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Unit Standard 21674

PRACTICE PAPER - ANSWER BANK

Assessors Note:

This answer bank should be used as the primary resource when marking students work. However, responses to some questions may be subjective and tutors are advised to exercise their professional judgement when making assessment decisions.

ELEMENT ONE

Demonstrate knowledge of terminology used in the motor industry.

1. Match up the term with its appropriate description: For example

| | | | | |
|---|-----------------------------|-----|----|--|
| A | Automatic transmission | A8 | 1 | Most popular fuel used in cars |
| B | Workshop service manual | B11 | 2 | More environmentally friendly fuel that is becoming more commonly used. |
| C | Lubrication sticker | C14 | 3 | Has one power stroke for every revolution of the crankshaft |
| D | Final drive unit | D13 | 4 | System that relies on the driver to engage and disengage gear ratios |
| E | Clutch assembly | E6 | 5 | Most popular fuel used in trucks and light commercial vehicles |
| F | Axle and shafts | F10 | 6 | Engages and disengages drive to the manual transmission |
| G | Manual transmission | G4 | 7 | System where the driver selects the gear required and the transmission will change into that gear usually without the use of a clutch. |
| H | Semi automatic transmission | H7 | 8 | System that selects and changes gears by itself. |
| I | Warrant of Fitness | I12 | 9 | Has one power stroke for every two revolutions of the crankshaft |
| J | Two stroke | J3 | 10 | Transmits drive to the wheels |
| K | Four stroke | K9 | 11 | Contains service and repairs information and instructions |
| L | Petrol | L1 | 12 | Sticker on windscreen showing that the vehicle is safe to use on the road |
| M | Diesel | M5 | 13 | Contains the crown wheel, pinion and differential. |
| N | Alternative fuels | N2 | 14 | Sticker on the windscreen that shows when the next service is due |

2. Name three clutch assembly components.

1. Clutch plate
2. Pressure plate
3. Release bearing

3. How are electric vehicles powered?

Electric vehicles are powered using rechargeable batteries.

4. How are hybrid vehicles powered?

Hybrid vehicles use a combination of combustion engine (petrol or diesel) and electric motors (battery) to power the vehicle.

5. Match up the vehicle body term with its appropriate description:

| | | | | |
|---|---------------|-----------|---|---|
| A | Bonnet | A7 | 1 | Uses a hinging lid which incorporates the rear windscreen |
| B | Boot lid | B4 | 2 | Uses a hanging door which incorporates the rear windscreen |
| C | Hatch back | C1 | 3 | Fitted to limit body and mechanical damage in the event of a collision. |
| D | Station wagon | D2 | 4 | A panel that covers the rear luggage compartment |
| E | Doors | E6 | 5 | Can be toughened or laminated and prevents rain, wind and dust from entering the vehicle. |
| F | Guards | F8 | 6 | Used to enter and exit the vehicle |
| G | Bumpers | G3 | 7 | A panel that covers the engine bay |
| H | Windscreen | H5 | 8 | Used in each corner of the vehicle |

6. Match up the assembly term with its appropriate description:

| | | | | |
|---|----------------|------------|----|---|
| A | Tow bar | A5 | 1 | Moulded panel that covers the space between the rear seats and rear windscreen |
| B | Monsoon shield | B6 | 2 | Protects the vehicle from stones that are thrown up |
| C | Spoiler | C9 | 3 | Moulded panel that houses the instrument cluster, glove box and comfort controls |
| D | Badges | D7 | 4 | Materials that covers the seats and linings in the passenger cell |
| E | Mud flaps | E10 | 5 | Allow trailers and caravans to be connected to the vehicle. |
| F | Sill covers | F2 | 6 | Designed to keep rain and wind out of the vehicle when the front windows are down |
| G | Aerials | G8 | 7 | Details the make and model of the vehicle |
| H | Number plate | H11 | 8 | Designed to receive radio signals |
| I | Mirrors | I12 | 9 | Improves aerodynamics of the vehicle |
| J | Upholstery | J4 | 10 | Fitted to protect panel from stones and mud |
| K | Dash panel | K3 | 11 | Displays the registration details of the vehicle |
| L | Parcel shelf | L1 | 12 | Allows driver to see the rear of the vehicle |

7. What is meant by the term hydraulic brake system?

The term hydraulic brake refers to systems that use brake fluid pressure when applying the brakes.

