



# T Level Technical Qualification in Healthcare Science

Occupational specialism assessment (OSA)

## Assisting with Healthcare Science

Assignment 4

Mark scheme

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## About this document

This mark scheme has been written by the assessment writer and refined, alongside the relevant questions, by a panel of subject experts through the external assessment writing process and at standardisation meetings.

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a student
- information on how individual marks are to be awarded
- the allocated performance outcomes and total marks for each question

## Marking guidelines

The mark scheme for the extended-response assignment comprises of marking grids and indicative content.

The following marking grids should be used to assess students and award marks for their skills and underpinning knowledge. The indicative content included is for the extended-response assignment set for the summer 2023 series only.

To understand what is required to be awarded marks, students should have already been provided with a copy of the marking grids. The marking grids can be found within this document for each task.

## General guidelines

You must apply the following marking guidelines to all marking undertaken throughout the extended-response assessment. This is to ensure fairness to all students, who must receive the same treatment. You must mark the first student in exactly the same way as you mark the last.

The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.

Reward students positively giving credit for what content they have – shown within their extended response – rather than what they might have omitted.

Utilise the whole mark range and always award full marks when the response merits them.

Be prepared to award 0 marks if the student's response has no creditworthy material.

Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.

If you are in any doubt about the application of the mark scheme, you must consult with your team leader or the chief examiner.

## Guidelines for using extended-response marking grids

Extended-response marking grids have been designed to award a student's response holistically and should follow a best-fit approach. The grids are broken down into levels, with each level having an associated descriptor indicating the performance at that level. You should determine the level before determining the mark.

When determining a level, you should use a bottom-up approach. If the response meets all the descriptors in the lowest level, you should move to the next one, and so on, until the response matches the level descriptor. Remember to look at the overall quality of the response and reward students positively, rather than focussing on small omissions. If the response covers aspects at different levels, you should use a best-fit approach at this stage and use the available marks within the level to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors. You must also consider the relative weightings of the assessment objectives, so as not to over/under credit a response. Standardisation materials, marked by the chief examiner, will help you with determining a mark. You will be able to use exemplar student responses to compare to live responses, to decide if it is the same, better or worse.

You are reminded that the indicative content provided under the marking grid is there as a guide, and therefore you must credit any other suitable responses a student may produce. It is not a requirement either, that students must cover all the indicative content to be awarded full marks.

## Indicative content

Indicative content has been provided as a guide to help assessors understand what should be expected in a student's performance to allow for a marking judgement to be made. Assessors are reminded that indicative content is not an exhaustive list but aims to cover the main elements expected to be observed.

## Extended written assessment

This assessment requires students to complete the following tasks:

- extended written task 1: maintenance of complex medical equipment
- extended written task 2: testing equipment calibration
- extended written task 3: escalation of issues related to equipment
- extended written task 4: research and innovation

	Extended written task 1	Extended written task 2	Extended written task 3	Extended written task 4	Total marks	% weightings
Performance outcome 1	20	8	16	6	50	62.5%
Performance outcome 2	0	4	4	0	8	10%
Performance outcome 3	0	8	0	14	22	27.5%
<b>Totals</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>80</b>	<b>100%</b>

**Total duration:** 2 hours

# Extended written task 1: maintenance of complex medical equipment

## Scenario

You are working as a healthcare science assistant in the medical physics and clinical engineering department.

You are asked to assist a healthcare scientist in the radiology department, checking a maintenance schedule of a computed tomography (CT) scanning system within a restricted clinical area. You are aware that CT system maintenance is performed by an external engineering contractor and its maintenance is not within your remit. However, your team are responsible for performing daily routine checks and must also ensure that the planned preventative maintenance (PPM) and servicing of the system is carried out by a contracted engineer at regular intervals. Your team must also ensure that the department complies with Ionising Radiation Regulations 2017 and Ionising Radiation (Medical Exposures) Regulations 2017 in relation to use, maintenance and servicing of equipment.

## Task

Discuss the importance of adhering to a CT system maintenance schedule considering existing regulations detailed in the scenario.

You should consider how CT systems operate when being used on patients and the risk associated with clinical staff working within this environment when maintenance schedules are not maintained.

Give some examples of how regular maintenance of complex medical equipment limits the risks associated with CT equipment.

Consider the levels of maintenance performed by different teams and the purpose of specific regulations as discussed in the scenario and how they support healthcare professionals in using and managing specialist CT equipment.

