniques	
•	Operate word processing application appropriate to perform activity	
•	Apply basic typing technique to document	
•	Employ word processing techniques to document	
•	Practice personal CV writing using suitable word processing techniques	
•	Use saving and retrieving techniques of a document	
•	Explain use of email account in online environment	
•	Complete writing and sending of workplace emails	
•	Identify different browsers to work online	
•	Browse different web portals and apply proper search techniques	
•	Interpret OSH policies and safe operating procedures	
•	Identify and follow safety signs and symbols	
•	Interpret response, evacuation procedures and other contingency measures correctly.	
•	Apply OSH policies and procedures in the workplace including personal protective equipment (PPE)	
•	Recognise common health issues	
•	Identify common safety issues	
•	Identify hazards and risks	
•	Interpret hazards and risks assessment	
•	Respond to alarms and warning devices	
•	Respond to emergency response plans and procedures	
•	Identify first aid procedures during emergency situations	
•	Identify and collect appropriate manuals for work activity	
•	Interpret and apply information and specifications in the manuals	
•	Identify relevant sketches and drawings for job requirement	

•	Identify and interpret key terms and abbreviations	
•	Identify and interpret key terms and techniques	
•	Read and interpret schedules, dimensions, sketches, drawings and specification correctly	
•	Identify appropriate hand and power tools	
-	Recognise application of hand and power tools	
-	Read and interpret specifications and instructions	
-	Identify and select appropriate personal protective equipment	
•	Identify types of engine	
•	Explain working principle of different engines	
•	Identify major components of engine	
•	Identify location of major components	
	Describe relationship between major components	
•	Read and interpret specifications and instructions	
•	Identify and select appropriate PPE	
•	Identify and select job specific tools and equipment	
•	Identify major components of fuel system	
•	Describe functions of major components	
•	Test and replace major components, if necessary	
•	Identify major components of cooling system	
•	Describe functions of major components	
•	Adjust fan belt tension	
•	Perform radiator and engine flushing	
•	Major components are tested and replaced, if necessary	
•	Major components of lubrication system are identified	
•	Functions of major components are described	
•	Test and replace major components, if necessary	
•	Identify major components of ignition system	
•	Describe functions of major components	
•	Test and replace major components, if necessary	
•	Identify major components of starting system	
•	Describe functions of major components	
•	Test and replace major components, if necessary	
•	Read and interpret specifications and instructions	
•	Identify and select appropriate personal protective equipment	
-		 

		1
•	Identify and select job specific tools and equipment	
•	Identify major components of clutch system	
•	Describe functions of major components of clutch system	
•	Carry out adjustment and bleeding of clutch system	
•	Test and replace major components of clutch system	
-	Identify major components of gear box	
•	Describe functions of major components of gear box	
•	Carry out change of gear oil	
-	Test and replace major components of gear box	
-	Identify major components of differential system	
-	Describe functions of major components of differential system	
-	Carry out adjustment and oil change of differential system	
-	Test and replace major components of differential system	
-	Identify major components of propeller shaft and universal joint	
•	Describe functions of major components of propeller shaft and universal joint	
•	Test and replace major components of propeller shaft and universal joint	
•	Identify major components of axel and CV joints	
•	Describe the functions of major components of axel and CV joints	
•	Test and replace major components of axel and CV joints	
•	Identify the major components of brake system	
•	Describe the functions of major components of brake system	
•	Carry out adjustments and bleeding of brake system	
-	Test and replace major components of brake system	
•	Identify the major components of steering system	
•	Describe the functions of major components of steering system	
•	Carry out adjustments and bleeding of steering system	
•	Test and replace major components of steering system	
•	Identify the types of shock absorber	
•	Describe the function of shock absorber	
•	Test and replace major components of shock absorber	
•	Identify the components of leaf spring	
•	Identify the types of leaf spring and coil spring	
•	Describe the function of leaf spring and coil spring	

Candidate's signature: Date							
ed	agree to undertake assessment in the knowledge that the information gathered will only be used for educational and professional development purposes and can only be accessed by concerned assessment personnel and my manager/supervisor.						
•	Test and replace major components of bush and mountings						
•	Describe the function of bush and mountings						
•	Identify the type of bush and mountings						
•	Test and replace major components of torsion and stabiliser bar						
•	Carry out the service of torsion bar and stabiliser bar						
•	Describe the function of torsion and stabiliser bar						
•	Test and replace major components of leaf and coil spring						
•	Carry out the service of leaf spring						

### PART C - THE ASSESSMENT

### **Assessment Agreement – Auto Mechanics**

The purpose of assessment is to confirm that you can perform to the standards expected in the workplace of an occupation, as expressed in the competency standards (after completion of self-assessment and in agreement with assessor).

To help achieve this, an assessment agreement is required to navigate both you and the assessor through the assessment process.

The assessment agreement is designed to provide a clear understanding of what and how you will be assessed and to nominate the tools that may be used to collect the assessment evidence.

You, the assessor and/or workplace supervisor should agree on the assessment requirements, dates and deadlines.

Therefore, to attain the Certificate of Auto Mechanics, you must demonstrate competence in the following units, as established in the assessment agreement:

After successful completion of learning and assessment, you shall be awarded with a certificate.

CODE	UNIT OF COMPETENCY
Generic Competencies	
SEIP-LE-AME-01-G	Use basic mathematical concepts
SEIP-LE-AME-02-G	Carry out workplace interaction
SEIP-LE-AME-03-G	Operate in a team environment
SEIP-LE-AME-04-G	Apply basic IT skills
Sector-specific Competence	ies
SEIP-LE-AME-01-S	Apply occupational health and safety (OHS) practice in the workplace
SEIP-LE-AME-02-S	Read and interpret sketches and drawings
SEIP-LE-AME-03-S	Use hand and power tools
SEIP-LE-AME-04-S	Apply quality system
Occupation-specific Compo	etencies
SEIP-LE-AME-01-O	Identify major components of engine
SEIP-LE-AME-02-O	Service auxiliary systems
SEIP-LE-AME-03-O	Service power transmission system
SEIP-LE-AME-04-O	Service control system
SEIP-LE-AME-05-O	Service suspension system

After successful completion of learning and assessment, you shall be awarded with a certificate.

Assessment Agreement			
Occupation:	Auto Mechanics		
Assessment Centre:			
Candidate Name:			
Assessor Name:			
Unit of Competency			
Generic Competencies			
SEIP-LE-AME-01-G	Use basic mathematical concepts		
SEIP-LE-AME-02-G	Carry out workplace interaction		
SEIP-LE-AME-03-G	Operate in a team environment		
SEIP-LE-AME-04-G	Apply basic IT skills		
Sector-specific Competencies			
SEIP-LE-AME-01-S	Apply occupational health and safety (OHS) practice in the workplace		
SEIP-LE-AME-02-S	Read and interpret sketches and drawings		
SEIP-LE-AME-03-S	Use hand and power tools		
SEIP-LE-AME-04-S	Apply quality system		
Occupation-specific Compe	tencies		
SEIP-LE-AME-01-O	Identify major components of engine		
SEIP-LE-AME-02-O	Service auxiliary systems		
SEIP-LE-AME-03-O	Service power transmission system		
SEIP-LE-AME-04-O	Service control system		
SEIP-LE-AME-05-O	Service suspension system		

### **Resources Required for Assessment**

Candidates must have access to the following:

- copies of activities, questions, projects nominated by the assessor
- relevant organisational policies, protocols and procedural documents (if required)
- devices or tools to record answers
- appropriate actual or simulated workplace
- all necessary tools and equipment used in performance of the work-based task
- any other resources normally used in the workplace

### **Assessment Instructions**

Candidates should respond to the formative and summative assessments either verbally or in writing as agreed with the assessor. Written responses can be recorded in the spaces provided (if more space is required attach additional pages) or submitted in a word-processed document.

If candidates answer verbally, the assessor should record their answers in detail.

Candidates should also undertake observable tasks that provide evidence of performance. The assessor must provide instruction to candidates on what is expected during observation and arrange a suitable time and location for demonstration of these skills.

Candidates must fully understand what they are required to do to complete these assessment tasks successfully, then sign the declaration.

### **Performance Standards**

To receive a **satisfactory** result for the assessments, candidates must complete all activities, questions, projects, and tasks nominated by the assessor, to the required standard.

Completion of all tasks for a unit of competency, to a satisfactory level, will contribute to an assessment of competence for that specific individual unit (or units if holistic assessment approach is taken).

Successful completion of all the units of competency that comprise of the qualification Auto Mechanics, will result in the candidate being issued with the relevant, nationally recognised certificate.

Assessors must clearly explain the required performance standards.

### **Declaration**

I declare that:

- the assessment requirements have been clearly explained to me
- all the work completed towards assessment will be my own
- cheating and plagiarism are unacceptable

Candidate Signature:	Date:	
Assessor Signature:	Date:	

### PART D - ASSESSMENT TOOLS

### **Specific Instructions to Assessor**

Please read carefully and prepare as necessary:

- 1. The assessor shall (practical demonstration assessment activities):
  - provide the candidate with the necessary tools, equipment, machinery and materials for completion of one (1) set of the following practical demonstration activities:
    - Set A:
      - Service fuel system with carburetor
      - Service clutch system
      - Service brake system
    - o Set B:
      - Service cooling and lubricating system
      - Service gear box and universal joint
      - Service steering system
    - Set C:
      - Service ignition and starting system
      - Service differential and CV joints
      - Service suspension system
  - provide the candidate with the copy of the specific instruction to candidate
  - allow each practical demonstration to be performed within two (2) hours including preparation of the materials
  - ensure that the candidate FULLY understands the instructions before proceeding to the performance of the assessment activity
  - allow fifteen (15) minutes for the candidate to familiarise themselves with the resources to be used during the practical demonstrations
  - ensure that the candidate is wearing appropriate personal protective equipment (PPE) before allowing them to proceed with the assessment activity
- 2. Assessment shall be based on the performance criteria in each of the units of competency. The evidence gathering method shall be comprised of:
  - (a) Written Test (1 hour) knowledge evidence
  - (b) Practical Demonstration (6 hours) performance evidence

The basic machine operation practical demonstration activities will be divided into three (3) tasks (contained in one set):

- (i) Practical Demonstration 1 (2 hours)
- (ii) Practical Demonstration 2 (2 hours)
- (iii) Practical Demonstration 3 (2 hours)
- 3. Final assessment is your responsibility as the accredited/certified assessor.
- 4. At the conclusion of each assessment activity, you will provide feedback to the candidate of the assessment result. The feedback will indicate whether the candidate is:

COMPETENT			
NOT YET COMPETENT			

5. The list of tools, equipment, machinery and materials to be provided for completion of the practical demonstration assessment activities can be found at:

■ Set A – Practical Demonstration 1: page 41 ■ Set A – Practical Demonstration 2: page 46 ■ Set A – Practical Demonstration 3: page 50 ■ Set B – Practical Demonstration 1: page 55 ■ Set B – Practical Demonstration 2: page 59 ■ Set B – Practical Demonstration 3: page 63 ■ Set C – Practical Demonstration 1: page 68 ■ Set C – Practical Demonstration 2: page 73 ■ Set C – Practical Demonstration 3: page 77

### **Specific Instructions to Candidate**

You should respond to the assessment either in writing or verbally as agreed with the assessor. Written responses can be recorded in the spaces provided; if more space is required attach additional pages or submit a word-processed document.

