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| UNIT REF: L1AM02A | | LEARNER SUPPORT MATERIAL TASK SHEET:  **UNIT TITLE: KNOWLEDGE RELATING TO AUTOMOTIVE FOUNDATION SKILLS** | | | | | |
| Learner Name: | | | | Date of Task: | | | |
| **KNOWLEDGE QUESTIONS** | | | | | | | |
| **Question Number** | **Question** | | | | | **AC** | **Marks Awarded** |
| 1. | Identify and state the purpose of the following automotive measuring equipment: **(36 marks)** | | | | | AC1.11 1.2 |  |
| COMPRESSION TESTER.JPG  A | | | DIAL GAUGE.JPG  B | | MICROMETER.JPG  C | | |
| Name: | | | Name: | | Name: | | |
| Purpose of tool: | | | Purpose of tool: | | Purpose of tool: | | |
| JUG.JPG  D | | | TORQUE WRENCH.JPG  E | | VERNIER CALIPERS.JPG  F | | |
| Name: | | | Name: | | Name: | | |
| Purpose of tool: | | | Purpose of tool: | | Purpose of tool: | | |
| INFRA RED GUN.JPG  G | | | STEEL RULE.JPG  H | | BORE GAUGE.JPG  I | | |
| Name: | | | Name: | | Name: | | |
| Purpose of tool: | | | Purpose of tool: | | Purpose of tool: | | |

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| **Question Number** | **Question** | | | | | | **AC** | | **Marks Awarded** |
| 2 | Identify the type of automotive electrical circuits in the images below:  **(6 marks)** | | | | | | AC1.3 | |  |
| SERIES PARALLEL.JPG  Circuit A: | | | SERIES.JPG  Circuit B: | | | PARALLEL CIRCUIT.JPG  Circuit C: | | | |
|  | | |  | | |  | | | |
|  | | | | | | | | | |
| 3. | Identify the following electrical symbols commonly found on automotive electrical wiring schematic diagrams: **(20 marks)** | | | | | | AC1.3 | |  |
| GROUND.JPG  A | | NPN TRANSISTOR.JPG  B | | RESISTOR.JPG  C | INDUCTOR.JPG  D | | | PNP TRANSISTOR.JPG  E | |
|  | |  | |  |  | | |  | |
| ADJUSTABLE RESISTOR.JPG  F | | BATTERY CELL.JPG  G | | CAPACITOR.JPG  H | DIODE.JPG  I | | | VARIABLE RESISTOR.JPG  J | |
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| **Question Number** | **Question** | | | | **AC** | | **Marks Awarded** | |
| 4. | Identify the electrical units of measurement from the common automotive electrical test meter below: **(12 marks)** | | | | AC1.4 | |  | |
| L1MV04 Q4.jpg | | | A | | | | | |
| B | | | | | |
| C | | | | | |
| D | | | | | |
| E | | | | | |
| F | | | | | |
|  | | | | | | | | |
| 5. | Identify the electrical measuring test being carried out in the images below: **(6 marks)** | | | | | 1.4 | |  |
| ammeter check.JPG  A | | VOLTAGE CHECK.png  B | | ammeter check.JPG  C | | | | | |
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| **Question Number** | **Question** | | | **AC** | **Marks Awarded** |
| 6 | Identify the automotive locking and securing devices in the images below: **(24 marks)** | | | 1.5 |  |
| NUT  A | | nylock nut  B | castlenut  C | | |
|  | |  |  | | |
| BOLT.JPG  D | | CAP SCREW.JPG  E | SELF TAPPING BOLT.JPG  F | | |
|  | |  |  | | |
| COUNTERSUNK SCREW.JPG  G | | SET SCREW.JPG  H | POP RIVET.JPG  I | | |
|  | |  |  | | |
| flat washer  J | | penny washer  K | spring washer  L | | |
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| **Question Number** | **Question** | | | **AC** | **Marks Awarded** |
| 7. | Identify the automotive locking and securing devices in the images below: **(12 marks)** | | | 1.5 |  |
| SPLIT PIN.JPG  A | | WOODRUFF KEY.JPG  B | CLEVIS PIN.JPG  C | | |
|  | |  |  | | |
| TAB WASHER.JPG  D | | RAWL PIN.JPG  E | CHEMICAL THREADLOCK.JPG  F | | |
|  | |  |  | | |
|  | | | | | |
| 8. | Identify the common automotive hand tools in the images below:  **(24 marks)** | | | 1.6 |  |
| BRAKE.JPG  A | | COMBINATION.JPG  B | RING.JPG  C | | |
|  | |  |  | | |
| SOCKET.JPG  D | | UJ.JPG  E | IMPACT SOCKET.JPG  F | | |
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| EXTENSION.JPG  G | | RATCHET.JPG  H | TORX.JPG  I | | |
|  | |  |  | | |
| MOLE GRIPS.JPG  J | | SNIPPS.JPG  K | POP RIVET GUN.JPG  L | | |
|  | |  |  | | |
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| 9. | Identify the common automotive workshop equipment in the images below: **(18 marks)** | | | 1.7 |  |
| AIR RACHET.JPG  A | | INSPECTION LAMP.JPG  B | JACKING BEAM.JPG  C | | |
|  | |  |  | | |
| OIL DRAINAGE.JPG  D | | TRANSMISION JACK.JPG  E | HEADLAMP EQUIPMENT.JPG  F | | |
