

T Level Technical Qualification in Healthcare Science (603/7083/X)

Core knowledge and understanding

Paper A Elements 1–10

Paper number: Sample

Specimen 2021

morning/afternoon

Time allowed: 2 hours and 30 minutes

Student instructions

- Use black or blue ink.
- Fill in the boxes at the bottom of this page.
- Answer **all** questions.
- Read each question carefully.
- You **must** write your responses in the spaces provided. There may be more space than you need.
- You may do rough work in this answer book. Cross through any work you do not wish to be marked.

Student information

- The marks available for each question are shown in brackets. This is to help you decide how long to spend on each question.
- The maximum mark for this paper is 122 including QWC.
- In questions 6, 13, 17 and 21, you will be assessed on your quality of written communication (QWC) and use of specialist terminology.
- You may use a calculator.

Please complete the details below clearly and in BLOCK CAPITALS.

Student name _____

Provider name _____

Student number

Provider number

To be completed by the Examiner			
Question	Mark	Question	Mark
1(a)		10	
1(b)		11	
2(a)		12(a)	
2(b)		12(b)	
3(a)		12(c)	
3(b)		13	
4		14	
5(a)		15(a)	
5(b)		15(b)	
6		16	
7(a)		17	
7(b)		18	
8(a)		19	
8(b)		20	
9		21	
		TOTAL MARK	

Do not turn over until the Invigilator tells you to do so

BARCODE - TQ/HCS/CKU/PAPERA

Section A: The roles and responsibilities within healthcare science

This section is worth 34 marks, plus 3 marks for QWC and use of specialist terminology.

Answer **all** questions in the spaces provided.

1(a) State the **main** method of funding for:

- private health care organisations
- public healthcare organisations.

[2 marks]

1(b) Give **one** reason why waiting times for routine operations in private hospitals are usually shorter than in NHS hospitals.

[1 mark]

2(a)

A Manager tells a Technician in a hospital laboratory to perform a task which requires the skills of a fully trained Clinical Scientist.

The Technician tells their manager that they do not feel comfortable undertaking the task as they have not had the required training.

The manager states that they must complete the task, but the Technician refuses.

The technician raises a grievance procedure against the manager.

In this scenario, explain why the Technician is justified in raising a grievance procedure against the Manager.

[2 marks]

2(b)

Evaluate the potential impact for the Technician and the organisation if this grievance was upheld.

Your response should demonstrate reasoned judgements and/or conclusions.

[3 marks]

3(a)

An elderly patient with progressive and severe mental impairment has a chronically ulcerated foot, causing considerable pain. The ulcers are not treatable and are spreading.

Their consultant is considering amputation of the foot.

Define the terms 'beneficence' and 'nonmaleficence'.

Explain how they can be applied here.

[4 marks]

3(b)

Identify the appropriate type of power of attorney that may be needed in this situation.

[1 mark]

4

A Healthcare Science Assistant spends one day per week working in five different departments.

Give **four** examples of how this continuing professional development (CPD) could benefit them in their career.

[4 marks]

[2 marks]

[6 marks]

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6 An elderly woman who lives alone is admitted onto a hospital ward after being brought to the hospital in an ambulance. She is clearly unwell, in an agitated state, and her condition appears to be worsening.

The ambulance staff:

- brief the ward staff on the reasons for the 999 call and the observations and initial treatment prior to arriving at A&E
- inform the ward staff that English appears to be her second language and that her vocabulary appears to be limited
- inform the ward staff that she has two hearing aids but is refusing to wear them
- inform the ward staff that she appears to be confused.

The ward staff commence treatment based on the information they have received from the ambulance staff, from their own observations and on her medical records.

It is important to gain informed consent before commencing treatment with a patient.

Discuss the issue of gaining informed consent by the ward staff in this scenario.

Your response should include references to gaining informed consent and make reasoned judgements/conclusions.

[9 marks, plus 3 marks for QWC]

Please turn over for the next section.

Section B: Personal and patient safety

This section is worth 34 marks, plus 3 marks for QWC and use of specialist terminology.

Answer **all** questions in the spaces provided.

7(a) State **one** purpose of the Health and Safety at Work etc Act 1974.

[1 mark]

7(b) Outline **two** of the requirements an employee is expected to follow within the Health and Safety at Work etc Act 1974.

[2 marks]

8(a) A patient in a radiography department trips and falls over a loose wire located in a busy walkway.

They are examined by a Doctor and no injury is found.

Explain why this should be reported using Reporting of Injuries, Diseases and Dangerous Occurrences Regulation/RIDDOR 2013.

[1 mark]

A review of the incident suggested the following possible strategies to prevent the incident happening again.

- Assess the benefits and limitations of these strategies.