If you answer verbally, the assessor should record your answers in detail. Please check your recorded answers carefully and thoroughly to ensure that they are accurate.

You may also be undertaking observable activities (i.e. practical demonstration) that provide evidence of performance. The assessor must provide you with clear instructions on what is expected during this type of assessment and arrange a suitable time and location for demonstration of these skills.

To receive a satisfactory result for the assessments, you must complete all of the assessment activities; including questions, projects and tasks nominated by the assessor, to the required standard.

This assessment is based upon the units of competency in <u>Auto Mechanics</u>. Using the performance criteria as a benchmark, evidence will be gathered through:

- 1. Written Test (1 hour) a variety of multiple-choice, true of false and short answer theory questions to support your competence with regard to the required knowledge (**knowledge evidence**).
- 2. Practical Demonstration (6 hours) observable tasks outlined in the elements and performance criteria of the units of competency, completed to support a judgement of satisfactory performance to the required standard (**performance evidence**).

There will be one (1) set of practical demonstration activities to complete. The assessor will direct you as to which 'set' you will be required to complete out of the following:

- Set A:
  - Service fuel system with carburettor (2 hours)
  - Service clutch system (2 hours)
  - Service brake system (2 hours)
- o Set B:
  - Service cooling and lubricating system (2 hours)
  - Service gear box and universal joint (2 hours)
  - Service steering system (2 hours)
- Set C:

6.

- Service ignition and starting system (2 hours)
- Service differential and CV joints (2 hours)
- Service suspension system (2 hours)
- 3. The assessor will provide all necessary tools, equipment, machinery and materials required to complete each assessment activity.
- 4. These assessments cover all units of competency for Auto Mechanics.

5.	The assessor will provide you with feedback of your performance after completion of each
	assessment activity. This feedback shall indicate whether you are:
	COMPETENT

NOT YET COMPETENT

Complete of all assessment activities, to a satisfactory level, will contribute to a final assessment of competence.

WRITTEN TEST - INSTRUCTIONS			
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Unit of Competency			
Generic Competencies			
SEIP-LE-AME-01-G	Use basic mathematical concepts		
SEIP-LE-AME-02-G	Carry out workplace interaction		
SEIP-LE-AME-03-G	Operate in a team environment		
SEIP-LE-AME-04-G	Apply basic IT skills		
Sector-specific Competenci	es		
SEIP-LE-AME-01-S	Apply occupational health and safety (OHS) practice in the workplace		
SEIP-LE-AME-02-S	Read and interpret sketches and drawings		
SEIP-LE-AME-03-S	Use hand and power tools		
SEIP-LE-AME-04-S	Apply quality system		
Occupation-specific Compe	tencies		
SEIP-LE-AME-01-O	Identify major components of engine		
SEIP-LE-AME-02-O	Service auxiliary systems		
SEIP-LE-AME-03-O	Service power transmission system		
SEIP-LE-AME-04-O	Service control system		
SEIP-LE-AME-05-O	Service suspension system		
Assessment Centre:			
Date of Assessment:			
Time of Assessment:			

### Instructions:

Read and understand the directions carefully:

- this written examination is based on the performance criteria from all the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning knowledge
- write your answers on the paper provided
- answer all the questions as best as possible
- you have 1 (one) hour to complete this test

### **WRITTEN TEST**

### **Multiple Choice**

	is a <b>multiple-choice</b> test. Choose the appropriate answer.	answer and circle the letter that corresponds with
1.	A traction control system (TCS) generally operates in the speed range of?	<ul><li>a. Less than 20 kmph</li><li>b. Less than 40 kmph</li><li>c. Less than 60 kmph</li><li>d. More than 60 kmph</li></ul>
2.	The component that connects the steering rack to the knuckles is?	<ul><li>a. Tie rod</li><li>b. Sector gear</li><li>c. Pivot</li><li>d. Spline</li></ul>
3.	The capacity of a battery is usually expressed in terms of?	<ul><li>a. Volts</li><li>b. Amperes</li><li>c. Weight</li><li>d. Ampere hours</li></ul>
4.	How many grams of raw materials do you have in 25,000 kilograms?	<ul><li>a. 250,000,000</li><li>b. 250,000</li><li>c. 2,500,000</li><li>b. 25,000,000</li></ul>
5.	If the air-fuel mixture ignites before the spark takes place at the spark plug, the condition is called?	<ul><li>a. Detonation</li><li>b. Ignition</li><li>c. Pre-ignition</li><li>d. Rumble</li></ul>
6.	The crankshaft of a typical inline four-cylinder engine has balance weights.	<ul><li>a. 12</li><li>b. 4</li><li>c. 16</li><li>d. 8</li></ul>
7.	The air gap between the central electrode and ground (or side) electrode of a spark plug is approximately?	a. 0.2 mm b. 0.5 mm c. 1 mm d. 1.5 mm
8.	Ball joints are used on the tie rod ends because they?	<ul> <li>a. Reduce the amount of noise generated</li> <li>b. Reduce the amount of sliding resistance</li> <li>c. Can deal with movement of the suspension both vertically and in other directions</li> <li>d. Improve the force transmission speed</li> </ul>
9.	The starter motor is driven by a?	<ul><li>a. Chain drive</li><li>b. Gear drive</li><li>c. Flat belt drive</li><li>d. V-belt drive</li></ul>

10.	The component in the radiator that increases the boiling point of water is?	<ul><li>a. Drain plug</li><li>b. Water jacket</li><li>c. Vacuum valve</li><li>d. Pressure cap</li></ul>		
	True or Fals	e Quiz		
Tick	$(\sqrt{\ })$ the box corresponding to the correct answer.			
11.	Polite words should be used when conducting official communication through the email.	True □ False □		
12.	Rahim knows that she has a meeting at 9:00 in the morning. It is part of professional ethics to come to the meeting even if she is late by 1 hour. Anyway, the team members will wait for her.	True □ False □		
13.	Wearing PPE helps protect against injury.	True □ False □		
	Fill in the Missing Blanks			
Write	e the word or group of words needed to complete the	ne following sentences.		
14.	In petrol engines, during suction stroke, is drawn into the cylinder.			
15.	. The connecting rods are generally made of a shaped cross-section.			
5	The confidently rode are generally made of a	Shaped cross-section.		
10.	Short Ans	·		
	Short Ans	swer		
Writ	Short Ans	swer		
Writ	Short Ansite a short answer in the space provided (not to eds).  Name some ways you can keep your car in	swer		
Writt word 16.	Short Ansite a short answer in the space provided (not to eds).  Name some ways you can keep your car in good condition?	swer		

20.	What are the componer how it works?	nts of an alternator and				
Feed	Feedback to candidate:					
Asse	Assessment decision for this assessment activity:					
□ Competent			Not Yet Com	petent		
Can	didate Signature:			Date:		
Asse	essor Signature:			Date:		

# **Written Test - Answers**

Answers are highlighted in **bold** and *italics*.

	Multiple Choice			
1.	A traction control system (TCS) generally operates in the speed range of?	<ul> <li>a. Less than 20 kmph</li> <li>b. Less than 40 kmph</li> <li>c. Less than 60 kmph</li> <li>d. More than 60 kmph</li> </ul>		
2.	The component that connects the steering rack to the knuckles is?	<ul><li>a. <i>Tie rod</i></li><li>b. Sector gear</li><li>c. Pivot</li><li>d. Spline</li></ul>		
3.	The capacity of a battery is usually expressed in terms of?	<ul><li>a. Volts</li><li>b. Amperes</li><li>c. Weight</li><li>d. <i>Ampere hours</i></li></ul>		
4.	How many grams of raw materials do you have in 25,000 kilograms?	<ul><li>a. 250,000,000</li><li>b. 250,000</li><li>c. 2,500,000</li><li>d. 25,000,000</li></ul>		
5.	If the air-fuel mixture ignites before the spark takes place at the spark plug, the condition is called?	<ul><li>a. Detonation</li><li>b. Ignition</li><li>c. <i>Pre-ignition</i></li><li>d. Rumble</li></ul>		
6.	The crankshaft of a typical inline four-cylinder engine has balance weights.	<ul><li>a. 12</li><li>b. 4</li><li>c. 16</li><li>d. 8</li></ul>		
7.	The air gap between the central electrode and ground (or side) electrode of a spark plug is approximately?	a. 0.2 mm b. 0.5 mm c. 1 mm d. 1.5 mm		
8.	Ball joints are used on the tie rod ends because they?	<ul> <li>a. Reduce the amount of noise generated</li> <li>b. Reduce the amount of sliding resistance</li> <li>c. Can deal with movement of the suspension both vertically and in other directions</li> <li>d. Improve the force transmission speed</li> </ul>		
9.	The starter motor is driven by a?	<ul><li>a. Chain drive</li><li>b. Gear drive</li><li>c. Flat belt drive</li><li>d. V-belt drive</li></ul>		
10.	The component in the radiator that increases	a. Drain plug		