8. Match up the term with its appropriate description: For example

A – Wedge bisector = 8 – Uses a pushrod to move between the brake shoe rollers to expand the brake shoes

| | | | | |
|---|--------------------|------------|----------|---|
| A | Wedge bisector | A8 | 1 | A ball joint that connects to the steering spindle |
| B | Spindle | B9 | 2 | Converts hydraulic fluid pressure into movement of the pistons to force the brakes shoes against the drum |
| C | Tie rod end | C1 | 3 | Operate automatically once air pressure is removed. |
| D | Pneumatic brakes | D7 | 4 | Uses a small electric motor near the wheels to generate braking pressure. |
| E | Wheel cylinder | E2 | 5 | Fitted to prevent excess weight transfer to the outside wheel when turning. |
| F | Brake booster | F10 | 6 | Heavy duty inflatable rubber used on heavy vehicles to absorb road shocks |
| G | Springs brakes | G3 | 7 | Uses compressed air to operate mechanical braking components |
| H | Brake by wire | H4 | 8 | Uses a pushrod to move between the brake shoe rollers to expand the brake shoes |
| I | Sway bars | I5 | 9 | Turns the hub assembly |
| J | Air bag suspension | J6 | 10 | Uses engine vacuum to multiply the brake fluid pressure when the brakes are applied |

9. List three types of hammers that are commonly used in the motor industry?

Plastic Tip
Raw hide
Pick hammer

Rubber
Ball Pein
Sledge

Brass
Planishing

Copper
Club

10. From the list provided match up the tip shape with its correct name?

Standard Phillips Torx Socket Pozidrive

Tip: torx



Tip: pozidrive



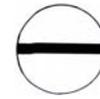
Tip: phillips



Tip: socket



Tip: standard



11. List three types of spanners that are commonly used in the motor industry?

Combination ring/open ended spanner.

Double open ended spanner.

Double offset ring spanners.

Single open ended offset spanner (crow's foot).

Adjustable wrench (crescent).

Double open ended pipe spanner.

Double ring ratchet spanner.

Combination single open end and flexible head socket spanner.

12. What is a micrometer?

Micrometers are precision made tools designed to measure inside, outside, and depth measurements to 0.01 mm.

13. What is a torque wrench?

A torque wrench is a calibrated tool that is designed to secure nuts and bolts to a specific turning pressure.

14. What common workshop equipment item is used to restore the charge in battery electrolyte?

Battery charger

15. What common workshop equipment item is used to measure the amount of hydrocarbons, carbon monoxide and oxides of nitrogen that are emitted from a vehicle?

Exhaust gas analyser.

16. For what purpose are floor creepers used in automotive workshops?

Floor creepers allow technicians to work under vehicles when there is no hoist available.

17. List three common types of gasket material that are used in the automotive industry.

Paper
Steel fibre composite
Cork
Fibre and nylon
Cellulose fibre
Rubber
Steel

- 18. What is the main difference between how inboard and outboard engines are fitted to trailer boats?**

Outboard engines are fitted on the outside of the boat, while inboard are fitted inside the boat.

- 19. Forklifts are fitted with counterweights. Explain why.**

They have a counterbalance weight at the back of the forklift to prevent the forklift from tilting.

- 20. List any THREE common items of outdoor power equipment.**

Any three of lawn mowers, chainsaws, hedge trimmers, air compressors and generators.

- 21. What do the letters RWD stand for?**

Rear Wheel Drive

- 22. List two types of fuel that can be used to fuel alternative fuelled vehicles.**

Fuels that can be used include LPG, CNG, Ethanol, Methanol, electricity and fuel cells.

- 23. Indicate whether each of the following are either True (T) or False (F). Please enter T or F in the appropriate boxes.**

T Trailer boats are usually powered by an outboard petrol engine that drives a propeller

T Forklifts are usually rear wheel steered so that they can deal with tight cornering situations.

T Trailers for transporting boats need a warrant of fitness