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- 9** An Optical Technician's job role involves spending three hours each morning inputting prescription details into a computer system.
- The computer screen is small, and its brightness is turned up as it is in direct sunlight.
- The Technician complains of eyestrain and headaches.
- Identify the regulation applicable to these circumstances and explain **three** ways an employer could meet its requirements.

[4 marks]

- 10** A member of staff gets a minor cut whilst using a blunt instrument in the workplace.
- They cannot locate a first aider and the first aid kit does **not** contain any suitable dressings.
- Identify which regulation applies to this scenario and explain why in this scenario the employer is in breach of this regulation.

[3 marks]

11

Whilst unpacking a delivery of over the counter medication you notice that the dosage information on the outside of the pack on the new stock is different to that on the existing stock.

Identify which regulatory body should be alerted and explain why.

[2 marks]

12(a)

A Domestic Assistant cleans a number of day clinics each evening. As they are cleaning a wound clinic, they notice a small amount of fluid on the floor.

The clinic treats patients with chronic wounds which are often infected.

Explain why cleaning up the fluid poses a risk to the Domestic Assistant.

[2 marks]

The Domestic Assistant cleans up the fluid in the following way:

- they wear disposable gloves
- they wear a non-surgical mask
- they use an absorbent wipe to clean up the fluid
- they then clean the area with an antiseptic wipe
- they place both wipes into waste for incineration bin.

Evaluate the cleaning method they used in this scenario.

Your response should include reasoned judgements/conclusions.

[4 marks]

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12(c)

Explain why the wipes used to clean up the spill must be disposed of by incineration.

[2 marks]

Please turn over for the next question.

The following items are examples of multiple-use products:

- The **three** main methods of decontamination are:

- To prevent MRSA infection, a Hospital Manager makes the decision that all multiple-use products should be sterilised.

Evaluate this decision in relation to these products.

Your response should include a demonstration of your understanding of the **three** main methods of decontamination and reasoned judgements/conclusions.

[9 marks, plus 3 marks for QWC]

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This section is worth 21 marks, plus 3 marks for QWC and use of specialist terminology.
Answer **all** questions in the spaces provided.

Explain **four** advantages of maintaining secure data management within the department.

[4 marks]

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15(a)

A twelve year old girl is brought into A&E with a suspected fracture of her arm. The examining Doctor notices:

- she has bruises resembling finger marks on her upper arms
- she has numerous healed parallel scratches on her lower arms
- she is quiet and withdrawn
- her medical records show she has been brought into A&E several times before.

Give **two** reasons why the Doctor would be justified in sharing these details with other agencies.

[2 marks]

15(b)

In the scenario described above, give **one** advantage and **one** risk of using IT systems to record, retrieve and store information and data.

[2 marks]

A data breach has occurred where patient information has been wrongly shared from an online database.

The organisation that runs the database states that this must have been maliciously shared by a staff member as all IT based systems are password protected.

Evaluate this statement and provide reasoned justifications for whether this could be either true or false.

[4 marks]

1. **Introduction**
 2. **Background**
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 4. **Results**
 5. **Conclusion**
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The senior management of a private hospital trust were debating the role of social media in the future of the trust.

Evaluate the Chief Executive's statement.

- consideration of social media influences
- reasoned judgments and/or conclusions about the statement.

[9 marks, plus 3 marks for QWC]

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Section D: Regulatory and professional frameworks

This section is worth 21 marks, plus 3 marks for QWC and use of specialist terminology.

Answer all questions in the spaces provided.

18

A new hospital cytopathology laboratory is being developed. The laboratory will examine samples from patients with potentially infectious diseases.

The Director of the laboratory states:

‘Standard Operating Procedures must be developed and followed for all procedures used in the laboratories activities.’

Define the term ‘Standard Operating Procedure’ (SOP) and evaluate the importance of SOPs in this setting.

Your response should demonstrate reasoned judgements and/or conclusions.

[4 marks]

19

Identify **two** reasons for effective stock management.

For each reason explain the impact of poor stock management in a healthcare science lab.

[4 marks]

20

You are measuring out small amounts of a catalyst. The electronic scales are undermeasuring and you cannot recalibrate them.

Describe and justify **two** procedures to follow in this scenario.

[4 marks]**21**

A pharmaceutical company produces a variety of drugs for the treatment of a variety of conditions.

Discuss the importance of the company following Good Manufacturing Practice (GMP) in their production.

Your response should include reasoned judgements/conclusions.

[9 marks, plus 3 marks for QWC]

SAMPLE

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Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Post approval, updated for publication.		January 2021
v1.1	NCFE rebrand.		September 2021
v1.2	Content changes, ODSR_HS_090	June 2022	June 2022
v1.3	Sample added as a watermark	November 2023	20 November 2023