	the boiling point of water is?	b. Water jacket			
		c. Vacuum valve			
		d. Pressure cap			
	True or False Quiz				
11.	Polite words should be used when conducting official communication through the email.	<i>True</i> √ False □			
12.	Rahim knows that she has a meeting at 9:00 in the morning. It is part of professional ethics to come to the meeting even if she is late by 1 hour. Anyway, the team members will wait for her.	True □ <b>False</b> √			
13.	Wearing PPE helps protect against injury.	<i>True</i> √ False □			
	Fill in the Missi	ng Blanks			
14.	In petrol engines, during suction stroke, air and	fuel is drawn in the cylinder.			
15.	The connecting rods are generally made of a I sl	naped cross-section.			
	Short Ans	swer			
16.	Name some ways you can keep your car in good condition?	Regular check-up and service of parts, like:  Check battery  Tires and brakes  Fluid levels (coolant, washer fluid, brake fluid, oil, power steering)  Fuel filters and Injectors  Belts and hoses  Alternator  Lubrication of wheel			
17.	How does a timing belt work?	Timing belt rests on the crankshaft pulley and either one or two camshaft pulleys; they are all align through timing belt. The closing and opening of engine valves are controlled by camshaft to let in air and fuel mixture or exhaust gas, if you do not have a timing belt or damaged timing, it will directly affect the timing of opening and closing of engine valves. This is the reason it is called timing belt and if not in a good position, it will damage your engine.			
18.	What is the difference between crankshaft and camshaft?	<ul> <li>Crankshaft: It is linked to the pistons by the connecting rods, the force produced by the fuel-air mixture is transmitted to the crankshaft and converted to rotary motion as the crankshaft turns.</li> <li>Camshaft: It controls the intake and exhaust valves. It is linked with crankshaft either by timing chain or belt, and it turns one rotation for each two rotations of the crankshaft, for each valve it operates- the cam opens each</li> </ul>			

		valve at the correct time to draw fuel and air mixture or expel the exhaust gas
19.	What may cause engine to overheat?	Engine overheats when:  Coolant leaks Cooling system clogged Weak radiator cap Thermostat stuck shut Inoperative electric cooling fan Bad fan clutch, slipping fan belt, missing fan shroud Too high or low concentration of antifreeze Collapsed radiator hose or debris in the radiator Restricted exhaust system
20.	What are the components of an alternator and how it works?	An alternator consists of the stator, rotor and copper wiring. The rotor and stator are belt driven magnets encased in copper wiring, which creates a magnetic field. This belt is connected with engine, so when engine starts it rotates the rotor and generates a magnetic field. Stator converts this magnetic field into voltage that flows to the diode. The diode assembly converts the AC electricity to DC, which is used by car battery.

PRACTICAL DEMONSTRATION 1		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service fuel system with carburettor	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:		

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Identify major components of fuel system.
- 7. Locate, inspect, check and replace (if necessary):
  - a. fuel tank
  - b. fuel line
  - c. filter
  - d. pump
  - e. carburettor
  - f. throttle
  - g. primer
  - h. choke
  - i. governor
  - j. muffler
  - k. spark arrestor

- I. sensors
- m. any other components
- 8. Complete service of fuel system.
- 9. Complete service report.
- 10. Clean, maintain and store tools and equipment.
- 11. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch:



# **Resources Required:**

Tools:	Wrenches Spanners Screwdrivers	
	Pliers	
	Drain plug tools	
	Waste oil drain	
Equipment:	Oil can	
Machinery:	Hoist/jack	
Materials:	Oil	
	Oil filters	
	Transmission filters	
	Transmission fluids	
	Differential lubricants	
	Transfer case lubricants	

	Power steering fluid
PPE:	Apron Mask Gloves Safety shoes Safety goggles

	PRACTICAL DEMONSTRATION 1 – OBSERVATION CHECKLIST			
Candidate	Candidate Name:			
Assessor	Name:			
Qualification	Qualification: Certificate in Auto Mechanics			
Task:		Service fuel system with carburetor		
Assessme	nt Centre:			
Date of As	sessment:			
Instruction	ns:	The tasks listed on the observation c		al demonstration will
		Performance can be observed in an a		a simulated working
		If performance of particular tasks candidate to explain a procedure or e		•
		The assessment activity (practical der	monstration) should:	
		<ul><li>fit industry requirements in which t</li></ul>	the assessment will be	conducted
		<ul> <li>adhere, where possible, to reason</li> </ul>		
	<ul> <li>ensure that suitable performance benchmarks are applied and explained the candidate</li> </ul>			ied and explained to
		OBSERVATION RECO	RD	
Performance Criteria		Place a ✓ to show if evidence has be demonstrated competently		
			Yes	No
<ul> <li>Read a</li> </ul>	nd interpret s	specifications and instructions		
<ul><li>Identify</li></ul>	and select a	ppropriate PPE		
<ul><li>Identify</li></ul>	and select jo	b specific tools and equipment		
<ul><li>Identify</li></ul>	types of eng	ine		
<ul><li>Explain</li></ul>	working prin	ciple of different engines		
<ul><li>Identify</li></ul>	major comp	onents of engine		
<ul><li>Identify</li></ul>	location of n	najor components		
<ul> <li>Describ</li> </ul>	■ Describe relationship between major components □ □			
<ul><li>Identify</li></ul>	<ul> <li>Identify major components of fuel system</li> </ul>			
<ul><li>Function</li></ul>	ns of fuel cor	mponents described		
<ul><li>Major of</li></ul>	components c	of cooling system are identified		
■ Function	Functions of cooling system components are described			
■ Fan be	It tension is a	djusted		

•	<ul> <li>Radiator and engine flushing is performed</li> </ul>					
•	Major components of lubrication system are identified					
•	Functions of major components are described					
•	Major components of ignit	ion system are identified				
•	Functions of ignition syste	m components are described				
•	Major components of start	ing system are identified				
•	Functions of starting syste	m components are described				
•	Major components are tes	ted and replaced, if necessary				
•	Duties are performed in quality improvement system	accordance with demand of m				
•	Defects are detected and	reported				
•	<ul> <li>Quality service is ensured and delivered to customer in providing a product or service</li> </ul>					
•	Performance is assessed at regular intervals					
<ul> <li>Performance of operation or quality of product or service is monitored to ensure customer satisfaction</li> </ul>						
•	Responsibility is taken for quality of own work					
•	Quality system procedures for each job are followed					
•	<ul> <li>Conformance to specification is ensured in every case at all situations</li> </ul>					
Feedback to candidate:						
Assessment decision for this assessment activity:						
	☐ Comp	etent [	□ Not Yet Com	petent	t	
Ca	ndidate Signature:		Date:			
As	Assessor Signature:		Date:			

PRACTICAL DEMONSTRATION 2		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service clutch system	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:	Γime of Assessment:	

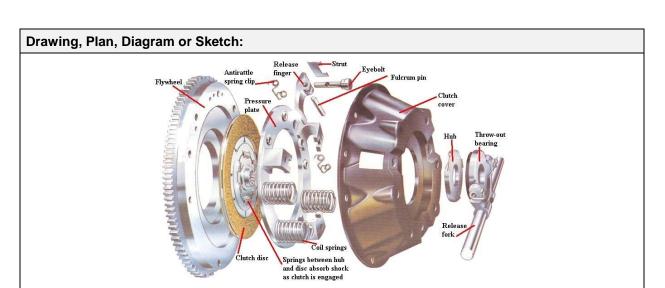
Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Diagnose clutch problems before disassembly.
- 7. Bleed clutch system.
- 8. Disassemble clutch.
- 9. Inspect worn or damaged clutch parts and determine the cause of the problem.
- 10. Adjust clutch.
- 11. Service hydraulic components.
- 12. Repair or install replacement clutch.
- 13. Remove transmission or transaxle.
- 14. Replace flywheel starter ring gear.
- 15. Complete service of clutch.
- 16. Complete service report.
- 17. Clean, maintain and store tools and equipment.
- 18. Clean workplace and dispose of waste materials.



# MULTI PLATE CLUTCH ARRANGEMENT

# **Resources Required:** Tools: Wrenches Spanners Screwdrivers **Pliers** Drain plug tools Waste oil drain Release travel setting gauge Equipment: Oil can Machinery: Hoist/jack Materials: Oil Oil filters Lubricants Fluids PPE: Apron Mask Gloves Safety shoes Safety goggles

PRACTICAL DEMONSTRATION 2 – OBSERVATION CHECKLIST				
Candidate Name:	Candidate Name:			
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service clutch system			
Assessment Centre:				
Date of Assessment:				
Instructions:	The tasks listed on the observation of provide performance evidence of the		al demonstration will	
	Performance can be observed in an a environment.	actual workplace or in	a simulated working	
	If performance of particular tasks candidate to explain a procedure or e		•	
	The assessment activity (practical de	monstration) should:		
	fit industry requirements in which	the assessment will be	e conducted	
	<ul><li>adhere, where possible, to reasor</li></ul>	nable adjustment pract	tices	
	<ul> <li>ensure that suitable performance the candidate</li> </ul>	benchmarks are appl	ied and explained to	
	OBSERVATION RECO	RD		
Performance Criteria		Place a ✓ to show if demonstrated	evidence has been competently	
		Yes	No	
<ul> <li>Read and interpret s</li> </ul>	pecifications and instructions			
<ul> <li>Identify and select equipment</li> </ul>	t appropriate personal protective			
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment			
<ul> <li>Identify major compo</li> </ul>	onents of clutch system			
<ul> <li>Describe functions o</li> </ul>	f major components of clutch system			
Carry out adjustment	t and bleeding of clutch system			
<ul> <li>Test and replace ma</li> </ul>	Test and replace major components of clutch system			
<ul> <li>Identify major components of gear box</li> </ul>				
<ul> <li>Describe functions of</li> </ul>	f major components of gear box			
<ul> <li>Carry out change of</li> </ul>	gear oil			
■ Test and replace major components of gear box				
Identify major compo	Identify major components of differential system			

