

2015 HIGHER SCHOOL CERTIFICATE EXAMINATION

**Automotive
Mechanical Technology****Section II****35 marks****Attempt Questions 16–21****Allow about 50 minutes for this section**

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (4 marks)

Ten litres of engine oil have been spilled on the workshop floor.

4

Outline how to clean up and dispose of the waste.

first free the area of an electrical
currents that may catch the fluid.
then find your spill kit which
should contain spill dust. Sprinkle
the ~~fluid~~^{spill} dust over the oil until
it has absorbed it all and
then shovel the dust into a
waste bin.

Question 17 (4 marks)

- (a) Where should a workshop dispose of trade waste water? 1

in an allocated sink or drain.

- (b) Outline TWO environmental consequences of incorrect trade waste disposal. 3

death of animals in the area
also the plant life.

local pools, ponds, lakes may
result in contamination leading
to aquatic life dying, people getting
sick or dying & the government
fining or placing imprisonment
on the responsible person.

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**Automotive
Mechanical Technology****Section II (continued)****Question 18 (3 marks)**

All new vehicles registered in Australia need to be compliant with Australian Design Rules (ADR).

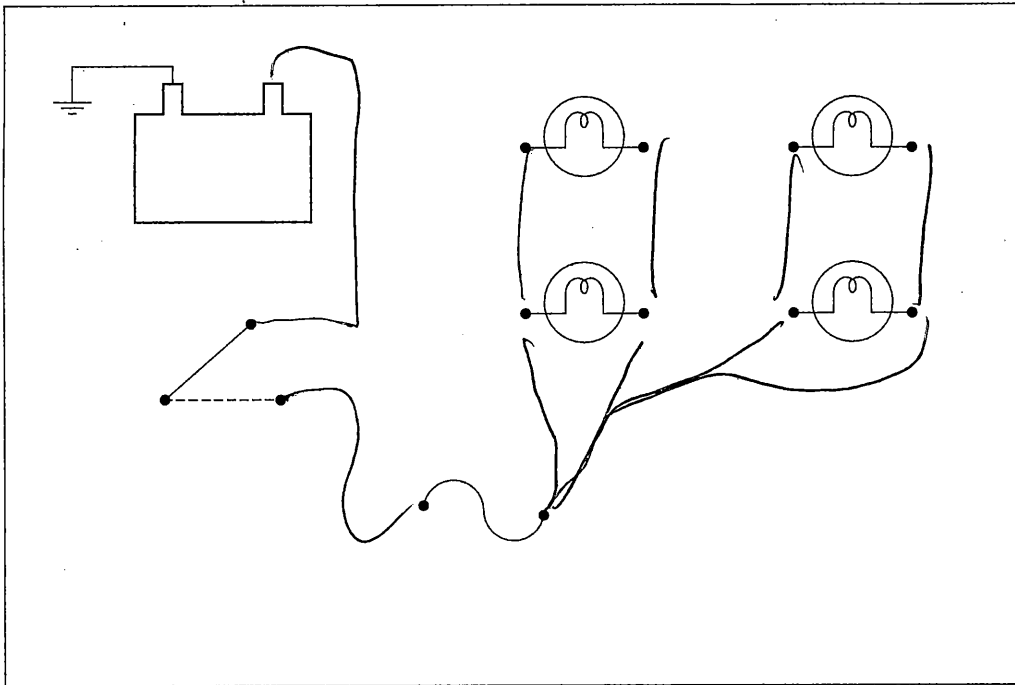
3

What is the purpose of these rules?

to ensure all vehicles are road worthy and safe, some level license drivers are allowed to drive certain cars under a certain power ratio etc light, speed, performance, danger ability.

Question 19 (7 marks)

- (a) Construct a parking light circuit in the box below, using all the symbols provided. 5



- (b) Explain how you would use a voltmeter to test voltage drop to the parking/tail light circuit. 2

no idea.

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Automotive
Mechanical Technology

Section II (continued)

Question 20 (8 marks)

- (a) Describe how the motor sport industry has influenced the development of vehicle brake technologies. 3

using remote central braking
from a second person.

- (b) Explain how an anti-lock braking system (ABS) prevents wheel lock-up in emergency braking conditions. 5

instead of a sudden lock up of
the wheels, the lock up while
driving but do it safer in
less distance

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**Automotive
Mechanical Technology**

Section II (continued)

Question 21 (9 marks)

- (a) Why should a workshop vice be left with a gap between the jaws when it is not in use? 1

So it doesn't seize

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- (b) Under what circumstances should the drilling speed be changed on a pedestal drill? 2

when you have almost come to the end of drilling or when you come to a thicker part of it.

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- (c) What precautions should be observed when using an electric welder in the workplace? 2

make sure what your welding is not wet, there are no splits in the wires and your using it correctly.

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Question 21 continues on page 16

Question 21 (continued)

- (d) Describe the advantages of using electric-powered tools compared with air-powered tools. 4

different levels of power and handling, different speeds & capabilities.

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End of Question 21