(20 marks)

Band	Mark	Descriptor
		The student's response
Band 5	17–20	<p>Shows a <b>full</b> and <b>comprehensive</b> understanding of the importance of equipment maintenance with an <b>excellent</b> ability to consider the potential risks to the patient and operator associated with the use of the device, including through <b>highly relevant</b> and well explained examples of how different maintenance and service activities can limit risks.</p> <p>Shows an <b>excellent</b> understanding of the underlying principles of operation of the device (system) and a <b>thorough</b> knowledge of the different parts of the system that need to be included in the maintenance checks.</p> <p>Shows an <b>excellent</b> understanding of the purpose of the controlled access area and its role in controlling and reducing patient and staff exposure to x-rays.</p> <p>Shows a <b>comprehensive</b> understanding of what is <b>fully relevant</b> to the task and is structured in a way that addresses the specific scenario <b>extremely</b> well.</p>

Band	Mark	Descriptor The student's response
<b>Band 4</b>	13–16	<p>Shows a <b>well-developed</b> understanding of equipment maintenance with a <b>very good</b> level of consideration of the potential risks to the patient and operator associated with the use of the device, including through <b>relevant</b> examples of how different maintenance and service activities can limit risks.</p> <p>Shows <b>very good</b> understanding of the underlying principles of operation of the device (system) and a <b>very good</b> level of knowledge of the different parts of the system that would need to be included in the maintenance checks.</p> <p>Shows <b>very good</b> understanding of the purpose of the controlled access area and its role in controlling and reducing patient and staff exposure to x-rays.</p> <p>Is <b>highly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>very good</b> understanding.</p>
<b>Band 3</b>	9–12	<p>Shows a <b>developed</b> understanding of importance of equipment maintenance with a <b>good</b> consideration of the potential risks to the patient and operator associated with the use of the device, including through examples of how different maintenance and service activities can limit risks.</p> <p>Shows a <b>good</b> understanding of the underlying principles of operation of the device (system) and a <b>good</b> level of knowledge of different parts of the system that would be included in the maintenance checks.</p> <p>Shows a <b>good</b> understanding of the purpose of the controlled access area and its role in controlling and reducing patient and staff exposure to x-rays.</p> <p>Is <b>clearly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>good</b> understanding.</p>
<b>Band 2</b>	5–8	<p>Shows a <b>reasonable</b> understanding of equipment maintenance with <b>adequate</b> consideration of the potential risks to the patient and operator associated with the use of the device, including through reasonable examples of how different maintenance and service activities can limit risks.</p> <p>Shows a <b>reasonable</b> understanding of the underlying principles of operation of the device (system) and a <b>reasonable</b> level of knowledge of different parts of the system that would be included in the maintenance checks.</p> <p>Shows a <b>reasonable</b> understanding of the purpose of the controlled access area and its role in controlling and reducing patient and staff exposure to x-rays.</p> <p>Is <b>mostly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>reasonable</b> understanding.</p>



Band	Mark	Descriptor The student's response
<b>Band 1</b>	1–4	<p>Shows a <b>basic</b> understanding of equipment maintenance with <b>basic</b> consideration of the potential risks to the patient and operator associated with the use of the device and of <b>poor</b> examples of different maintenance and service activities that can limit risks.</p> <p>Shows that there is a <b>basic</b> understanding of the underlying principles of operation of the device (system) and a <b>basic</b> level of knowledge of different parts of the system that would be included in the maintenance checks.</p> <p>Shows a <b>basic</b> understanding of the purpose of the controlled access area and its role in controlling and reducing patient and staff exposure to a x-rays.</p> <p>Contains <b>minimal relevance</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>basic</b> understanding.</p>
<b>0</b>		No creditworthy material.

## Indicative content

The student should consider:

- risk or harm to the patient and operator when using the CT system (for example, over exposure)
- elements of the medical system that require routine inspection and servicing:
  - hardware
  - mechanical checks
  - electrical checks
  - use of phantoms
  - software
  - network compatibility/inoperability
- reasons behind the legal requirement for employers to ensure robust maintenance process of complex medical systems are put in place to guarantee patient and healthcare staff safety
- patient and staff health and safety
- regulatory requirement for performance checks on medical devices including user checks
- frequency of routine checks (daily/weekly/annually)
- requirement to report any damage or faults of equipment to the relevant team
- servicing – internal cleaning, replacing worn down parts, chiller service, basic repairs

## Extended written task 2: testing equipment calibration

### Scenario

As part of the routine 6-monthly calibration check carried out by the clinical engineering department, you are asked to assist a healthcare scientist in testing calibration of portable baby scales (figure 1) using:

- 1kg, 5kg and 10kg precision weights
- accuracy test (which is measuring objects actual mass in comparison to the displayed mass; accuracy tests help spot any drifts outside of the tolerance)
- the scale's maximum capacity is 15kg and resolution is 0.05kg (resolution is the smallest increment of measurement that the scale is capable of measuring)
- acceptable error tolerance for the scale is  $\pm 0.05\text{kg}$  to ensure the required accuracy of the scale

You have performed required steps of accuracy testing of the scales using provided precision weights. You recorded results as follows:

**Figure 1**

Scale weight used (kg)	Recorded mass (kg)
1	1.00
1	1.00
1	1.05
5	5.00
5	5.10
5	5.30
10	9.85
10	10.00
10	10.15

### Task

Using the information provided in the scenario explain in a step-by-step manner the calibration testing procedures using the masses.

Using the information in the above table, identify if the scales are accurate or not. Provide an explanation for your decision.

Explain the advantage of a 3-point calibration test compared to single-point calibration test method when testing accuracy of scales.

Discuss how correctly calibrated devices contribute to clinical safety and consider why this is important for clinical areas, patients, quality and safety.

(20 marks)

Band	Mark	Descriptor The student's response
<b>Band 5</b>	17–20	<p>Shows a <b>fully comprehensive</b> appreciation of the purpose of different calibration tests including consideration of accuracy of the scales and objects that displayed weight within the tolerance.</p> <p>Shows an <b>excellent</b> understanding of the steps needed for each of the testing techniques in the specified setting.</p> <p>Shows an <b>excellent</b> knowledge of equipment operation and calibration testing by providing a correct recommendation about scale accuracy based on the available data.</p> <p>Shows an <b>excellent</b> understanding of the 3-point calibration test method and provides a <b>fully relevant</b> explanation of its advantage over the single-point calibration test method.</p> <p>Shows <b>excellent</b> knowledge and critical thinking by providing a <b>fully relevant</b> explanation of why calibration of baby scales is important, including how correct weight measurements contribute to baby's care.</p> <p>Is <b>fully</b> relevant to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>excellent</b> understanding.</p>
<b>Band 4</b>	13–16	<p>Shows a <b>very good</b> appreciation of the purpose of different calibration tests including consideration of accuracy of the scales and objects that displayed weight within the tolerance.</p> <p>Shows a <b>very good</b> understanding of the steps needed for each of the testing techniques in the specified setting.</p> <p>Shows a <b>very good</b> knowledge of equipment operation and calibration testing by providing a correct recommendation about scale accuracy based on the available data.</p> <p>Shows a <b>very good</b> understanding of the 3-point calibration test method and provides a <b>highly relevant</b> explanation of its advantage over the single-point calibration test method.</p> <p>Shows <b>very good</b> knowledge and critical thinking by providing a <b>highly relevant</b> explanation of why calibration of baby scales is important, including how correct weight measurements contribute to baby's care.</p> <p>Is <b>highly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>very good</b> understanding.</p>
<b>Band 3</b>	9–12	<p>Shows a <b>good</b> appreciation of the purpose of different calibration tests including consideration of accuracy of the scales and objects that displayed weight within the tolerance.</p> <p>Shows a <b>good</b> understanding of the steps needed for each of the testing techniques in the specified setting.</p> <p>Shows a <b>good</b> knowledge of equipment operation and calibration testing by providing a correct recommendation about scale accuracy based on the available data.</p> <p>Shows a <b>good</b> understanding of the 3-point calibration test method and provides a <b>relevant</b> explanation of its advantage over the single-point calibration test method.</p>