<ul> <li>Describe functions of major components of differential system</li> </ul>					
•	<ul> <li>Carry out adjustment and oil change of differential system</li> </ul>				
•	Test and replace major components of differential system				
•	Identify major compone universal joint	ents of propeller shaft and			
•	Describe functions of m shaft and universal joint	ajor components of propeller			
•	Test and replace major and universal joint	components of propeller shaft			
•	Identify major components	s of axel and CV joints			
•	Describe the functions of CV joints	major components of axel and			
•	Test and replace major joints	components of axel and CV			
•	Duties are performed in quality improvement syste	accordance with demand of m			
Defects are detected and reported					
<ul> <li>Quality service is ensured and delivered to customer in providing a product or service</li> </ul>					
Performance is assessed at regular intervals					
<ul> <li>Performance of operation or quality of product or service is monitored to ensure customer satisfaction</li> </ul>					
•	Responsibility is taken for	quality of own work			
•	Quality system procedures	s for each job are followed			
•	Conformance to specificate all situations	tion is ensured in every case at			
Feedback to candidate:					
Ass	sessment decision for this a	assessment activity:			
	□ Comp	etent C	Not Yet Com	petent	t
Ca	ndidate Signature:		Date:		
As	sessor Signature:		Date:		

PRACTICAL DEMONSTRATION 3		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service brake system	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:		

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

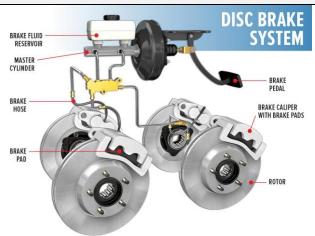
#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Loosen the lugs.
- 7. Hoist the vehicle (either hydraulic or manual).
- 8. Remove the wheels.
- 9. Locate brake calliper.
- 10. Remove brake calliper as a single unit.
- 11. Inspect brake pads and discs for wear and damage.
- 12. Locate wear and damage.
- 13. Replace callipers.
- 14. Replace brake pads.
- 15. Replace brake discs.
- 16. Re-attach wheels.
- 17. Test brake system for efficiency and operation.
- 18. Complete service of brake system (may including steering and suspension system).

- 19. Complete service report.
- 20. Clean, maintain and store tools and equipment.
- 21. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch:



# **Resources Required:**

	_ '
Tools:	Wrenches Spanners Screwdrivers Pliers Rachet and socket kit Torque wrench Brake pad spreader (or c-clamp) Allen set Brake bleeder wrench Lug nut wrench
Equipment:	Oil can
Machinery:	Hoist/jack
Materials:	Oil Oil filters Lubricants Fluids
PPE:	Apron Mask Gloves Safety shoes Safety goggles

PRACTICAL DEMONSTRATION 3 – OBSERVATION CHECKLIST			
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Task:	Service brake system		
Assessment Centre:			
Date of Assessment:			
Instructions:	The tasks listed on the observation of provide performance evidence of the Performance can be observed in an an environment.	candidate. actual workplace or in	a simulated working
	If performance of particular tasks candidate to explain a procedure or e The assessment activity (practical de  fit industry requirements in which adhere, where possible, to reason ensure that suitable performance the candidate	nter into a discussion monstration) should: the assessment will be hable adjustment pract	on the subject. e conducted
	OBSERVATION RECO	RD	
Place a ✓ to show if evidence has demonstrated competently			
T offormation officeria		Yes	No
<ul> <li>Read and interpret s</li> </ul>	pecifications and instructions		
<ul> <li>Identify and select appropriate personal protective equipment</li> </ul>			
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment		
<ul> <li>Identify the major co</li> </ul>	mponents of brake system		
<ul> <li>Describe the functions of major components of brake system</li> </ul>			
Carry out adjustmen	Carry out adjustments and bleeding of brake system		
Test and replace major components of brake system			
<ul> <li>Identify the major co</li> </ul>	Identify the major components of steering system		
■ Describe the functions of major components of steering system			
Carry out adjustmen	ts and bleeding of steering system		
Test and replace ma	jor components of steering system		

•	<ul> <li>Identify the types of shock absorber</li> </ul>				
•	Describe the function of shock absorber				
•	Test and replace major components of shock absorber				
•	Identify the components of	leaf spring			
•	Identify the types of leaf sp	oring and coil spring			
•	Describe the function of le	af spring and coil spring			
•	Carry out the service of lea	af spring			
•	Test and replace major co spring	mponents of leaf and coil			
•	Describe the function of to	rsion and stabiliser bar			
•	Carry out the service of to	rsion bar and stabiliser bar			
•	Test and replace major stabiliser bar	components of torsion and			
•	Identify the type of bush a	nd mountings			
•	Describe the function of bu	ush and mountings			
•	Test and replace majo mountings	r components of bush and			
•	Duties are performed in quality improvement syste	accordance with demand of m			
•	Defects are detected and	reported			
•	Quality service is ensured providing a product or serv	and delivered to customer in vice			
•	Performance is assessed	at regular intervals			
•	Performance of operation is monitored to ensure cus	or quality of product or service tomer satisfaction			
•	Responsibility is taken for	quality of own work			
•	Quality system procedures	for each job are followed			
•	Conformance to specificat all situations	ion is ensured in every case at			
Feedback to candidate:					
Ass	Assessment decision for this assessment activity:				
	□ Comp	etent C	Not Yet Com	peten	t
Ca	ndidate Signature:		Date:		

Assessor Signature:		Date:	
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	PRACTICAL DEMONSTRATION 1		
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Task:	Service cooling and lubricating system		
Assessment Centre:			
Date of Assessment:			
Time of Assessment:			

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Identify major components of cooling system.
- 7. Visually inspect cooling system components (including belts and hoses).
- 8. Check and test radiator cap pressure.
- 9. Check thermostat for proper opening and closing.
- 10. Perform pressure test to identify external leaks to cooling system parts (including radiator, water pump, engine coolant passages, radiator, heater hoses and heater core).
- 11. Perform internal leak test to check for combustion gas leakage into cooling system.
- 12. Check and replace oil and oil pressure.
- 13. Check and replace lubricants (if required).
- 14. Check and replace indicators or gauges.
- 15. Complete service of cooling and lubricating system.
- 16. Complete service report.
- 17. Clean, maintain and store tools and equipment.
- 18. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch: **BYPASS PIPE** WATER JACKET RADIATOR **THERMOSTAT FAN** WATER PUMP **Resources Required:** Tools: Wrenches Spanners Screwdrivers Pliers Rachet and socket kit Torque wrench Automatic pneumatic grease gun Grease guns Clear grease guns Grease hose extensions Grease accessories Grease fittings Wheel bearing packers Equipment: Sump Strainer Pump Filter Machinery: Hoist/jack Materials: Oil Oil filters Lubricants Fluids Grease PPE: Apron

Mask Gloves Safety shoes Safety goggles

PRACTICAL DEMONSTRATION 1 – OBSERVATION CHECKLIST				
Candidate Name:	Candidate Name:			
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service cooling and lubricating system	m		
Assessment Centr	<b>:</b> :			
Date of Assessmen	t:			
Instructions:	The tasks listed on the observation of provide performance evidence of the	-	al demonstration will	
	Performance can be observed in an environment.	actual workplace or in	a simulated working	
	If performance of particular tasks candidate to explain a procedure or e		-	
	The assessment activity (practical de	monstration) should:		
	fit industry requirements in which	the assessment will be	conducted	
	adhere, where possible, to reason	•		
	<ul> <li>ensure that suitable performance the candidate</li> </ul>	benchmarks are appl	ied and explained to	
	OBSERVATION RECORD			
Performance Crite	ia		evidence has been competently	
		Yes	No	
Read and interpret specifications and instructions				
<ul> <li>Identify and selection</li> </ul>	<ul> <li>Identify and select appropriate PPE</li> </ul>			
<ul> <li>Identify and selection</li> </ul>	ct job specific tools and equipment			
<ul> <li>Identify types of</li> </ul>	engine			
<ul><li>Explain working</li></ul>	principle of different engines			
<ul> <li>Identify major co</li> </ul>	mponents of engine			
<ul> <li>Identify location</li> </ul>	of major components			
<ul> <li>Describe relatio</li> </ul>	Describe relationship between major components			
<ul> <li>Identify major co</li> </ul>	<ul> <li>Identify major components of fuel system</li> </ul>			
<ul> <li>Describe function</li> </ul>	ns of major components			
Test and replace	major components, if necessary			
Identify major co	Identify major components of cooling system			
Describe function	Describe functions of major components			

As	sessor Signature:		Date:		
Ca	ndidate Signature:		Date:		
	□ Comp	·	l Not Yet Com	petent	t
Ass	Assessment decision for this assessment activity:				
Fee	edback to candidate:				
•	<ul> <li>Conformance to specification is ensured in every case at all situations</li> </ul>				
•	<ul> <li>Quality system procedures for each job are followed</li> </ul>				
•	Responsibility is taken for quality of own work				
•	<ul> <li>Performance of operation or quality of product or service is monitored to ensure customer satisfaction</li> </ul>				
•	Performance is assessed	at regular intervals			
•	<ul> <li>Quality service is ensured and delivered to customer in providing a product or service</li> </ul>				
•	Defects are detected and	reported			
•	Duties are performed in quality improvement syste	accordance with demand of m			
•	Test and replace major co	mponents, if necessary			
•	Describe functions of major	or components			
•	Identify major components	s of starting system			
•	Test and replace major co	mponents, if necessary			
•	Describe functions of major	or components			
•	Identify major components	s of ignition system			
•	Test and replace major co	mponents, if necessary			
•	Functions of major compo	nents are described			
•	Major components of lubri	cation system are identified			
•	Major components are tested and replaced, if necessary				
•	Perform radiator and engine flushing				
•	Adjust fan belt tension				

	PRACTICAL DEMONSTRATION 2		
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Task:	Service gearbox and universal joint		
Assessment Centre:			
Date of Assessment:			
Time of Assessment:			

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

#### Procedure:

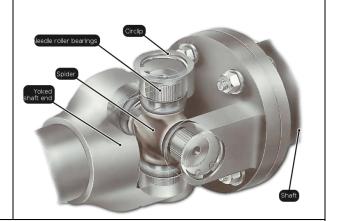
- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

### Job Specification Information:

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Locate transmission drain plug or fluid pan.
- 7. Loosen drain plug and drain fluid.
- 8. Inspect and clean magnet used to trap metal floating around in the transmission.
- 9. Once fluid has finished draining and particle magnet is clean, reinstall drain plug and tighten.
- 10. Locate the transmission fluid fill tube which also houses fluid dip stick.
- 11. Refill the transmission with fluid.
- 12. Install new transmission fluid to its proper level by using the dip stick (start with 4 quarts and then recheck the system).
- 13. Complete service of gearbox and universal joint.
- 14. Complete service report.
- 15. Clean, maintain and store tools and equipment.
- 16. Clean workplace and dispose of waste materials.

