

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

Paper A Elements 1–10

Paper number: **P001957**Time allowed: **2 hours 30 minutes**Assessment date: **Wednesday 14 June 2023**Time: **9:00am – 11:30am****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, 12, 17** and **21**, you will be assessed on the quality of your written communication (QWC) and use of specialist terminology.
- You may use a calculator.

**Do not turn over until the invigilator tells you to do so.****Please complete / check your details below**

Student Name:

Provider Name:

Student Number:

Provider Number:



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P001957



**Section A: The roles and responsibilities within healthcare science**

This section is worth 34 marks, plus 3 marks for quality of written communication (QWC) and use of specialist terminology.

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

- 1(a)** Identify **two** items that should be included in employment contracts.

[2 marks]

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Raj works at the hospital as a healthcare science assistant. The manager of the department decided that Raj did not need to have a performance review this year as their performance had been satisfactory and the manager had no further comments to make.

- (b)** Explain **two** reasons why it is important for Raj to receive a full performance review, as opposed to the approach above.

[4 marks]

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**2** The manager of the research team within a pharmaceutical company is delivering CPD on their organisation's professional codes of conduct.

**(a)** Identify **two** items which should be outlined in professional codes of conduct.

**[2 marks]**

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**(b)** Explain **two** ways codes of conduct promote the confidence of stakeholders in the pharmaceutical company.

**[4 marks]**

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- 3** A new, private reconstructive prosthetics company has established itself in the repair and maintenance of artificial eyes. The company is considering expanding its services.

**(a)** Identify **two** further purposes of prosthetic services.

**[2 marks]**

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**(b)** Discuss the impact of a prosthetic service meeting **one** of these purposes.

Your answer must include informed judgements.

**[3 marks]**

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- 4 Seb has recently got a job as an optical assistant. Seb is required to complete a Disclosure and Barring Service (DBS) check before the employer can give a start date.

Explain **one** reason why Seb must receive the DBS check prior to starting the position as an optical assistant.

[2 marks]

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Please turn over for the next question.



**5** A job advert states:

“Applicants must have at least 10 years’ postgraduate experience in a relevant field. Any breaks in experience must be for no longer than 6 months at any one time.”

With reference to discrimination, assess whether this job advert meets the requirements of the Equality Act 2010.

Your response should include reasoned judgements.

**[6 marks]**

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- 6 Li is a patient who was deemed to have capacity and was on the hospital waiting list for an operation. Li gave consent to a clinician 6 months prior to the medical procedure taking place.

After the procedure was completed, the clinician gave Li an information leaflet listing the potential side effects. There was no specific discussion of side effects prior to Li undergoing the operation.

After the procedure, Li developed unpleasant side effects and stated that they would rather not have undergone the procedure had they been informed it was possible to refuse it.

Assess to what extent the principles of consent were conformed to in this scenario and any possible consequences of the actions taken.

**[9 marks, plus 3 marks for QWC]**

Best Paper





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**Section B: Personal and patient safety**

This section is worth 34 marks, plus 3 marks for quality of written communication (QWC) and use of specialist terminology.

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

- 7(a)** Outline **step 5** of the Health and Safety Executive's 5 steps to risk assessment.

[1 mark]

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**Table 1** is a clinical department's completed annual risk assessment of a piece of medical equipment. It has been completed early due to concerns over increased breakages and subsequent injuries.

- (b)** Explain how **one** potential control measure shown in **Table 1's** risk assessment will benefit the clinical department.

**Table 1:**

<b>Types of hazards:</b>	Mechanical, electrical, misdiagnosis
<b>Control measures implemented:</b>	<ul style="list-style-type: none"><li>• The equipment can only be accessed and used by trained staff</li><li>• The equipment is subject to annual mechanical and electrical safety tests</li><li>• The equipment is subject to annual calibration and quality control tests.</li></ul>

[2 marks]

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- [6 marks]**

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- 8 Outline the purpose of the Health and Safety (Display Screen Equipment) Regulations 1992.

[2 marks]

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- 9 A hospital ward caring for clinically vulnerable patients is reviewing its techniques for infection control.

The 'nothing below the elbow' technique and use of appropriate PPE are both techniques used by staff working on the ward.

Evaluate the effectiveness of these techniques for the prevention and control of infection in the hospital ward.

[3 marks]

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- 10(a)** Identify the **three** requirements of the Health and Safety (First Aid) Regulations 1981 for a business to ensure that employees receive immediate attention if they are injured or taken ill at work.

**[3 marks]**

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- (b)** For **two** of the requirements you have identified above, explain how **each** would help ensure the organisation complies with the requirements of the Health and Safety (First Aid) Regulations 1981.

