

# Chief Examiner's Report

**T Level Technical Qualification  
in Health (Level 3) (603/7066/X)**

**Autumn 2023 – core A and B**

## Chief examiner's report

### Autumn 2023 – core A and B

Assessment dates: core A 07 December 2023

core B 14 December 2023

Paper number: P002370

P002371

This report contains information in relation to the externally assessed core sub-component provided by the chief examiner, with an emphasis on the standard of student work within this assessment.

The report is written for providers, with the aim of highlighting how students have performed generally as well as any areas where further development or guidance may be required, to support preparation for future opportunities.

#### Key points:

- grade boundaries
- standard of student work
- responses to the external assessment questions
- administering the external assessment

It is important to note that students should not sit the core exam until they have received the relevant teaching of the qualification in relation to this sub-component, and that both papers must be taken in any given series that a student sits the core exam.

## Grade boundaries

Raw mark grade boundaries for the series are:

	Overall	Notional Boundaries	
		Paper A P002370	Paper B P002371
<b>Max</b>	234	116	118
<b>A*</b>	176	91	84
<b>A</b>	154	82	72
<b>B</b>	132	70	61
<b>C</b>	110	58	51
<b>D</b>	88	46	41
<b>E</b>	66	35	31

Grade boundaries are the lowest mark with which a grade is achieved.

Students receive a grade for the core exam sub-component as whole, and although there are no official grades for the individual assessments in the core exam, it can be useful for students and teachers to see how the core exam grade was achieved. The grade boundaries given for each assessment are known as 'notional grade boundaries', as they are for illustrative purposes only. For further information on notional grade boundaries, please see our guide T Levels: Notional boundaries for the core exam assessments available on the qualification page of our NCFE website.

For further detail on how raw marks are converted to uniform marks (UMS), and the aggregation of the core component, please see refer to the Qualification Specification.

## Standard of student work

In this series, the cohort of students were resitting this exam. They had more time to prepare and the quality of work that emanated was generally of a good standard showing their good knowledge and understanding in both core A and B.

The paper remained the same as in previous series/years in making the students think outside of the box and presented equal opportunities for all types of students to apply knowledge and understanding of contexts, concepts and principles in healthcare to different situations. It gave opportunity to exemplar students to analyse and evaluate information presented to make informed judgement, draw conclusions and address individual need not forgetting the other students.

There were patterns where students did not consider what the question asked for and got side tracked, which resulted in them getting fewer marks. This mostly applied to extended-response questions. This series like previous ones, saw a range of achievements and challenges with the assessments which impacted on

their marks. The challenges they came across were the interpretation of graphs and tables. They tend to say what the question asked by rephrasing instead of interpreting the graph or data the way the question asked.

## Responses to the external assessment questions

### Core Paper A

#### Section A: working in healthcare sector

This section was well answered. There was confusion in some of the answers and this could be due to not understanding the question.

Q1. Most students answered correctly. Many suggested that private healthcare was funded by the Govt. Only a few mentioned that NHS can also fund private healthcare providers (due to extended waiting times in the NHS).

Q2. A good response where the students talked about why performance review should take place and how it can help both the employee and the employer.

Q3. This question was not answered well. The students started off well but mixed the roles of a dentist and a dental nurse. Some students mentioned the dentist would have a higher qualification than a dental nurse. However, many students also mentioned that a dental nurse would carry out dental procedures instead of the dentist.

Q4 (a). Multidisciplinary team definition was answered accurately.

Q4 (b). In this question, students were able to identify primary care (GP) and secondary care (hospitals) showing their understanding of the care system.

Q5. Many students identified internal factors such as staff shortages, lack of equipment, people travelling from rural areas etc. Most of them were unable to relate to epidemic/pandemic outbreaks, geographical events such as earthquakes and infrastructure that could impact the activities of the healthcare sector.

Q6. This question was well understood as the students were able to associate this scenario with their own experience or of someone within their family or friend circle.

Q7. The importance of following the medical safety policy was less understood and students digressed into safe administration of medication instead of the recall of the faulty caps on the needles. Those that did understand answered it well, considering the consequences of not following a recall for themselves, the patients and the organisation as a whole.

Q8. This question was about infection control and the students were able to answer well and gain more marks.

#### Section B: managing personal information and data in healthcare sector

Q9. Identification of one strength and one weakness was poorly understood by the students. They tended to paraphrase the question in their answer showing their lack of knowledge about this scenario. They mentioned that the hospital would be able to investigate whether the medication has worked or not. Their response not directed to for example, lack of larger sampling, which would invalidate the data etc.

Q10. Majority of the students knew about the use of social media and posting sensitive information, but many students just mentioned that the restrictions were breach but not in what way.

Q11. General Data Protection Act (GDPR) were mentioned in their answer. However, many went off on a tangent to say how to store, who should have access to them rather than why Jeff's data should be stored.

Q12. Importance of accuracy, attention to detail and legibility of the care plan was well answered and students were able to gain most marks available.

Q13. Ashley's role in relation to record keeping and audits seemed to prove a bit challenging. Majority talked about what Data Protection Act or GDPR demands us to do in relation to data keeping but did not extend it to Ashley's role and the audit. Many lost focus on this answer.

### **Section C: health and safety in healthcare sector**

Q15. Majority of the students defined sterilisation and performing deep clean to sterilise equipment. They failed to say what the definition of it was. In the second part, majority mentioned that sterilisation can be achieved by wiping equipment or surfaces with wipes. This is a disinfection and not sterilisation. Only a few mentioned chemical, UV, autoclaving, and higher temperatures. Many mentioned boiling water. This can be achieved to an extent, but we need higher temperature than 100 °C to ensure its performed to the required standard.