### Drawing, Plan, Diagram or Sketch:





# Resources Required:

ivesources i	todanou.
Tools:	Wrenches
	Spanners
	Screwdrivers
	Pliers
	Rachet and socket kit
	Torque wrench
	Transmission filter service kit
	Fluid funnel
Equipment:	N/A
Machinery:	Hoist/jack
Materials:	Transmission fluid
PPE:	Apron
	Mask
	Gloves
	Safety shoes
	Safety goggles

PRAC	PRACTICAL DEMONSTRATION 2 – OBSERVATION CHECKLIST			
Candidate Name:	andidate Name:			
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service gearbox and universal joint			
Assessment Centre:				
Date of Assessment:				
Instructions:	The tasks listed on the observation of provide performance evidence of the Performance can be observed in an an environment.  If performance of particular tasks candidate to explain a procedure or each of the assessment activity (practical decreases).	candidate. actual workplace or in cannot be observed enter into a discussion	a simulated working , you may ask the	
	<ul> <li>fit industry requirements in which</li> <li>adhere, where possible, to reasor</li> <li>ensure that suitable performance the candidate</li> </ul>	the assessment will be nable adjustment pract	tices	
OBSERVATION RECORD				
Place a ✓ to show if evidence demonstrated compete				
T chomiance officina		Yes	No	
Read and interpret specifications and instructions				
<ul> <li>Identify and select appropriate personal protective equipment</li> </ul>				
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment			
<ul> <li>Identify major compo</li> </ul>	onents of clutch system			
<ul> <li>Describe functions of</li> </ul>	f major components of clutch system			
<ul> <li>Carry out adjustment</li> </ul>	Carry out adjustment and bleeding of clutch system			
Test and replace major components of clutch system				
<ul> <li>Identify major components of gear box</li> </ul>				
Describe functions or	Describe functions of major components of gear box			
<ul> <li>Carry out change of</li> </ul>	gear oil			
Test and replace ma	jor components of gear box			
<ul> <li>Identify major compo</li> </ul>	onents of differential system			

•	Describe functions of masystem				
•	<ul> <li>Carry out adjustment and oil change of differential system</li> </ul>				
•	<ul> <li>Test and replace major components of differential system</li> </ul>				
•	Identify major compone universal joint	ents of propeller shaft and			
•	Describe functions of m shaft and universal joint	ajor components of propeller			
•	Test and replace major and universal joint	components of propeller shaft			
•	Identify major components	of axel and CV joints			
•	Describe the functions of CV joints	major components of axel and			
•	Test and replace major joints	components of axel and CV			
•	Duties are performed in quality improvement syste	accordance with demand of m			
<ul> <li>Defects are detected and reported</li> </ul>					
•	Quality service is ensured providing a product or serv	d and delivered to customer in vice			
•	Performance is assessed	at regular intervals			
•	Performance of operation is monitored to ensure cus	or quality of product or service stomer satisfaction			
Responsibility is taken for quality of own work					
Quality system procedures for each job are followed					
Conformance to specification is ensured in every case at all situations					
Feedback to candidate:					
Ass	sessment decision for this a	ssessment activity:			
	□ Comp	etent C	Not Yet Com	petent	t
Ca	ndidate Signature:		Date:		
As	sessor Signature:		Date:		

	PRACTICAL DEMONSTRATION 3		
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Task:	Service steering system		
Assessment Centre:			
Date of Assessment:			
Time of Assessment:			

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

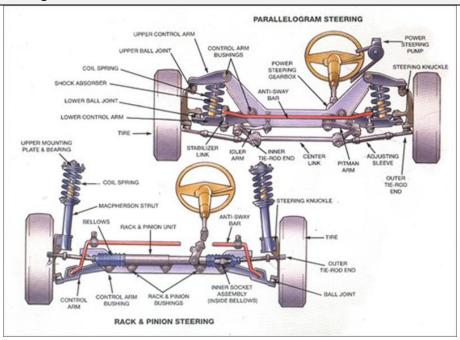
#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Disassemble steering system.
- 7. Hoist the vehicle (either hydraulic or manual).
- 8. Remove wheels.
- 9. Inspect steering system including:
  - a. Shock absorbers
  - b. Leaf spring and coil spring
  - c. Torsion and stabiliser bar
  - d. Bush and mountings
- 10. Test components and replace (if required).
- 11. Test steering system for efficiency and operation.
- 12. Complete service of steering system.
- 13. Complete service report.
- 14. Clean, maintain and store tools and equipment.

# 15. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch:



# **Resources Required:**

Wrenches

Tools:

1 0010.	Wichense
	Spanners
Screwdrivers	
Pliers	
	Rachet and socket kit
	Torque wrench
Brake pad spreader (C-Clamp)	
	Allen Set
	Brake bleeder wrench
	Lug nut wrench
Equipment:	Oil can
Machinery:	Hoist/jack
Materials:	Oil
	Oil filters
	Lubricants
	Fluids
PPE:	Apron
	Mask

Gloves Safety shoes Safety goggles

PRACTICAL DEMONSTRATION 3 – OBSERVATION CHECKLIST				
Candidate Name:	Candidate Name:			
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service steering system			
Assessment Centre:				
Date of Assessment:				
Instructions:	The tasks listed on the observation checklist of the practical demonstration will provide performance evidence of the candidate.  Performance can be observed in an actual workplace or in a simulated working environment.			
	If performance of particular tasks candidate to explain a procedure or e The assessment activity (practical de  fit industry requirements in which  adhere, where possible, to reasor  ensure that suitable performance the candidate	nter into a discussion monstration) should: the assessment will be hable adjustment pract	on the subject. e conducted tices	
	OBSERVATION RECO	RD		
Place a ✓ to show if evidence had demonstrated competently				
renormance Criteria		Yes	No	
Read and interpret specifications and instructions				
<ul> <li>Identify and select appropriate personal protective equipment</li> </ul>				
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment			
<ul> <li>Identify the major components of brake system</li> </ul>				
<ul> <li>Describe the functions of major components of brake system</li> </ul>				
Carry out adjustments and bleeding of brake system				
Test and replace major components of brake system				
Identify the major components of steering system				
<ul> <li>Describe the function system</li> </ul>	Become the functions of major compensation of according			
Carry out adjustmen	Carry out adjustments and bleeding of steering system			
Test and replace ma	Test and replace major components of steering system			

Identify the types of shock absorber					
•	Describe the function of shock absorber				
•	Test and replace major co	mponents of shock absorber			
•	Identify the components of	leaf spring			
•	Identify the types of leaf sp	oring and coil spring			
•	Describe the function of le	af spring and coil spring			
•	Carry out the service of lea	af spring			
•	Test and replace major spring	components of leaf and coil			
•	Describe the function of to	rsion and stabiliser bar			
•	Carry out the service of to	sion bar and stabiliser bar			
•	Test and replace major stabiliser bar	components of torsion and			
•	Identify the type of bush a	nd mountings			
•	Describe the function of bu	ush and mountings			
•	Test and replace majo mountings	r components of bush and			
•	Duties are performed in quality improvement syste	accordance with demand of m			
•	Defects are detected and	reported			
•	Quality service is ensured providing a product or serv	and delivered to customer in vice			
•	Performance is assessed	at regular intervals			
•	Performance of operation is monitored to ensure cus	or quality of product or service tomer satisfaction			
•	Responsibility is taken for	quality of own work			
•	Quality system procedures	for each job are followed			
<ul> <li>Conformance to specification is ensuall situations</li> </ul>		ion is ensured in every case at			
Feedback to candidate:					
Assessment decision for this assessment activity:					
	□ Comp	etent C	Not Yet Com	petent	t
Ca	ndidate Signature:		Date:		

Date:	
	Date:

PRACTICAL DEMONSTRATION 1		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service ignition and starting system	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:		

Read and understand the directions carefully:

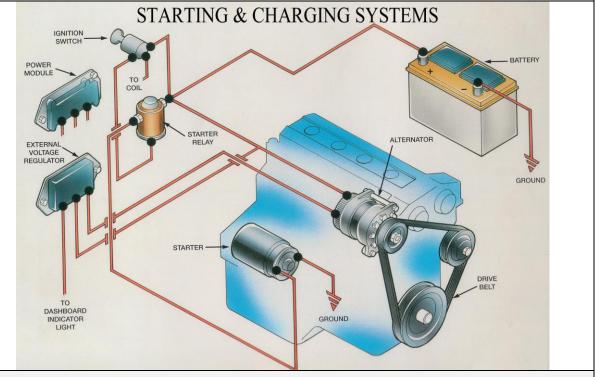
- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Measure amperage draw on starting system.
- 7. Measure voltage drops on both positive and ground sides of starting circuit.
- 8. Diagnose no-crank conditions with test light.
- 9. Replace solenoid and starter drive.
- 10. Diagnose common ignition system problems.
- 11. Service ignition systems and distributors correctly.
- 12. Install distributor and adjust ignition timing.
- 13. Operate oscilloscope and interpret scope patterns.
- 14. Test steering system for efficiency and operation.
- 15. Complete service of ignition and starting system.
- 16. Complete service report.
- 17. Clean, maintain and store tools and equipment.
- 18. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch:



# **Resources Required:**

	·
Tools:	Wrenches Spanners Screwdrivers Pliers Rachet and socket kit Torque wrench Filter Wrench Drain plug tools Waste oil drain
Equipment:	Distributor cap and rotor Ignition coil Coil packs Coil- on-plug (cop) Ignition module Powertrain control module (pcm) Crankshaft and camshaft sensors Knock sensor
Machinery:	Oil can
Materials:	Battery Spark plug wires Spark plugs Oil Lubricants Fluids
PPE:	Apron