Band	Mark	Descriptor
		<p>The student's response</p> <p>Shows <b>good</b> knowledge and critical thinking by providing a <b>relevant</b> explanation of why calibration of baby scales is important, including how correct weight measurements contribute to baby's care.</p> <p>Is <b>relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>good</b> understanding.</p>
Band 2	5–8	<p>Shows a <b>reasonable</b> appreciation of the purpose of different calibration tests including consideration of accuracy of the scales and objects that displayed weight within the tolerance.</p> <p>Shows a <b>reasonable</b> understanding of the steps needed for each of the testing techniques in the specified setting.</p> <p>Shows an <b>adequate</b> knowledge of equipment operation and calibration testing by providing a correct recommendation about scale accuracy based on the available data.</p> <p>Shows a <b>reasonable</b> understanding of the 3-point calibration test method and provides a <b>relevant</b> explanation of its advantage over the single-point calibration test method.</p> <p>Shows <b>reasonable</b> knowledge and critical thinking by providing a <b>relevant</b> explanation of why calibration of baby scales is important, including how correct weight measurements contribute to baby's care.</p> <p>Is <b>mostly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>reasonable</b> understanding.</p>
Band 1	1–4	<p>Shows a <b>limited</b> appreciation of purpose of different calibration tests including consideration of accuracy of the scales and objects that displayed weight within the tolerance.</p> <p>Shows a <b>limited</b> understanding of the steps needed for each of the testing techniques in the specified setting.</p> <p>Shows a <b>limited</b> knowledge of equipment operation and calibration testing by providing a <b>basic, limited</b> understanding of the 3-point calibration test method and provides a <b>basic</b> explanation of its advantage over the single-point calibration test method.</p> <p>Shows <b>limited</b> knowledge and critical thinking by providing a <b>basic</b> explanation of why calibration of baby scales is important, including how correct weight measurements contribute to baby's care.</p> <p>Is <b>somewhat relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>limited</b> understanding.</p>
0		No creditworthy material.

## Indicative content

The student should:

- consider the equipment and method (steps) required for testing calibration of the specific laboratory equipment – student would be expected to mention all or some of the following steps:
  - the scale should be turned on, with nothing on it to weigh
  - the scale should read exactly zero
  - the scale should read zero when the load is removed from the scale
  - if the scale does not show zero the scale has a zero error
  - the scale should be turned on and a zero/tare button pressed
  - one of the weights should be put on a tray – press the zero/tare button, add another weight; the measured weight should be the same as the second weight only
  - can repeat that with different weights to confirm that the taring feature works correctly across the range of the scale
- assessor should credit either zero or tare responses
- explain the advantages of a 3-point calibration method over single-point calibration – student can include, for example:
  - it verifies correct performance across the range of the scale rather than at one point of the scale as it is in case on single-point calibration
- discuss the importance of clinical devices being calibrated correctly, for example:
  - correct calibration improves accuracy of results
  - incorrect calibration can result in false negative/positive results
  - incorrect calibration can result in incorrect treatment
  - regular calibration ensures that equipment meets legal requirements, prolonging the life of equipment
  - explains the steps of calibration process
- discuss results, answer should cover results two and three for 5kg and one and three for 10kg are outside the tolerance for accuracy – this suggests that the scales weren't zeroed properly between tests or that there is an issue with the scales themselves
- acknowledge that this will require further action, for example, tests should be repeated by a different colleague and possibly on another set of scales to determine the where the issue lies

## Extended written task 3: escalation of issues related to equipment

### Scenario

You are working as a healthcare science assistant in a hospital medical laboratory.

You are asked to perform a daily maintenance cycle on a urine analyser used in the laboratory. When running a daily maintenance check on the analyser you found that it is showing an error message that impacts upon the analysis of patient samples. You followed appropriate operating procedure to test if equipment is fit for use. Unfortunately, the analyser continued to show error messages. You have not been trained to conduct any further checks on a fault such as this one and you have concluded that the equipment is not fit for use and this situation requires escalation.

### Task

Describe how to perform a basic (daily) maintenance cycle on a urine analyser and discuss the actions you should take to address this situation. Your response should include the possible impact of the analyser not working on the collection and labelling of samples and on patients.

You should consider how you are going to handle the faulty device, what information should you record and who should be notified.

(20 marks)

Band	Mark	Descriptor
		The student's response
<b>Band 5</b>	17–20	<p>Shows an <b>excellent</b> understanding of factors and situations that should be escalated to senior colleagues in relation to sample processing with an <b>excellent</b> consideration of the role of the healthcare science assistant.</p> <p>Shows an <b>excellent</b> understanding of the correct process of collection and labelling urine samples.</p> <p>Shows an <b>excellent</b> knowledge of exceptions to sample rejection criteria by providing more than 3 examples of precious samples.</p> <p>Shows an <b>excellent</b> consideration of potential risks and consequences of the situation to the patients in given scenario.</p> <p>Shows an <b>excellent</b> consideration of information that should be gathered and communicated when reporting an issue/emergency.</p> <p>Shows they can provide <b>excellent</b> recommendations of immediate safety actions to protect people in this environment.</p> <p>Is <b>fully relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>excellent</b> understanding.</p>

