

3905 Motor Vehicle Engineering Examiner's report



Generic Report - December 2014 series

The purpose of this report is intended to assist lecturers in preparing their students for examinations by informing them of common errors, shortcomings and omissions which frequently occur on answer papers, and also to highlight areas which consistently fail to meet the requirements of the syllabus.

Introductory Note

As most centres enter candidates for many of the various 3905 examinations available, these generic comments apply to all papers in this series.

The following remarks are intended to assist lecturers in preparing their students for examinations by informing them of common errors, shortcomings and omissions which frequently occur on answer papers, and also to highlight areas which consistently fail to meet the requirements of the syllabus.

If, during final revision periods, lecturers will emphasise the importance of the following observations to their students, their centre pass rates will undoubtedly improve by a considerable margin.

Content of answers and presentation

One perpetual problem is starting to write down the answer without reading the question properly. There is ample time available for considered thought before answering a question, and then to present the answers in a neat and careful manner.

Before they start to answer the questions, candidates should be encouraged to take a little time to think about what the question is all about, and only then decide how they are going to present their response.

For example, many questions start with '**Explain with a sketch...**' but all too often only a sketch or an explanation is offered. In these instances, marks are always available for both the sketch and an explanation.

Some questions begin with the word '**State**'. All this requires is a brief answer of a few words – this type of question is generally worth one or two marks.

If a question begins with '**Explain**' or '**Describe**' then the answer requires more detailed information, and usually 3 or 4 marks are available.

The marks shown alongside each question are an excellent guide to the amount of detail required in the answer – if 3 or 4 marks are to be had then obviously one or two words will not produce reasonable mark.

Sketches

Untidy sketches can be very difficult to interpret – the rule of thumb for examiners to ask themselves ‘*Can I understand it and will it work?*’ - but if the detail is blurred (which often occurs when candidates use the same ball point pen for sketches they use for writing) then details become obscured, and marks are lost. Candidates should ideally be told to use pencil and a straight edge for sketching, as well as labelling their work.

Safety Questions

It must be emphasised once more that great thought is needed by candidates when answering safety questions – in particular relating to Personal Protective Equipment (PPE).

It is assumed that all necessary items of PPE are provided and compulsorily worn at all times in workshop situations – and therefore no marks are awarded for listing items of PPE in response to safety questions.

If for example a question reads

‘List three safety precautions to be observed when removing an engine from a vehicle’ many answers are often something like *‘...wear safety boots/gloves/barrier cream/goggles/overalls/safety helmet* and so on, and no marks can be awarded.

Safety answers required must relate directly to the stated task, and in the example above, acceptable responses are *‘... ensure the lifting gear is capable of lifting the load/check the lifting gear for correct operation before use/ensure lifting brackets are correctly attached to the engine/avoid placing hands between engine and vehicle body during lifting.*

A further example asking for safety precautions to be observed when changing engine oil requires answers such as *‘...allow the engine to cool before draining, change overalls immediately if they are splashed by the oil, ensure the oil container is correctly positioned before removing the drain plug, wipe up spillages immediately* and so on.

If notice is taken of this elementary point, it will result in a significant increase in marks on the majority of papers.

Precise answers

Candidates should be advised to generally avoid vague words such as ‘incorrect’ and ‘faulty’ in most cases when answering diagnostic questions because vague answers do not attract marks. See below for various examples where candidates are not providing precise answers.

Vague answers

Example 1

Question - *State one cause of a tapping noise from within a rocker cover.*

Common answer - *incorrect tappet clearance.*

However, an examiner will not know if the candidate means 'excessive, or 'insufficient' clearance.

Example 2

Question - *State one cause of a vehicle pulling to the nearside under braking.*

Common answer - *Faulty calliper or incorrect adjustment (on drum brakes)*

Which calliper is faulty (n/s or o/s?) and is it seized on or off? What is *incorrect* adjustment - over or under?

Examiners are not allowed to guess what a candidate means, answers must be specific and un-ambiguous.

Same answers – reworded

Example 1

Question - *State two causes of incorrect front wheel alignment*

Common answer - *i) worn upper ball joint*
 ii) worn lower ball joint

Example 2

Question - *State two causes of road wheel judder*

Common answers *i) Incorrectly balanced wheels*
 ii) weighs missing from wheel rim

Another example of ambiguous answers include ones when two answers say the same thing when the question requires two different examples. In the cases like the examples above, only one will count for marks.

Reversing the question as an answer

Example 1

Question - *State the meaning of the term closed loop control.*

Common answer - *A control system which works on a closed loop.*

Here answers must relate to the relationship between inputs and outputs to gain marks.

Example 2

Question - *State the purpose of a boost control unit.*

Common answer - *A component used for controlling boost pressure.*

The answer here must make reference to control of turbocharger pressure. In electrical diagnostic questions where circuit testing is involved, the majority of answers refer to *'using a multi-meter'* – but the scale required is rarely mentioned. Marks cannot be awarded unless the candidate stipulates the scale required by the description (volts/amps/ohms).

One of the most common type of answer to diagnostic questions is as follows –
'Connect it up-carry out the test- take the readings – compare with manufacturers figures'

This can apply to virtually all testing procedure on all systems with any equipment. Candidates must give the details required by the question, a typical example is *'Describe how a compression test can be used to check for cylinder bore wear'* Answers should relate to use of dry and wet tests together with a brief description of procedure, and ideally quote examples of typical pressures.

Report summary

As a final comment, candidates should be told of the importance of reading through their answer paper once they have finished all the questions and to ensure that each sub-section has been attempted and that they are satisfied their answers are as comprehensive they can make them.

If the above comments are emphasised to all candidates prior to taking the examination then it will undoubtedly result in a very considerable increase in marks and therefore the pass rate of the centres.