Mask
Gloves
Safety shoes
Safety goggles

PRACTICAL DEMONSTRATION 1 – OBSERVATION CHECKLIST				
Candidate Name:				
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service ignition and starting system			
Assessment Centre:				
Date of Assessment:				
Instructions:	The tasks listed on the observation checklist of the practical demonstration will provide performance evidence of the candidate.  Performance can be observed in an actual workplace or in a simulated working environment.			
	If performance of particular tasks candidate to explain a procedure or e The assessment activity (practical de  fit industry requirements in which  adhere, where possible, to reason  ensure that suitable performance the candidate	nter into a discussion monstration) should: the assessment will be able adjustment pract	on the subject. e conducted	
	OBSERVATION RECO	RD		
Performance Criteria		Place a ✓ to show if evidence has been demonstrated competently		
		Yes	No	
Read and interpret specifications and instructions				
<ul> <li>Identify and select appropriate personal protective equipment</li> </ul>				
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment			
<ul> <li>Identify types of engineer</li> </ul>	<ul> <li>Identify types of engine</li> </ul>			
Explain working principle of different engines				
Identify major components of engine				
<ul> <li>Identify location of major components</li> </ul>				
<ul> <li>Identify and select job specific tools and equipment</li> </ul>				
Identify major components of fuel system				
Describe functions of major components				
■ Test and replace major components, if necessary				
<ul> <li>Identify major composition</li> </ul>	Identify major components of cooling system			

•	<ul> <li>Describe functions of major components</li> </ul>				
•	<ul> <li>Adjust fan belt tension</li> </ul>				
•	<ul> <li>Perform radiator and engine flushing</li> </ul>				
•	Major components are tested and replaced, if necessary				
•	Major components of lubrication system are identified				
•	Functions of major compo	nents are described			
•	Test and replace major co	mponents, if necessary			
•	Identify major components	of ignition system			
•	Describe functions of major	or components			
•	Test and replace major co	mponents, if necessary			
•	Identify major components	of starting system			
•	Describe functions of major	or components			
•	Test and replace major co	mponents, if necessary			
Duties are performed in accordance with demand of quality improvement system					
Defects are detected and reported					
<ul> <li>Quality service is ensured and delivered to customer in providing a product or service</li> </ul>					
Performance is assessed at regular intervals					
Performance of operation or quality of product or service is monitored to ensure customer satisfaction					
•	Responsibility is taken for	quality of own work			
•	Quality system procedures	s for each job are followed			
<ul> <li>Conformance to specification is ensured in every case at all situations</li> </ul>		ion is ensured in every case at			
Feedback to candidate:					
Assessment decision for this assessment activity:					
	□ Comp	etent C	Not Yet Com	petent	
Ca	ndidate Signature:		Date:		
As	sessor Signature:		Date:		

PRACTICAL DEMONSTRATION 2		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service differential and CV joints	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:		

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

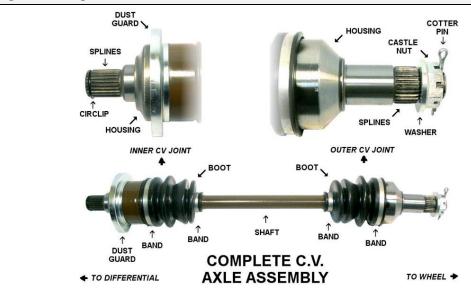
#### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Disconnect battery.
- 7. Jack up vehicle and allow some penetrating oil to soak into any retaining bolts.
- 8. Move brake lines and other obstacles out of the way of wrenches.
- 9. Loosen but do not remove strut top mounts and sway bar end link bushings.
- 10. Loosen and remove wheel side axle mounting bolts.
- 11. Separate axle from wheel (do not allow axle to hang from transmission or differential as oil seals could be damaged).
- 12. Gently pull the axle from transmission or differential (do not bend axle seals).
- 13. Inspect axle splines.
- 14. Replace axle seals, ABS rings or other parts to the replacement axles.
- 15. Guide the replacement CV joint axle into place.
- 16. Reassemble dismantled components.
- 17. Check axle rotation.
- 18. Complete service of differential and CV joints.

- 19. Complete service report.
- 20. Clean, maintain and store tools and equipment.
- 21. Clean workplace and dispose of waste materials.

## Drawing, Plan, Diagram or Sketch:



Resources F	Resources Required:		
Tools:	Wrenches		
	Spanners		
	Screwdrivers		
	Pliers		
	Rachet and socket kit		
	Torque wrench		
	Brake pad spreader (C-Clamp)		
	Allen Set		
	Brake bleeder wrench		
	Lug nut wrench		
Equipment:	Oil can		
Machinery:	Hoist/jack		
Materials:	Oil		
	Oil filters		
	Lubricants		
	Fluids		
PPE:	Apron		
	Mask		
	Gloves		
	Safety shoes		
	Safety goggles		

PRAC	PRACTICAL DEMONSTRATION 2 – OBSERVATION CHECKLIST			
Candidate Name:	Candidate Name:			
Assessor Name:				
Qualification:	Certificate in Auto Mechanics			
Task:	Service differential and CV joints			
Assessment Centre:				
Date of Assessment:				
Instructions:	The tasks listed on the observation of provide performance evidence of the Performance can be observed in an an environment.  If performance of particular tasks	candidate. actual workplace or in	a simulated working	
	If performance of particular tasks cannot be observed, you may ask candidate to explain a procedure or enter into a discussion on the subject.  The assessment activity (practical demonstration) should:  fit industry requirements in which the assessment will be conducted adhere, where possible, to reasonable adjustment practices  ensure that suitable performance benchmarks are applied and explaine the candidate			
	OBSERVATION RECO	RD		
Performance Criteria		Place a ✓ to show if evidence has been demonstrated competently		
		Yes	No	
<ul> <li>Read and interpret s</li> </ul>	pecifications and instructions			
<ul> <li>Identify and select equipment</li> </ul>	t appropriate personal protective			
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment			
<ul> <li>Identify major compo</li> </ul>	onents of clutch system			
<ul> <li>Describe functions of</li> </ul>	f major components of clutch system			
<ul> <li>Carry out adjustment</li> </ul>	<ul> <li>Carry out adjustment and bleeding of clutch system</li> </ul>			
<ul> <li>Test and replace ma</li> </ul>	Test and replace major components of clutch system			
<ul> <li>Identify major components of gear box</li> </ul>				
<ul> <li>Describe functions of major components of gear box</li> </ul>				
<ul> <li>Carry out change of</li> </ul>	gear oil			
Test and replace ma	jor components of gear box			
<ul> <li>Identify major compo</li> </ul>	onents of differential system			

•	Describe functions of masystem	ajor components of differential			
•	<ul> <li>Carry out adjustment and oil change of differential system</li> </ul>				
•	Test and replace major system	r components of differential			
•	Identify major compone universal joint	ents of propeller shaft and			
•	Describe functions of m shaft and universal joint	ajor components of propeller			
•	Test and replace major and universal joint	components of propeller shaft			
•	Identify major components	s of axel and CV joints			
•	Describe the functions of CV joints	major components of axel and			
•	Test and replace major joints	components of axel and CV			
•	Duties are performed in quality improvement syste	accordance with demand of m			
•	Defects are detected and	reported			
•	Quality service is ensured providing a product or service.	d and delivered to customer in vice			
Performance is assessed at regular intervals					
<ul> <li>Performance of operation or quality of product or service is monitored to ensure customer satisfaction</li> </ul>					
•	Responsibility is taken for	quality of own work			
•	Quality system procedures	s for each job are followed			
•	Conformance to specificate all situations	tion is ensured in every case at			
Feedback to candidate:					
Assessment decision for this assessment activity:					
	□ Competent □ Not Yet Competent				
Ca	Candidate Signature: Date:				
As	sessor Signature:		Date:		

PRACTICAL DEMONSTRATION 3		
Candidate Name:		
Assessor Name:		
Qualification:	Certificate in Auto Mechanics	
Task:	Service suspension system	
Assessment Centre:		
Date of Assessment:		
Time of Assessment:		

### Instructions:

Read and understand the directions carefully:

- this practical demonstration is based on the performance criteria from all or some of the units of competency in Auto Mechanics
- this assessment activity will be used to measure your underpinning skills
- you will have fifteen (15) minutes to familiarise yourself with the resources to be used
- you have two (2) hours to complete this demonstration

### Procedure:

- observe and wear personal protective equipment (PPE) as required for the task to be performed
- read the specification information provided
- collect all materials needed to complete the task
- perform the task within the given time
- observe and follow all health and safety (OHS) requirements at all times

### **Job Specification Information:**

- 1. Identify, read and interpret job specifications, drawings and other workplace documents.
- 2. Identify and collect required tools, equipment and materials for the task.
- 3. Inspect worksite for hazards and implement appropriate controls (if necessary).
- 4. Identify and collect appropriate PPE.
- 5. Inspect and check tools and equipment.
- 6. Take your car for a test drive.
- 7. Inspect the outside of the vehicle.
- 8. Loosen the lugs.
- 9. Hoist the vehicle (either hydraulic or manual).
- 10. Remove the wheels.
- 11. Inspect suspension.
- 12. Locate wear and damage.
- 13. Replace suspension.
- 14. Re-attach wheels.
- 15. Test suspension system for efficiency and operation.
- 16. Complete service of suspension system (may including steering and brake system).
- 17. Complete service report.
- 18. Clean, maintain and store tools and equipment.
- 19. Clean workplace and dispose of waste materials.

