

**NCFE Level 1/2 Technical Award in Engineering (603/2963/4)****Assessment date: 17/03/2022****Paper number: P001396**

This report contains information in relation to the external assessment from the Chief Examiner, with an emphasis on the standard of learner work within this assessment window.

The aim is to highlight where learners perform well as well as any areas where further development may be required.

Key points:

- Grade Boundary Information
- administering the external assessment
- standard of learner work
- Regulations for the Conduct of External Assessment
- referencing of external assessment tasks
- evidence creation
- interpretation of the tasks and associated assessment criteria
- planning in the external assessment.

It is important to note that learners should not sit the external assessment until they have taken part in the relevant teaching of the full qualification content.

**Grade Boundary Information**

Each learner's external assessment paper is marked by an Examiner and awarded a raw mark. During the awarding process, a combination of statistical analysis and professional judgement is used to establish the raw marks that represent the minimum required standard to achieve each grade. These raw marks are outlined in the table below.

<b>NYA</b>	<b>Level 1 Pass</b>	<b>Level 1 Merit</b>	<b>Level 1 Distinction</b>	<b>Level 2 Pass</b>	<b>Level 2 Merit</b>	<b>Level 2 Distinction</b>
0	19	24	29	34	43	53

Grade boundaries represent the minimum raw mark required to achieve a certain grade. For example, if the grade boundary for the Pass grade is 25, a minimum raw mark of 25 is required to achieve a Pass.

<b>Maximum UMS Score*</b>	<b>Level 1 Pass</b>	<b>Level 1 Merit</b>	<b>Level 1 Distinction</b>	<b>Level 2 Pass</b>	<b>Level 2 Merit</b>	<b>Level 2 Distinction</b>
160	24	47	70	92	115	138

*\* In order to ensure that levels of achievement remain comparable for the same assessment across different assessment windows, all raw marks are converted to a points score based on a uniform mark scale (UMS). For more information about UMS and how it is used to determine overall qualification grades, please refer to the qualification specification.*

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## Administering the external assessment

The external assessment is invigilated and must be conducted in line with our Regulations for the Conduct of External Assessment. Learners may require additional pre-release material in order to complete the tasks within the paper. These must be provided to learners in line with our Regulations.

Learners must be given the resources to carry out the tasks and these are highlighted within the Qualification Specific Instructions Document (QSID).

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## Standard of learner work

The quality of learner work varied across the mark range from high level 2 responses to lower level 1 responses. The standard of learner responses was consistent in both low and mid-range questions demonstrating that they had a sound understanding of the specification for the course. The standard of learners being able to apply all assessment objectives varied across the paper. Some learners were strong in being able to 1-2 of the three assessment objectives but weaker in the third assessment objective. Centres should ensure that they focus equally on the teaching of all assessment objectives to their learners.

In this examination window it was good to see more learners attempting all questions within the paper rather than leaving them blank, which had been the case in previous examination windows. As learners return to more of a settled learning environment centres are more able to deliver and embed the teaching of the specification fully.

Excellent responses were presented from learners in several areas within the examination paper. In the extended writing questions, some learners demonstrated they had a good subject knowledge and were able to apply that knowledge to the question and formulate valid conclusions and opinions. Learners' knowledge of health and safety did help to develop strong and detailed responses from learners.

A sizeable number of learners in this examination window had not developed and applied examination skills. Some learners had not fully read and understood the questions within the paper and as a result lost marks as their responses were not in context addressing the questions. Learners who excelled in some of these questions used techniques such as under lining or highlighting key words to focus their thoughts and responses.

## Evidence creation

Learners should use the space provided to answer questions. Where answers are typed or additional pages included, the learners name, centre number, centre name and task number must be clearly visible. The additional paper must then be securely attached to the workbook.

## Regulations for the Conduct of External Assessment

### Malpractice

There was 1 instance of malpractice in this assessment window. The Chief Examiner would like to take this opportunity to advise learners that instances of malpractice (for example, copying of work from another learner will affect the outcome on the assessment.

