**Sample Assessment Outline**

Automotive Engineering and Technology

General Year 12

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Sample assessment outline

Automotive Engineering and Technology – General Year 12

Unit 3 and Unit 4

| **Assessment type and weighting** | **Assessment task and weighting** | **When/****Duration** | **Assessment task** |
| --- | --- | --- | --- |
| Response15% | 5% | Semester 1Weeks 1–2 | **Task 1: Automotive mechanics – safety**This task is to be completed prior to attempting any practical workActivities:* watch workshop safety video
* understand general safety aspects of workshop practice
* complete automotive safety certificate
* choose an automotive workshop machine or skill and describe, through demonstration, the safe operational requirements
 |
| 3% | Semester 1Weeks 3–6 | **Task 2: Report on different fuels and lubricants*** scientific principles – chemical and mechanical energy, energy conversion
* fuels and lubricants, their association with different engines and automotive technologies
* performance of different types of fuels in various types of engines
 |
| 2% | Semester 1Weeks 11–15 | **Task 5 Part A: Report on the rules and regulations and social, economic and environmental implications and consequences** Worksheet/s or assignment on rules and regulations/social, economic and environmental implications and consequences |
| 2% | Semester 2Weeks 1–3 | **Task 5 Part B: Report on the automotive industry, regulations and development of vehicle performance**Worksheet/s or assignment on the automotive industry, regulations and development of vehicle performance |
| 3% | Semester 2 Weeks 6–8 | **Task 7: Investigate the principles of torque, rotational power and pressure/stress****Investigations to understand torque, rotational power and pressure/stress in the** power train, steering systems and braking systems |
| Investigation and diagnostics20% | 5% | Semester 1Weeks 9–10 | **Task 4 Part A: Design brief** – design a tool or device to be used during automotive workshop activities |
| 5% | Semester 2Weeks 4–8 | **Task 6: Vehicle maintenance – current processes and latest techniques** * use flow charts and problem-solving skills to diagnose faults in conjunction with the use of specialised tools and equipment
* identify service, repair and maintenance requirements of more advanced engines, and the skills, knowledge, materials, parts and equipment needed to optimise performance
* identify occupational safety and health requirements for different processes
* use collaborative practices involved in workshop activities

Investigations to understand and demonstrate processes for the following, rotating through a series of activities:* methods of diagnosis for fault finding
* compression test
* engine timing
* oils and oil filters
* air and fuel filters
* radiator and coolant
* brake pads and brake fluid
* tyres, tread, pressures and rotation
* different suspension systems
* electrical wiring, lights and bulbs
 |
| 5% | Semester 2Weeks 9–11 | **Task 8 Part A: Vehicle trouble-shooting techniques**Complete the following trouble-shooting tasks:* methods of diagnosis for fault finding
* jumpstart
* electrical lights test and changing a bulb
 |
| 5% | **Task 8 Part B: Vehicle trouble-shooting techniques*** compression test
* engine timing tune up
 |
| Production and assembly50% | 15% | Semester 1Weeks 6–8 | **Task 3: Complete under-vehicle activities**Perform all occupational safety and health (OSH) requirements while in the workshop* complete an under-vehicle inspection of front and rear chassis and suspension set ups
* complete the process to lubricate, where necessary, the components of the steering and drive systems
* complete a procedure to remove and replace a rear shock absorber and strut
 |
| 15% | Semester 1Weeks 11–15 | **Task 4 Part B: Managing production – Produce the proposed tool or device to be used during automotive workshop activities*** use workshop equipment safely to produce the tool or device
 |
| 5% | Semester 2Weeks 1–3 | **Task 4 Part C: Test and evaluate finished workshop tool or device** |
| 15% | Semester 2Weeks 12–15 | **Task 9: Design a model and apply different methods of fitting and joining automotive materials together** |
| Externally set task15% | 15% | Semester 1Week 13 | A written task or item or set of items of 50 minutes duration developed by the School Curriculum and Standards Authority and administered by the school |
| **Total 100%** | **100%** |  |  |