# Drawing, Plan, Diagram or Sketch: Upper control arm Upper ball joint Steering knuckle Strut fork Lower control arm Lower ball joint Your Mechanic

# **Resources Required:** Wrenches Tools: Spanners Screwdrivers **Pliers** Rachet and socket kit Torque wrench Brake pad spreader (C-Clamp) Allen Set Brake bleeder wrench Lug nut wrench Equipment: Oil can Machinery: Hoist/jack Materials: Oil Oil filters Lubricants Fluids PPE: Apron Mask Gloves Safety shoes

Safety goggles

PRACTICAL DEMONSTRATION 3 – OBSERVATION CHECKLIST			
Candidate Name:	Candidate Name:		
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Task:	Service suspension system		
Assessment Centre:			
Date of Assessment:			
The tasks listed on the observation checklist of the practical demonstration provide performance evidence of the candidate.  Performance can be observed in an actual workplace or in a simulated workenvironment.  If performance of particular tasks cannot be observed, you may ask candidate to explain a procedure or enter into a discussion on the subject.  The assessment activity (practical demonstration) should:  If it industry requirements in which the assessment will be conducted  Adhere, where possible, to reasonable adjustment practices  ensure that suitable performance benchmarks are applied and explained the candidate		a simulated working , you may ask the on the subject. e conducted tices	
	OBSERVATION RECO	RD	
Performance Criteria		Place a ✓ to show if evidence has been demonstrated competently	
		Yes	No
<ul> <li>Read and interpret s</li> </ul>	pecifications and instructions		
<ul> <li>Identify and select equipment</li> </ul>	t appropriate personal protective		
<ul> <li>Identify and select jo</li> </ul>	b specific tools and equipment		
<ul> <li>Identify the major co</li> </ul>	mponents of brake system		
■ Describe the functions of major components of brake system			
■ Carry out adjustments and bleeding of brake system			
Test and replace major components of brake system			
■ Identify the major components of steering system			
■ Describe the functions of major components of steering system			
Carry out adjustmen	ts and bleeding of steering system		
Test and replace ma	jor components of steering system		

•	Identify the types of shock	absorber				
Describe the function of shock absorber						
•	Test and replace major co	mponents of shock absorber				
•	Identify the components o	f leaf spring				
•	Identify the types of leaf s	oring and coil spring				
•	Describe the function of le	af spring and coil spring				
•	Carry out the service of le	af spring				
•	Test and replace major spring	components of leaf and coil				
•	Describe the function of to	rsion and stabiliser bar				
•	Carry out the service of to	rsion bar and stabiliser bar				
•	Test and replace major stabiliser bar	components of torsion and				
•	Identify the type of bush a	nd mountings				
•	Duties are performed in quality improvement syste	accordance with demand of m				
•	Defects are detected and	reported				
•	Quality service is ensured providing a product or service.	d and delivered to customer in vice				
•	Performance is assessed	at regular intervals				
•	Performance of operation is monitored to ensure cus	or quality of product or service stomer satisfaction				
•	Responsibility is taken for	quality of own work				
•	Quality system procedures	s for each job are followed				
Conformance to specificationall situations		ion is ensured in every case at				
Feedback to candidate:						
Assessment decision for this assessment activity:						
	□ Competent □ Not Yet Competent					
Ca	ndidate Signature:		Date:			
As	sessor Signature:		Date:			

ORAL QUESTIONS - INSTRUCTIONS			
Candidate Name:			
Assessor Name:			
Qualification:	Certificate in Auto Mechanics		
Unit of Competency			
Generic Competencies			
SEIP-LE-AME-01-G	Use basic mathematical concepts		
SEIP-LE-AME-02-G	Carry out workplace interaction		
SEIP-LE-AME-03-G	Operate in a team environment		
SEIP-LE-AME-04-G	Apply basic IT skills		
Sector-specific Competenci	es		
SEIP-LE-AME-01-S	Apply occupational health and safety (OHS) practice in the workplace		
SEIP-LE-AME-02-S	Read and interpret sketches and drawings		
SEIP-LE-AME-03-S	Use hand and power tools		
SEIP-LE-AME-04-S	Apply quality system		
Occupation-specific Compe	tencies		
SEIP-LE-AME-01-O	Identify major components of engine		
SEIP-LE-AME-02-O	Service auxiliary systems		
SEIP-LE-AME-03-O	Service power transmission system		
SEIP-LE-AME-04-O	Service control system		
SEIP-LE-AME-05-O	Service suspension system		
Assessment Centre:			
Date of Assessment:			
Time of Assessment:			

# Instructions:

Read and understand the directions carefully:

- these oral questions are based on the performance criteria from all the units of competency in Auto Mechanics
- oral questions are designed to enable additional assessment of your underpinning knowledge
- you should present your responses as directed by the assessor
- answer all the questions asked by the assessor as best as possible

	ORAL QUESTIONS			
Que	stion	Place a ✓ in the appropriate box to show if evidence has been demonstrated competently		
		Yes	No	
1.	What is the standard reading in volts for functional battery?			
2.	What is an automotive charging system comprised of?			
3.	How often should a car be serviced?			
4.	What is meant by 'CC' in relation to car efficiency?			
5.	How does a clutch system work?			
6.	What is the benefit of dual clutch transmission?			
7.	What is an independent suspension?			
8.	What is an automotive differential and how does it work?			
9.	Why are car steering wheels round?			
10.	What is the significance of 'governor' in automobiles?			
11.	Give an example of a people-oriented team role.			
12.	Developing a project plan is a task of who?			
13.	Name the tool that clearly shows the reporting relationships within an organisation.			
14.	Why should a conflict be dealt with immediately?			
15.	What is a file?			
16.	Explain the use of the subject line in emails.			
17.	What skills are required for conducting workplace interactions in a courteous manner?			
18.	What does COC stands for?			
19.	What is a user guide?			
20.	What is the definition of workplace documents?			
21.	What does the first line supervisor control in a self-directed team?			
22.	What are some examples of modes of communication?			
23.	How many ways you can present yourself?			
24.	How many phases are there for interview preparedness?			
25.	What will be your answer if you are asked if you have any questions of your own?			

26.	Name four IT tools.				
27.	What is a common app	ication program's file extension?			
28.	How do name a cell on	spreadsheet?			
29.	Name two browsers on	the internet.			
30.	What are the four phase	es of emergency management?			
31.	Say whether true or fals A work ethic is a set of job.	se: moral principles a person uses in th	eir		
Feedback to candidate:					
Assessment decision for this assessment activity:					
☐ Competent ☐ Not Yet Competent					
Candidate Signature:			Date:		
Assessor Signature:			Date:		

### **General Guidelines For Effective Questioning**

- Keep questions short and focused on one key concept
- Ensure that questions are structured
- Test the questions to check that they are not ambiguous
- Use `open-ended questions such as `what if...?' and `why...?' questions, rather than closed questions
- Keep questions clear and straight forward and ask one at a time
- Use words that the candidate is able to understand
- Look at the candidate when asking questions
- Check to ensure that the candidate fully understands the questions
- Ask the candidate to clarify or re-phrase their answer if the assessor does not understand the initial response
- Confirm the candidate's response by repeating the answer back in his/her own words
- Encourage a conversational approach with the candidate when appropriate, to put him or her at ease
- Use questions or statements as prompts for keeping focused on the purpose of the questions and the kind of evidence being collected
- Use language at a suitable level for the candidate
- Listen carefully to the answers for opportunities to find unexpected evidence
- Follow up responses with further questions, if useful, to draw out more evidence or to make links between knowledge areas
- Compile a list of acceptable responses to ensure reliability of assessments

# **Oral Questions (Optional) - Answers**

Answers are highlighted in **bold** and *italics*.

	ORAL QUESTIONS		
Que	stion	Answer	
1.	What is the standard reading in volts for functional battery?	The standard reading is 14-15 volts which is normal, but if reading shows 13 or less then, there is a problem with the battery.	
2.	What is an automotive charging system comprised of?	Automotive charging system is made up of battery, voltage regulator and alternator.	
3.	How often should a car be serviced?	Car requires services yearly and major maintenance at 6,000 miles.	
4.	What is meant by 'CC' in relation to car efficiency?	CC stands for Cubic Centimetres; it tells the total volume of the engine cylinder. It indicates that the automobile with more CC produces more power than the other engines.	
5.	How does a clutch system work?	Clutch system is made up of two metal plates adjacent to the engine. When you press the clutch pedal down the plates come apart separating the engine from the drive wheels allowing the drivers to change the gear and reengage the plates again with the engine once the gear is changed.	
6.	What is the benefit of dual clutch transmission?	The dual clutch transmission allows gears to be pre-selected before they are changed, so one clutch selects the second gear while the second clutch selects the third gear. There are usually seen in race cars.	
7.	What is an independent suspension?	Independent suspension is referred to the mounting of the wheel on a separate axle. So, that road shocks affect only the particular wheel.	
8.	What is an automotive differential and how does it work?	The automotive differential is designed to drive a pair of wheels while allowing them to rotate at different speeds. In vehicles without a differential, such as karts, both driving wheels are forced to rotate at the same speed, usually on a common axle driven by a simple chain-drive mechanism.	
9.	Why are car steering wheels round?	<ul> <li>A steering wheel is round so that your hands locate in the same place regardless of the steering wheel's orientation.</li> </ul>	
		<ul> <li>While turning/steering the car it is</li> </ul>	

		<ul> <li>ergonomically the best design.</li> <li>Also, as design is circle, there are no edges to hit while turning/steering is moving as the circle position remains the same.</li> <li>From design view, it should be able to give uniform force (i.e. torque) by varying the distance from center will vary the torque provided.</li> </ul>
10.	What is the significance of 'governor' in automobiles?	Governor is an important component of automobile engine. It is used to regulate the main speed of engine during the variations in loads. With the variations in the load, fuel supply has to be maintained. This task is performed by the governor. In the case of high load on the engine, speed decreases, hence fuel supply has to be increased and similarly when load decreases then the fuel supply has to be decreased.
11.	Give an example of a people-oriented team role.	Coordinator
12.	Developing a project plan is a task of who?	Project Manager
13.	Name the tool that clearly shows the reporting relationships within an organisation.	Organizational chart
14.	Why should a conflict be dealt with immediately?	To avoid it escalating.
15.	What is a file?	A file is the common storage unit in a computer. All programs and data are contained in a file, and the computer reads and writes files.
16.	Explain the use of the subject line in emails.	■ The subject line provides an opportunity to inform the receiver of the purpose of the email.
		<ul> <li>A subject line ideally should describe exactly what the email is about.</li> </ul>
		<ul> <li>An appropriate subject line will maximize the possibility of a message being read.</li> </ul>
17.	What skills are required for conducting workplace interactions in a courteous manner?	<ul><li> Effective questioning</li><li> Active listening</li><li> Speaking skills</li></ul>
		Email writing skills
18.	What does COC stands for?	Code of conduct
19.	What is a user guide?	It is a technical communication document intended to give assistance to people using a particular system.
20.	What is the definition of workplace documents?	Workplace documents are a set of materials that inform employees of workplace policies, processes and procedures.