Q16. A good general knowledge question and the response matched accordingly in the answers from the students.

Q17. Manual handling question was well answered and the students were able to apply their knowledge and understanding well.

Q18. An extended-response question carrying a total of 12 marks. Majority of the students were able to gain a large number of marks here showing their good understanding of the subject.

### **Section D: person-centred care in healthcare sector**

Q19. Correct definition of signposting was only given by a few.

Q20. All the students were able to identify vulnerable groups thus gaining full marks.

Q21. End of life care was well attempted answer and majority were able to link the question to someone in their walk of life and give an appropriate response.

Q22. A good range of answers were given for this question including the nicotine patches and vaping as alternatives.

Q23. The students answered this question by saying how personal health could deteriorate. A few mentioned addiction and very few mentioned the effect of operating machinery while under the influence of alcohol and its consequences.

Q24. The role of the Nursing and Midwifery Council (NMC) was poorly understood. The students seem to know less about the organisations and importance should be placed on students being able to recognise their roles and how they can support their members.

Q25. Potential signs of abuse were well identified in their answers. A good attempt to gain possible six marks.

Q26. This question scored the best achievement of marks. The students were able to link their experiences well.

## **Core Paper B**

### **Section A: biology**

Q1. Mostly answered correctly, some mentioned antigen.

Q2 (a) (i). Majority answered correctly identifying two heart beats.

Q2 (a) (ii). Many failed to identify time scale.

Q2 (b). Majority of the students mentioned the heart beats would increase but did not link it to the electrocardiogram (ECG), for example it would increase in given time and why it would do so.

Q3 (a). Trachea was wrongly labelled by many as oesophagus. Bronchi or bronchioles were wrongly labelled as alveoli.

Q3 (b). The students understood the term paralysis well, but they got the functions of intercostal muscles and diaphragm wrong. Their explanation of the roles and functions was poorly understood.

Q4. Majority got the answer correct.

Q5. Students digressed here in their answer. They tend to say how to stop a bleed by applying pressure to the wound but failed to recognise that the trauma could cause an internal bleed. A few mentioned the merit of a sterile saline solution and mentioned that it would bring the BP back up until arrival at the hospital for further investigations.

Q6. Many students identified trauma as the consequence of a major surgery and gave correct answers. A few students went further to say that the age, prior health conditions, infections etc. could have an impact on physiological measurements. Without the knowledge of the patients' 'normal measurements' one cannot agree with the student nurse's conclusion.

Q7. Two forms of glucose, D and L was poorly understood by the students. Majority mentioned that since L-glucose was produced in the lab, it would be very expensive to use as an artificial sweetener, not considering its rate of absorption and the inability of the body to metabolise for energy. Many students interpreted the graph but didn't associate it with type 2 diabetes and missed an opportunity to gain valuable marks.

### **Section B: chemistry**

Q8. Malleable was answered instead of ductile by many.

Q9. Many gave salt and hydrogen as the answer instead of salt and water.

Q10 (a). Students were asked to compare the hydrogen ion concentration. They failed to relate it to pH difference where pH difference of 1 =  $\times 10$  hydrogen ion concentration, for example, hydrogen ion concentration is 1000 times higher in ibuprofen than paracetamol.

Q10 (b). Majority of the students identified that solvent B separated more components than solvent A but very few mentioned in terms of polarity.

Q11. Students were able to include their own reasoning in their answers but did not relate, for example, visits to the dentist and get replacement.

Q12. This question challenged a few students. Majority of the students were able to interpret the data and say that the use of a catalyst improves the yield but did not relate it to the collision theory. They also failed to recognise that this was a one off experiment and there could be anomalies and thus better to repeat to ensure the results are valid.

### **Section C: physics**

Q13. Many students gave direct current as the answer but, majority were able to give 230V as the correct answer.

Q14. Only some students were able to gain one mark on this. Some mentioned count rate as emission of radiation. Those that mentioned the decay of the isotope did not mention time scale.

Q15. This question was well attempted with some good reasoning.

Q16. The students were able to substitute the figures in the equation but gave wrong calculated answer.

Q17. A good attempt by the students here. Many were able to identify the age difference, and skin type of the subjects, however, they did not mention that this experiment was only carried out once and not on face. Those that did answer were able to elaborate and get full marks.

Q18. Some good reasoning of radioisotopes but some students got mixed up between the properties of, for example, alpha and gamma radiation. Some were able to recognise that if beta or alpha radiation was in the body, it's not necessarily the half-life that causes the damage, it's also the ionising and penetration power. Since alpha and beta are highly ionising than gamma, combined with the long half-life, this would lead to more damage to the healthy cells. If gamma had the same half-life, it still wouldn't cause as much damage as alpha and beta as it can exit the body due to its high penetrating power.

#### **Section D: biology, physics and chemistry**

Q19. Many mentioned MRI to be the best source of imaging, however, those who did realise that this option was limited as there was a plate inserted in the pelvis, and whether the type of plate inserted could be used in MRI was not explained. Many explained what the merits of X Rays and ultrasound imaging was but not realising that X Ray could damage the sperm cells as the subject was only 20 years old.

Q20. Like Q18, the students got confused with the penetration powers of the three types of radiation. Some students mentioned that if alpha and/or beta rays were used, they could alter the composition of the medical products due to both, their higher ionising power and their long half-life, while gamma, would cause less alteration due to its high penetration power as it would be able to exit the product.

#### **Administering the external assessment**

The external assessment is invigilated and must be conducted in line with our [Regulations for the Conduct of External Assessment](#).

Students must be given the resources to complete the assessment, and these are highlighted within the [Qualification Specific Instructions Document](#) (QSID).