

Unit Standard **21672**

Demonstrate knowledge of new and emerging technology in the motor industry

Level 2 Credit 5 v1

Student Name:

School:

Date:

Marked By: _____ **Mark** _____ **%**

Feedback: **Excellent work**

Good work

Please attempt all questions

Please resubmit

USEFUL WEBLINKS

Greenhouse Effect

<http://youtu.be/5zLuqSYF68E>
<http://youtu.be/RHrFBOU16-8>
<http://youtu.be/T-sy6rPJBj4>
<http://youtu.be/jRIsDer17Zo>
<http://youtu.be/XLY8m-dXOxo>
<http://youtu.be/jakJ-Tf79ac>

Future Cars

<http://youtu.be/uRRkHWHxLIM>
http://youtu.be/x5_IA-rqdrY

Hybrids

http://youtu.be/_NwUP5lXbvA

Hydrogen Fuel Cells

<http://youtu.be/dXyZl69K154>

Electric Cars

<http://youtu.be/Hs55JzcOg3s>

Electronic Communication

<http://youtu.be/GCNcgivDDMg>
<http://youtu.be/ztlNe9Pc-qs>
<http://youtu.be/Ye-YBCd6iE4>
<http://youtu.be/myAjZaWjbpM>
<http://youtu.be/2dLI0QukT0>
<http://youtu.be/1bUIFUxMRvI>
<http://youtu.be/jlkS-tPqFPU>
<http://youtu.be/tg60oAZSrKQ>
<http://youtu.be/U6gNknUQbio>
<http://youtu.be/u80eraX8IJQ>
<http://youtu.be/ljGNtE1PbpI>

Variable Valve Timing

<http://youtu.be/glUXDMuQ3Bs>

Variable Cylinder Management

<http://youtu.be/2yE5V7raQNM>

Common Rail

http://youtu.be/d_LahS5T3DM

ABS

<http://youtu.be/P5wc19MzCbk>

Traction Control

<http://youtu.be/LXwNllw0CLQ>

Air Brakes

<http://youtu.be/-R7J9BIjNEw>
<http://youtu.be/3mrUMTP4thI>

Brake By Wire

<http://youtu.be/-GhdEMK74x4>

Immobilisation systems

<http://youtu.be/n1BxI4xdaSs>
<http://youtu.be/QeWGcEbXK8w>

Drive by Wire

<http://youtu.be/MH7e5aUDWYY>

Active Suspension

<http://youtu.be/RiLEECJB-Zo>

Adaptive Cruise Control

<http://youtu.be/tVkVz79fgnY>

Seatbelts

<http://youtu.be/s4LnhvFqoRE>

Airbags

<http://youtu.be/Q8SJlUj7II>
<http://youtu.be/yTVWa9GSX3c>
http://youtu.be/iQ3W_1kjdPk

Electronic Braking

<http://youtu.be/UpP6WYKrtS4>

REVIEW QUESTIONS ONE

1. Explain why vehicle manufacturers must consider the environment when constructing their vehicles.
2. Provide an example of a market trend that may influence the vehicle buying habits of the motoring public.
3. Provide three reasons why the roads are busier today than in past generations.
4. List three disadvantages that can be associated with using petrol as a fuel.
5. Provide an advantage and a disadvantage associated with bio-diesel.
6. How are hybrid vehicles powered?

7. Provide two advantages and two disadvantages that can be associated with electric fuelled vehicles.

Advantages:

Disadvantages:

8. What are the main benefits of hydrogen fuel cell as an alternative fuel?

9. What is the main barrier to the popular use of hydrogen fuel cell powered vehicles?

10. Provide three reasons why vehicle manufacturers have improved vehicle body construction methods.

11. Explain why composite materials are now being used by vehicle manufacturers.

12. What are the main advantages associated with thermoplastics?

REVIEW QUESTIONS TWO

13. Briefly outline the purpose of each of the following electronic communication systems.

Reverse sensing:

Lane departure:

Blind spot:

Biometric access:

Head Up:

Speed Sign:

Adaptive Headlamps:

20. What is the main benefit associated with active suspension systems?

21. Briefly outline the purpose of each of the following systems.

City safe:

Traction control:

Adaptive cruise:

Drive by wire:

22. List three special features of two stage airbags.

23. Briefly outline the purpose of each of the following safety systems/features:

Crumple zones:

Driver alert:

Seat belt pretensioners:

Drive by wire:

Park assist:

24. What impacts are changes in technology likely to have on workshop staff?