NCFE Level 1/2Technical Award in Engineering (603/2963/4)

Assessment date: 28/06/2022

Paper number: P002029

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 generally 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.

NYA	Level 1 Pass	Level 1 Merit	Level 1 Distinction	Level 2 Pass	Level 2 Merit	Level 2 Distinction
0-18	19	23	28	33	42	51

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.

Maximum UMS Score*	Level 1 Pass	Level 1 Merit	Level 1 Distinction	Level 2 Pass	Level 2 Merit	Level 2 Distinction
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.*

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).

Standard of learner work

The standard of learner work varied in this examination window demonstrating work of a high level 2 standard down to lower level 1 responses. Within the examination learners attempted the full range of questions within the paper to various levels of success. The more successful questions were those of lower-level responses and those that included multiple choice and recall questions. Learners were string in demonstrating the application of knowledge AO1 and AO2 however, learners again were less successful in developing responses to address A03 within their responses.

In this examination window learners were not as successful in the questions to address maths and science elements of the specification. It was evidenced by learners they could recall maths and science knowledge however were unable to apply this knowledge to a range of situations where they had to consider other factors and multiplications rather than basic taught knowledge.

The breadth of knowledge being demonstrated across the paper was more consistent reflecting a more settled period of teaching in the run up to the examination this time which benefitted exam preparation.

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 were no instances 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

Question 1 & 2
Multiple-choice questions which were answered well by learners.

Question 3
Learners correctly focussed on other groups of people who an employer may be responsible for, and correct answers were stated including visitors and delivery drivers.

Question 4a
A multiple-choice question that was answered well by most learners.

Question 4b
Learners correctly suggested at least one reason for choosing disposable overalls in this question, however some struggled to suggest a second reason.

Question 4c.
Learners who correctly identified the *key words of "protecting hands and arms" in this* question performed well. Some learners unfortunately identified PPE for different parts of the body so were unable to achieve marks for these responses.

Question 5a, 5b, 5c & 5d
Multiple-choice questions which were answered well by learners.

Question 6
In this question most learners correctly identified that the liquid in plunger A would transfer to plunger B lifting it via the link. One or two learners also extended their responses by noting that the cylinders were the same size, so the distance of travel was the same.

Question 7a
Many learners did not achieve full marks in this question as they did not convert the "400 mm" into metres before working through the formulae to correctly work out the answer in "Newton Metres".

Question 7b
A well answered question where learners accurately calculated the efficiency of the motorbike.

Question 7c
Many learners did not achieve full marks in this question as they did not convert the "0.6 km" into metres before applying the formulae to gain their answer.

Question 8
In this question a number of learners were able to correctly identify products which had electricity and magnetism in them for example electromagnets and speakers. A significant number of learners however listed the examples in the question but did not expand upon how the magnets and electricity was used within them limiting their responses. Learners who were able to explain how magnets and electricity were used in products gained higher marks as they were able to compare and contrast their knowledge and offer valid opinions.

Question 9
Many learners were able to identify a reason the wire may get hot e.g., "resistance in the wire" and the risks involved when the wire heats up.

Question 10a, 10b & 10c
Multiple-choice questions that were answered well by most learners.

Question 11
Learners were able to identify at least one property of a brick used within civil engineering. Responses focussed around "strength and hardness".

Question 12
Learners performed well in this question identifying advantages focusing on strength and weight benefits. Disadvantages were also identified focusing on cost and environmental impact and recycling. This meant that learners were able to offer their opinions in context that were relevant and gaining them higher level marks.

Question 13a
A well answered question where learners correctly identified and justified suitable marking out tools for a rectangle on sheet metal.

Question 13b
Learners were able to recall a range of tools that could cut 2mm thick mild steel. However, some learners incorrectly identified tools that would be used for cutting woods instead so did not achieve marks in this question.

Question 14a
Many learners struggled with this question due to the lack of knowledge of "Torx" screwheads. Some learners did correctly identify increased security and safety features of using them on products.

Question 14b
A well answered question by learners. Popular answers included goggles, visor, and safety shoes.

Question 15a
Some learners managed to correctly identify the ceramics to the description in this question.

Question 15b
Some learners managed to correctly identify the properties to the correct description.

Question 16
Most learners were able to correctly identify that Manual handling was the correct term relating to hazardous lifting. However, were less successful in stating the three rules that help reduce the risk of lifting heavy items.

Question 17
A well answered question where learners identified that the line on the drawing was a "visible" line.

Question 18
A well answered question correctly identifying that "software" engineering was the correct engineering discipline.

Question 19
Learners performed well in this question identifying two of the three types of hazardous substances "chemicals, fumes, dust".

Question 20
Many learners did not achieve full marks in this question as they did not convert their answer of 250 000 mm squared into metres squared before working through the formulae to correctly work out the answer in "Newton Metres squared".

Question 21
Learners were very knowledge in this question. They demonstrated good subject knowledge on types of training that should be completed for new employees and how this can benefit an engineering factory, employees and general reputation were some good examples stated by learners.

Chief Examiner: Peter Groves
Date: August 2022