Band	Mark	Descriptor The student's response
Band 4	13–16	<p>Shows a <b>very good</b> understanding of factors and situations that should be escalated to senior colleagues in relation to sample processing with a <b>very good</b> consideration of the role of the healthcare science assistant.</p> <p>Shows a <b>very good</b> understanding of the correct process of collection and labelling urine samples.</p> <p>Shows <b>very good</b> knowledge of exceptions to sample rejection criteria by providing 3 examples of precious samples.</p> <p>Shows <b>very good</b> consideration of potential risks and consequences of the situation to the patients in this scenario.</p> <p>Shows <b>very good</b> consideration of information that should be gathered and communicated when reporting an issue/emergency.</p> <p>Shows they can provide <b>very good</b> recommendations of immediate safety actions to protect people in this environment.</p> <p>Is <b>highly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>very good</b> understanding.</p>
Band 3	9–12	<p>Shows a <b>good</b> understanding of factors and situations that should be escalated to senior colleagues in relation to sample processing with a <b>good</b> consideration of the role of the healthcare science assistant.</p> <p>Shows a <b>good</b> understanding of the correct process of collection and labelling urine samples.</p> <p>Shows <b>good</b> knowledge of exceptions to sample rejection criteria by providing 3, or less, examples of precious samples.</p> <p>Shows <b>good</b> consideration of potential risks and consequences of the situation to the patients in this scenario.</p> <p>Shows <b>good</b> consideration of information that should be communicated when reporting an issue/emergency.</p> <p>Shows they can provide <b>good</b> recommendations of immediate safety actions to protect people in this environment.</p> <p>Is <b>mostly</b> relevant to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>good</b> understanding.</p>

Band	Mark	Descriptor The student's response
Band 2	5–8	<p>Shows a <b>reasonable</b> understanding of factors and situations that should be escalated to senior colleagues in relation to sample processing with a <b>reasonable</b> consideration of the role of the healthcare science assistant.</p> <p>Shows a <b>reasonable</b> understanding of the correct process of collection and labelling urine samples.</p> <p>Shows <b>reasonable</b> knowledge of exceptions to sample rejection criteria by providing 2 examples of precious samples.</p> <p>Shows <b>reasonable</b> consideration of potential risks and consequences of the situation to the patients in this scenario.</p> <p>Shows <b>reasonable</b> consideration of information that should be communicated when reporting an issue/emergency.</p> <p>Shows they can provide <b>reasonable</b> recommendations of immediate safety actions to protect people in this environment.</p> <p>Is <b>relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>reasonable</b> understanding.</p>
Band 1	1–4	<p>Shows a <b>limited</b> understanding of factors and situations that should be escalated to senior colleagues in relation to sample processing with a <b>limited</b> consideration of the role of the healthcare science assistant.</p> <p>Shows a <b>limited</b> understanding of the correct process of collection and labelling urine samples.</p> <p>Show <b>limited</b> knowledge of exceptions to sample rejection criteria by providing one example of precious samples.</p> <p>Shows <b>limited</b> consideration of potential risks and consequences of the situation to the patients in this scenario.</p> <p>Shows they can provide <b>limited</b> recommendations of immediate safety actions to protect people in this environment.</p> <p>Is <b>somewhat</b> relevant to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>limited</b> understanding.</p>
0		No creditworthy material.

### Indicative content

The student shows:

- knowledge of daily maintenance cycle of a laboratory analyser
- knowledge of maintenance activities for the analyser



- ability to explain the escalation process for laboratory equipment not fit for use or broken:
  - follow appropriate operating procedure (for example, troubleshoot equipment)
  - rectify where possible (for example, clean/sterilise or restart equipment)
  - calibrate analysers using manufacturer instructions where appropriate
  - if equipment cannot be fixed:
    - ensure it is taken out of service, escalate promptly and appropriately (for example, to manufacturer for repairs)
    - log according to organisational procedure
- consideration of healthcare science assistant role in the specific scenario
- consideration of situations/tasks outside of their scope of practice
- being able to recommend immediate actions that are within assistant's scope of practice especially relating to health and safety and risk management
- discussion of key information that should be reported to the senior member of staff:
  - what device?
  - description of fault
  - what actions they have already taken
  - when/urgency?
  - where is it now?
  - is an alternative required immediately?

## Extended written task 4: research and innovation

### Scenario

You are working as a healthcare science assistant in a blood clinic.

You have been given an opportunity to contribute to a diagnostic research project led by your department.

The study will compare three point-of-care testing (POCT) glucometers with an established laboratory procedure for diagnosis of type 2 diabetes.