### Maladministration

No instances of maladministration were reported in this assessment window. The Chief Examiner would like to highlight the importance of adhering to the Regulations for the Conduct of External Assessment document in this respect.

## Responses of the tasks within the sections of the external assessment paper

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### Question 1

A multiple-choice question which was well answered by learners.

### Question 2

Learners who focussed upon the key words of "employer responsibility" in this question did well identifying responsibilities such as training and risk assessments. Some learners did not focus on the key words and as a result did not pick up marks for this question.

### Question 3

A multiple-choice question which was well answered by learners.

### Question 4

Learners correctly identified a good range of hazards associated with solvents to remove paint from metal.

### Question 5a

In this question a small number of learners correctly identified that an accident book is the document that would be completed when an accident occurred in an engineering workshop. A number of learners did not correctly identify this document. Many learners were knowledgeable however in being able to identify the information that would be included in the document.

### Question 5b

A well answered question where learners identified who must complete the document and in what time scale it was completed in.

**Question 6a & 6b**

Multiple-choice questions which were well answered by learners.

**Question 6c**

Learners were knowledgeable in being able to identify two scales of measuring temperature.

**Question 6d**

This question was mixed in how it performed with learners. Some learners used the wrong scale factor and added too many zeros to their answers.

**Question 7**

Learner performance was mixed in this question. Many learners worked out their answer of power used in minutes and not seconds so were unable to gain full marks.

**Question 8**

A considerable number of learners responses did not address the focus of the question being "responsibility of employees" in an engineering workshop. Successful learners who focussed upon these keywords performed well. However, many learners still did not demonstrate all 3 assessment objectives. Centres need to ensure they are teaching the skill of formulating opinions and justifying them in these types of questions.

**Question 9**

Many learners did not achieve full marks on this question. Learners did not calculate the square root of the area to inform their answer. Many learners wrongly calculated the area of a right-angle triangle and added the two areas together not considering the placing of the shapes on the material and its dimensions.

**Question 10a**

A well answered question with learners correctly identifying the maximum and minimum dimension of the component.

**Question 10b**

Most learners were able to correctly describe the ratio 1:50 and achieved marks.

**Question 10c & 11**

Multiple-choice questions which were well answered by learners.

**Question 12**

A well answered question by learners. A range of responses were given including drawing features and information contained in the content box.

**Question 13**

Many learners struggled with this question as they confused heat conductivity with electrical conductivity. Learners were successful with this question when they identified that copper is a good heat conductor and that it transfers the heat from the water to the metal in the pipes and radiator heating the room.

**Question 14, 14b, 14c & 14d**

Multiple-choice questions which were well answered by learners.

**Question 15**

A number of learners did not fully read this question where they were asked to identify “one example” of where hand sanding should be used. Learners identifying a product or scenario attained marks here. Learner explanations however were quite detailed and were awarded marks.

**Question 16**

Learners approached this question well and identified several benefits of using cement within civil engineering. Some misconceptions of knowledge were identified including that it was cheap and had good environmental credentials. Again, learners struggled to demonstrate all three assessment objectives within this question, not fully demonstrating they can analyse and evaluate knowledge to draw opinions.

**Question 17**

A well answered question with a range of examples of environmental damage caused by extracting raw materials and ideas of how to reduce this type of damage.

**Question 18a**

Some learners managed to identify the correct type of material within the question however did not correctly identify accurate examples of how it could be used.

**Question 18b**

A well answered question identifying the correct type of metal and a good range of examples that are manufactured from cast iron.

**Question 19a**

A well answered question identifying the correct name of the tool and why it would be more suitable than using a larger version.

**Question 19b**

A number of learners correctly identified the name of the joining tool however identifying suitable products where it can be used was less successful by learners.

**Question 19c**

A well answered question identifying reasons why the joining tool would be used compared to other methods.

**Question 20**

Learners demonstrated good subject knowledge in their responses to this question. A range of control measures were identified, explained, and justified to reduce the risks from different hazards. This question was the most confidently answered demonstrating the three assessment objectives within their responses.

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Chief Examiner: Peter Groves

Date: May 2022