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| WINDY GUN.JPG  G | | | | | HYDRAULIC PRESS.JPG  H | | I | | | | |
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| 10. | Identify the material classification and where on a vehicle the following ferrous, non-ferrous and non-metallic materials would be used:  **(44 marks)** | | | | | | | AC2.1, 2.2 | | |  |
| **Material** | | | **Material classification:**  **Ferrous/Non-Ferrous/Non-metallic** | | | **Vehicle use:** | | | | | |
| Copper | | |  | | |  | | | | | |
| Aluminum | | |  | | |  | | | | | |
| Plastic | | |  | | |  | | | | | |
| Cast iron | | |  | | |  | | | | | |
| Mild and low carbon steel | | |  | | |  | | | | | |
| High carbon steel | | |  | | |  | | | | | |
| Lead | | |  | | |  | | | | | |
| Brass | | |  | | |  | | | | | |
| Glass | | |  | | |  | | | | | |
| Rubber | | |  | | |  | | | | | |
| Kevlar | | |  | | |  | | | | | |
|  | | | | | | | | | | | |
| 11. | | What is meant by the following terms when applied to materials used in vehicle materials and construction: **(8 marks)** | | | | | | | AC2.3 |  | |
| A. Tensile stress: | | | |  | | | | | | | |
| B. Compressive stress: | | | |  | | | | | | | |
| C. Yield stress: | | | |  | | | | | | | |
| D. Shear force: | | | |  | | | | | | | |

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| **UNIT REF:L1MV02A** | | SUPPORT MATERIAL ASSESSOR RECORD  **UNIT TITLE: KNOWLEDGE RELATING TO AUTOMOTIVE FOUNDATION SKILLS** | | | | | | | | | |
| **The section below is for use by the assessor :** | | | | | | | | | | | |
| **Learning Outcomes** | | | | | | | | | | | **Passed (Tick 🗸)** |
| 1 | Know the basic tools, equipment and measuring devices used within a workplace environment | | | | | | | | | |  |
| 2 | Know the materials used in vehicle construction | | | | | | | | | |  |
| **Assessment Criteria** | | | | | | | | | | | |
| 1.1 | State the main units of measurement related to automotive repair | | | | | | | | | | |
| 1.2 | Identify the main measuring equipment used in an automotive environment | | | | | | | | | | |
| 1.3 | State the basic principles of electrical circuits and components | | | | | | | | | | |
| 1.4 | Identify electrical measurement equipment used in an automotive environment | | | | | | | | | | |
| 1.5 | Identify locking and securing devices used in an automotive environment | | | | | | | | | | |
| 1.6 | Identify common hand tools used in an automotive environment | | | | | | | | | | |
| 1.7 | Identify common workshop equipment used in the automotive environment | | | | | | | | | | |
| 2.1 | Identify the ferrous, non-ferrous and non-metallic materials used in vehicle construction | | | | | | | | | | |
| 2.2 | Identify the applications of ferrous and non-ferrous materials used in vehicle construction | | | | | | | | | | |
| 2.3 | State the common terms applied to the materials used in vehicle construction | | | | | | | | | | |
| **Achievable Marks** | | | | | **Actual Marks** | | | | **Actual Percentage (%)** | | |
| 210 | | | | |  | | | |  | | |
| **Assessor Knowledge Decision** | | | | **Tick (🗸)** | | **Written feedback (with reference to assessment criteria) must be given when a learner is referred:** | | | | | |
| **PASS (60% and above)** | | | |  | |  | | | | | |
| **REFER (Less than 60%)** | | | |  | |
| **Assessor Decision:** | | | | **Tick (🗸)** | | **Written feedback (with reference to assessment criteria) must be given when a learner is referred:** | | | | | |
| **PASS**  I confirm that the learner’s work was to an acceptable standard and met the assessment criteria of the unit | | | |  | |  | | | | | |
| **REFER**  The work carried out did not achieve the standards specified by the assessment criteria (written feedback to learner) | | | |  | |
| **Assessor Name (Print):** | | | | | | | **Assessor PIN:** | | | **Date:** | |
|  | | | | | | |  | | |  | |
| **The section below is only to be completed once the assessor decision has been made and feedback given to learner:** | | | | | | | | | | | |
| **The section below is to be completed by the learner :** | | | | | | | | | | | |
| I confirm that the work carried out was my own, and that I received feedback from the Assessor | | | **Learner Name (Print):** | | | | | **Learner Signature:** | | **Date:** | |
|  | | | | |  | |  | |