

NCFE Level 1/2 Technical Award in Engineering (603/2963/4) Assessment window: Spring 2019

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

The aim is to highlight where learners generally performed well, as well as any areas where further development may be required, described against each assessment criteria.

Key points:

- administering the external assessment
- standard of learner work
- Regulations for the Conduct of External Assessment (Malpractice & Maladministration)
- 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 judgment is used to establish the raw marks that represent the minimum required standard to achieve each grade. The raw marks from the awarding meeting 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	20	27	34	42	51	60

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). Please see the notes regarding the instructions contained on the front of the examination paper.

Standard of learner work

Many learners left many of the extended response questions unanswered which doesn't then support the overall mark finally awarded. Learners should be encouraged by centres to place an answer against each question.

The mathematical elements of the exam paper were answered well on the whole, however, there were instances where learners had completed hand written calculations when calculators were permitted, as noted on the front of the assessment paper. Learners managed to correctly select and transpose appropriate formulae from the sheet provided.

Learners answered the multiple choice questions (MCQs) well with little discrimination and most learners attained marks for the more challenging MCQs. The majority of learners did not cover the analysis of dimensions from drawings very accurately and centres may need to provide some delivery on the interpretation of data from dimensioned drawings - this involves some basic addition and subtraction for which learners could have used a calculator. Again, there was evidence of long hand addition calculations undertaken by learners.

A basic understanding of engineering tools and equipment was answered well with learners able to name a tool and its uses. Health and safety questions were answered well with PPE selection a high scoring question demonstrating understanding of PPE selection for applied work activities.

The results from this first series have demonstrated that the paper performed well and that the marks received followed the predicted statistical norm.

Malpractice

There were no instances of any malpractice reported on this assessment window.

Centres are reminded of the policy documentation that is available from the NCFE website. Learners must work independently under supervised examination conditions during the assessment window. Learners must be reminded of the regulations during the start of the assessment tasks and the conduct expected during the examination. Reference to JCQ conditions is applicable.

Maladministration

There were no instances of maladministration 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 and the Qualification Specific Instructions for Delivery documents in this respect.

Referencing of external assessment tasks

Learners should use the answer booklet, using the space provided, to answer questions. Where answers are typed or additional pages included, the learners name must be clearly visible and it must be clear which task the answer refers to. Learners ID numbers must be clearly evidenced on all work along with the centre number in case any evidence becomes isolated

Evidence creation

Learners used the examination answer booklet. Learners need to be reminded that handwriting must be legible for an examiner to mark. If we cannot read it we cannot mark it. Learners should be encouraged to request additional sheets, if they feel they need additional space, which should contain their name and registration number and be attached to the main paper.

Learners with assisted support needs provided typed answers on separate sheets.

Responses to the Tasks within the Sections of the external assessment paper

Question 1

A lot of learners stated biomedical as an answer. This unfortunately is with regard to medical applications and not agriculture. Genetic Engineering would have been an acceptable additional answer.

Question 2

The majority of answers showed application of the concept of the aircraft in terms of drawing it onto the size of media stated and chose a correct scale for this application.

Question 3

Most learners understood that a two wheel pulley effectively halves a load.

Question 4

The application of COSHH was not understood in terms of what types of substances are covered by these regulations.

Question 5

Learners knew that eye protection is essential in preventing any swarf from entering the eyes along with an apron to prevent entrapment. Only one form of PPE had to be stated. One mark was given for identification of correct PPE and one mark for the explanation of its protection of the user.

Question 6

Learners described the washing machine in terms of efficiency, time, health, technological advances and lifestyle savings. Detailed explanations achieved higher mark bands but very few answers achieved full marks.

Question 7

Is a direct interpretation of the RIDDOR Regulations in terms of the title and was answered correctly overall.

Question 8

Learners clearly demonstrated that they understood the measurement of substances using SI units.

Question 9

Learners again clearly understood that the inch was an imperial unit of measurement.

Question 10

Learners provided a mixed response to this question with only some answers relating it to Formula 1 car technology, gaining maximum marks.

Question 11

The learner's interpretation of the stem within the question and the selection of the correct formula was key to gaining full marks. Transposition resulted in calculations errors, which should be taught by examples. Many learners used simple calculations by hand without using calculators, despite the assessment paper stating that the use of calculators was permitted.

Question 12

The application of the correct formula was undertaken by many learners, however, computational errors did result in loss of marks.

Question 13

Higher scoring answers for this question were supported by examples, which many learners provided. The consequences of incorrect scales were explained well by many learners.

Question 14

There was evidence that many learners did not understand line types and need to be taught and applied within the learner's technical drawings to gain a good understanding.

Question 15

Most learners correctly identified yards as being an Imperial measurement, but many attributed it to the metric system.

Question 16

Learners correctly gave 1st or 3rd angle projection as their answer. This method of application of the symbol to a drawing needs to be taught and applied.

Question 17

It was clear from a lot of answers that learners need to practice the skills required in interpretation of the drawings dimensions in producing overall dimensions of length, width and depth.

Question 18

Tolerance needed to be explained in terms of production and how this relates from the design stage into a finished product. Most learners used examples of tolerance the consequences of high and low applications.

Question 19

BS888 was correctly explained on the whole as a universal BSI standard for engineering drawings.

Question 20

The majority of learners applied their understanding of chemical properties to obtain the correct answer.

Question 21

Learners were required to state a mechanical property with an explanation. Learners concentrated on the type of materials and construction but not the inherent properties that make it functional. Many learners incorrectly answered 'air'.

Question 22

Correct answers described aesthetic characteristic and not functionality. Many learners incorrectly named 'artificial limbs'.

Question 23

Most answers correctly applied an engineering sector to smartphone technology.

Question 24

Most learners correctly described a fossil fuel and how its use impacts on the environment via the application of acrylic plastic.

Question 25

The two types of plastic were described in detail by most learners, with examples of both used to demonstrate their properties. Learners could have achieved higher marks with a clear contrast between the two in terms of key differences.

Question 26

Most learners correctly named the tool and how it is was used but less could explain how it improves drilling applications.

Question 27

The majority of learners named at least one tool that can be used for marking out on the specific application of a flat bar.

Question 28

The vast majority of learners correctly identified one filing method, with around half of the learners identifying both methods.

Question 29

This proved to be a less accessible question as many learners identified a wide range of answers.

Question 30

Few learners managed to identify each screw type head.

Question 31

Most learners correctly identified mechanical fastenings with a fairly narrow scope of answers.

Question 32

Learners confused their answers by often referring to measurements e.g. mm, cm, etc. instead of control measures with regard to health and safety.

Question 33

The majority of learners answered incorrectly and showed a lack of industry knowledge with answers provided.

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