21.	What does the first line supervisor control in a self-directed team?	<ul> <li>Critical management process of:         <ul> <li>Planning</li> <li>Organising</li> <li>Directing</li> <li>Staffing</li> </ul> </li> </ul>
22.	What are some examples of modes of communication?	<ul><li>Team meetings</li><li>Email updates</li></ul>
23.	How many ways you can present yourself?	<ul><li>Curriculum Vitae</li><li>Infographic</li><li>Profile/portfolio</li></ul>
24.	How many phases are there for interview preparedness?	<ul> <li>Phase One – before the interview</li> <li>Phase Two – the start</li> <li>Phase Three – the interview</li> <li>Phase Four – closing of interview</li> </ul>
25.	What will be your answer if you are asked if you have any questions of your own?	Ask whether the offer will be confirmed in writing.
26.	Name four IT tools.	<ul> <li>Computer</li> <li>Television</li> <li>Mobile phone</li> <li>Radio</li> <li>Internet</li> </ul>
27.	What is a common application program's file extension?	A file extension, also called a filename extension, is the suffix at the end of a filename, which indicates what kind of file it is. For example, you can tell that the file "computer.docx" is an MS Word document file.
28.	How do name a cell on spreadsheet?	With its column and row position on the sheet (i.e. B9).
29.	Name two browsers on the internet.	<ul><li>Internet Explorer</li><li>Google Chrome</li><li>Firefox</li></ul>
30.	What are the four phases of emergency management?	<ul><li>Mitigation</li><li>Preparedness</li><li>Response</li><li>Recovery</li></ul>
31.	Say whether true or false: A work ethic is a set of moral principles a person uses in their job.	True

# **Assessment Evidence Summary Sheet**

EVIDENCE SUMMARY SHEET							
Candidate Name:							
Assessor Name:							
Qualification:	Cert	ificate in Auto Mechanics					
Assessment Centre:							
Date(s) of Assessment	:						
The performance of the engaged to assess perfo		ate in the following unit are as follows:	or unit	s of o	compe	tency and	I the methods
Unit of Competency	Ass	essment Method			Con	npetent	Not Yet Competent
All units of competend comprising of the	cy Writ	ten Test					
qualification	-	ctical Demonstration 1 (Se	et)				
	Prac	ctical Demonstration 2 (Se	et)				
	Prac	ctical Demonstration 3 (Se	et)				
	Ora	Questioning (optional)					
Note: Issuance of a cert as competent for ALL un		ill only be given to a can mpetency.	didate v	vho ha	as suc	cessfully b	peen assessed
		Recommendati	on				
Achievement (indicat	Achievement (indicate title of SOA, if full Certificate is not documents Specify:  Specify:  Specify:						
Did the candidate overall	perform	ance meet the required e	vidence	/stanc	lard?		′es □ No
Overall Evaluation:		□ Competent		] No	t Yet (	Compete	ent
General Comments:							
Candidate Signature:				Date	:		
Assessor Signature:				Date	:		
Institution Manager Signature:				Date	:		

\_\_\_\_\_\_

## CANDIDATES COPY

(Please presents this form when you claim your Certificate)

ASSESSMENT RESULTS SUMMARY				
Qualification:	Certificate in Auto Mechanics			
Name of Candidate:		Date:		
Name at Assessment Centre:		Date:		
Assessment Results:	□ Competent			
	□ Not Yet Competent			
Recommendation:	☐ Issuance of SOA (indicate title of SOA, if full certificate is not met)			
	☐ Submission of additional documents – specify:			
	☐ Reassessment - specify:			
Assessed by:		Date:		
(name and signature)				
Attested by:		Date		
(name and signature):				

# **Assessment Validation Map**

This identifies how the assessment tools in this resource may assess:

- elements and performance criteria
- critical aspects of assessment
- skills and knowledge
- employability skills

Unit of Competency: SEIP-LE-AME-01-G – Use basic mathematical concepts				
		Assessment Method		
Element		Written Practical Ora		Oral
Identify calculation re	equirements in the workplace.	4	A1-3	
	·		B1-3	
			C1-3	
	mathematical methods/concepts for the	4	A1-3	
calculation.			B1-3	
			C1-3	
3. Use tools and instrur	ments to perform calculations.	4	A1-3	
			B1-3	
			C1-3	
Unit of Competency:	SEIP-LE-AME-02-G – Carry out workplace i	e interaction		
Element		Assessment Method		
Element		Written	Practical	Oral
Interpret workplace of	communication and etiquette.	11	A1-3	13, 17
			B1-3	
			C1-3	
2. Read and understan	d workplace documents.		A1-3	18, 19,
			B1-3	20
			C1-3	
3. Participate in workpla	ace meetings and discussions.	12		24
4. Practice professiona	l ethics at work.	12	A1-3	23, 31
			B1-3	
			C1-3	
Unit of Competency:	SEIP-LE-AME-03-G – Operate in a team en	vironment		
Element		Assessment Method		

		Written	Practical	Oral
1.	Identify team goals and work processes.		A1-3	12, 21
			B1-3	
			C1-3	
2.	Identify own role and responsibilities within team.	8		13
3.	Communicate and co-operate with team members.	11	A1-3	11, 22,
			B1-3	25
			C1-3	
4.	Practice problem solving within team.		A1-3	14
			B1-3	
			C1-3	

**Unit of Competency:** 

SEIP-LE-AME-04-G - Apply basic IT skills

Element		Assessment Method			
Liement	Written Practical		Oral		
Identify and use most commonly used IT tools.			26, 28		
2. Understand use of computer.			15		
Work with word processing application.			27		
Access email and search the internet.			16, 29		

Unit of Competency:

SEIP-LE-AME-01-S – Apply occupational health and safety (OHS) practice in the workplace

Element		Assessment Method			
Liement	Written	Practical	Oral		
Identify OHS Policies and procedures.		A1-3			
		B1-3			
		C1-3			
Apply personal health and safety practices.	13	A1-3			
		B1-3			
		C1-3			
Report hazards and risks.		A1-3			
		B1-3			
		C1-3			
Respond to emergencies.		A1-3	30		
		B1-3			

			C1-3		
Unit of Competency:	SEIP-LE-AME-02-S – Read and i	nterpret sketches and	l drawings		
_,		Ass	Assessment Method		
Element		Written	Practical	Oral	
Interpret information	and specifications.		A1-3	20	
			B1-3		
			C1-3		
2. Read and interpret s	ketches and drawings.		A1-3		
			B1-3		
			C1-3		
Unit of Competency:	SEIP-LE-WEL-03-S – Use hand a	and power tools			
		Asse	essment Me	thod	
Element		Written	Practical	Oral	
Identify and inspect	hand and power tools.		A1-3		
			B1-3		
			C1-3		
2. Use hand tools prop	erly and safely.		A1-3		
			B1-3		
			C1-3		
3. Operate power tools	properly and safely.		A1-3		
			B1-3		
			C1-3		
4. Clean and maintain	hand and power tools.		A1-3		
			B1-3		
			C1-3		
Unit of Competency:	SEIP-LE-AME-04-S – Apply quali	ty system			
		Asse	Assessment Method		
Element		Written	Practical	Oral	
1. Work within a quality	y system.	16	A1-3		
			B1-3		
			C1-3		
2. Apply and monitor a	quality system.		A1-3	3	
			B1-3		

			C1-3		
Apply standard proce	edures for each job.		A1-3		
			B1-3		
			C1-3		
Unit of Competency:	SEIP-LE-AME-01-O – Identify major compo	nents of en	gine		
Element		Assessment Method			
Liement		Written	Practical	Oral	
1. Identify types of engi	ne.	19	A1-3		
			B1-3		
			C1-3		
2. Identify major compo	onents of engine.	20	A1-3	1, 2, 10	
			B1-3		
			C1-3		
Unit of Competency:	SEIP-LE-AME-02-O – Service auxiliary sys	tems			
Flores		Assessment Method			
Element		Written	Practical	Oral	
Prepare for work.		3	A1, B1, C1		
2. Service fuel system		9	A1, B1, C1	4	
3. Service cooling sys	tem.	10	A1, B1, C1		
4. Service lubricating s	system.		A1, B1, C1		
5. Service ignition sys	tem.	5, 7	A1, B1, C1		
6. Service starting sys	tem.	9, 14	A1, B1, C1		
Unit of Competency:	SEIP-LE-AME-03-O – Service power transr	nission syst	em		
Element		Asse	essment Me	thod	
Element		Written	Practical	Oral	
Prepare for work.			A2, B2, C2		

2. Service clutch system.		15	A2, B2, C2	5, 6
3. Service gear box.		6	A2, B2, C2	
Service differential system.		18	A2, B2, C2	8
5. Service propeller shaft and universal joint.		17	A2, B2, C2	
6. Service axel and CV joints.			A2, B2, C2	
Unit of Competency: SEIP-LE-AME-04-	O – Service control syster	m		
		Asse	essment Me	thod
Element		Written	Practical	Oral
Prepare for work.			A3, B3, C3	6
2. Service brake system.		1 A3, B3, C3		
3. Service steering system.		2 A3, B3, 9 B3		9
Unit of Competency: SEIP-LE-AME-05-	O – Service suspension s	ystem		
Flament		Asse	essment Me	thod
Element		Written	Practical	Oral
Prepare for work.		8	A3, B3, C3	7
2. Test and change shock absorber.			A3, B3, C3	
3. Test and change leaf and coil spring.			A3, B3, C3	
4. Test and change torsion and stabiliser b	ar.		A3, B3, C3	
5. Test and change bush and mountings.			A3, B3, C3	