**[4 marks]**

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11

Undetected spillages can pose a number of risks.

Explain **two** risks posed by an undetected blood sample spillage on the floor of a hospital corridor.

[4 marks]

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- 12** In a hospital, a clinical laboratory that analyses various fluid samples for the presence of pathogens, is reviewing the types of products it uses.

A healthcare science associate suggests replacing single-use aprons with multiple-use aprons as the sterilisation techniques used in the laboratory could be applied to the multiple-use aprons.

Evaluate the suggestion. Ensure you consider:

- the advantages and disadvantages of single-use and multiple-use products
- the principles of a range of sterilisation techniques.

**[9 marks, plus 3 marks for QWC]**

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**Section C: Data handling and confidentiality**

This section is worth 21 marks, plus 3 marks for quality of written communication (QWC) and use of specialist terminology.

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

- 13(a)** Identify the regulation that provides a set of principles with which any individual or organisation processing sensitive data must comply.

[1 mark]

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- (b)** A transport-service representative wishing to start a pharmaceutical delivery service asks the central pharmacy for a list of patient names and contact details who have received repeat prescriptions. The representative wishes to advertise delivery services to relevant patients and states that it is in the interests of the patients to supply this data.

Explain **one** way the Data Protection Act 2018 would apply in the situation mentioned above.

[2 marks]

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- 14** Safia is completing a patient data management audit in the local Ophthalmic department. She checks that all draws containing sensitive information are kept locked when not in use.

Explain **two** other aspects of the audit Safia should examine to ensure compliance with legislation and regulations.

**[4 marks]**

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- 15** A biomedical scientist has completed a research project. They are delivering a presentation to share the research findings and some learned good-practice recommendations with their team. They have chosen to deliver their presentation in-person to their colleagues.

Justify the biomedical scientist's choice of using a presentation to deliver the data gathered and if it was the most appropriate choice.

**[3 marks]**

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- 16** A patient is receiving treatment for a physical condition. A healthcare professional believes that a nutritional supplement may aid their recovery.

However, following a discussion with the healthcare professional, the patient refuses the supplement. The healthcare professional considers informing the next of kin of the situation, to seek their approval to covertly administer the medication.

Explain how the limits of confidentiality apply to the healthcare professional approaching the next of kin.

**[2 marks]**

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**17** A radiology department regularly performs diagnostic tests on patients.

The following process is followed for each patient:

- a paper referral form is completed which documents their identification details, requested diagnostic test and reasons for referral
- the forms are kept in an office until the patient arrives
- a practitioner checks the details of the referral form with the patient prior to performing the test, to ensure the correct diagnostic test is carried out
- at the end of the appointment, the referral form is returned to the office.

The departmental manager is preparing to replace this process with an IT-based database solution.

Discuss the advantages and risks of an IT-based system and the security measures that would have to be implemented in order to protect the above data.

Your response should include reasoned judgements.

**[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 quality of written communication (QWC) and use of specialist terminology.

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

- 18** Identify **one** of the domains of good scientific practice (GSP). **[1 mark]**

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- 19** New staff in a clinical laboratory working with tissue samples are given inductions on the standard operating procedures (SOPs).

- (a)** Explain **one** way in which staff induction plays a role in implementation of SOPs. **[2 marks]**

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The clinical laboratory stores its standard operating procedures (SOPs) electronically, but a staff member has printed copies to keep in their desk drawer for ease of access.

- (b)** Explain **one** way in which this presents a risk to the implementation of relevant SOPs. **[2 marks]**

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- 20(a)** State **one** action that would escalate concerns if equipment is not correctly calibrated or is unsuitable for intended use.

**[1 mark]**

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Mia is carrying out an inventory of the medical equipment in a hospital storeroom. In doing so, they notice some minor damage to an automatic blood pressure monitor. On closer inspection, they see some loose wiring which makes the device electrically unsafe.

Mia makes a note of the device's serial number. They then leave to go home for the day. Mia plans to inform the manager of their finding and complete an error report tomorrow morning.

- (b)** Evaluate to what extent Mia escalated their concerns about the medical device appropriately and the possible impact of their actions.

**[6 marks]**

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- 21** A healthcare science department provides equipment calibration and quality testing services. The department has many experienced and well-trained staff who communicate updates and new procedures through informal meetings and group emails.

A new member of staff proposes that:

- there should be more formal documentation of calibration methods through standard operating procedures (SOPs)
- there should be implementation of quality management processes that formalise updates to these standard operating procedures.

Justify the implementation of the new staff member's proposal.

**[9 marks, plus 3 for QWC]**

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Owner: Head of Assessment Design

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

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