A randomised group of adults will be subjected to finger-prick tests – using POCT glucometer X, POCT glucometer Y and an established glucometer and normal laboratory procedure. There will also be a sample group completing the same finger-prick test who do not have type 2 diabetes – who will also use POCT glucometer X, POCT glucometer Y and an established glucometer using laboratory procedure.

Study participants have been previously identified as at risk of type 2 diabetes and referred by their doctors.

The study will be carried out in the blood clinic over a period of 8 weeks. Results from both groups will be compared. Researchers will then be able to determine whether POCT glucometer X, POCT glucometer Y or an established glucometer and normal laboratory procedures are the more reliable test for type 2 diabetes.

The research lead must prepare the study participant information sheet and consent form for the Health Research Authority (HRA) approval showing that the study proposal is safe, legal and ethical. You have been asked to contribute to the participant information leaflet.

### Task

Discuss the information that should be included in the document, considering the following:

- study information
- patient involvement
- possible effects for patients
- additional supporting information
- information about consent and participation
- information about use of patient data
- accessibility requirements

(20 marks)

Band	Mark	Descriptor
		The student's response
Band 5	17–20	Shows an <b>excellent</b> understanding of the ethical principles of research that demonstrates an <b>excellent</b> familiarity with the Health Research Authority (HRA) approval process. Shows an <b>excellent</b> ability to select key information for the participant information leaflet from the provided scenario. Shows an <b>excellent</b> consideration of the language appropriate to the audience and any special adjustments that may be required to communicate with different patient groups.

Band	Mark	Descriptor
		<p>The student's response</p> <p>Is <b>fully relevant</b> to the task and is structured in a way that addresses the specific scenario to an <b>excellent</b> degree.</p>
<b>Band 4</b>	13–16	<p>Shows a <b>very good</b> understanding of the ethical principles of research that demonstrates a <b>high level</b> of familiarity with the Health Research Authority (HRA) approval process.</p> <p>Shows a <b>very good</b> ability to select key information for the participant information leaflet from the provided scenario.</p> <p>Shows <b>very good</b> consideration of the language appropriate to the audience and any special adjustments that may be required to communicate with different patient groups.</p> <p>Is <b>highly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>very good</b> understanding.</p>
<b>Band 3</b>	9–12	<p>Shows a <b>good</b> understanding of the ethical principles of research that demonstrates a familiarity with the Health Research Authority (HRA) approval process.</p> <p>Shows a <b>good</b> ability to select key information for the participant information leaflet from the provided scenario.</p> <p>Shows <b>good</b> consideration of the language appropriate to the audience and any special adjustments that may be required to communicate with different patient groups.</p> <p>Is <b>clearly relevant</b> to the task and is structured in a way that addresses the specific scenario to a degree that shows <b>good</b> understanding.</p>
<b>Band 2</b>	5–8	<p>Shows a <b>reasonable</b> understanding of the ethical principles of research that demonstrates a <b>reasonable</b> level of familiarity with the Health Research Authority (HRA) approval process.</p> <p>Shows a <b>reasonable</b> ability to select key information for the participant information leaflet from the provided scenario.</p> <p>Shows <b>reasonable</b> consideration of the language appropriate to the audience and any special adjustments that may be required to communicate with different patient groups.</p> <p>Is <b>mostly relevant</b> to the task and is structured in a way that addresses the specific scenario to a <b>reasonable</b> degree.</p>

Band	Mark	Descriptor
<b>Band 1</b>	1–4	<p>The student's response</p> <p>Shows <b>limited</b> understanding of the ethical principles of research that demonstrates a <b>limited</b> familiarity with the Health Research Authority (HRA) approval process.</p> <p>Shows a <b>limited</b> ability to select key information for the participant information leaflet from the provided scenario.</p> <p>Shows <b>limited</b> consideration of the language appropriate to the audience and any special adjustments that may be required to communicate with different patient groups.</p> <p>Contains <b>minimal relevance</b> to the task and is structured in a way that addresses the specific scenario to a <b>limited</b> degree.</p>
<b>0</b>		No creditworthy material.

### Indicative content

The student should consider some/all of the following:

- ensures informed consent
- ensures participants are informed about the risks
- safeguards participants
- protects participant confidentiality
- General Data Protection Regulations (GDPR)
- formatting to cover language/brail/audio versions
- avoidance of jargon

Look for information covered to include:

- title of the study
- invitation to the study and summary of the study
- what would taking part involve?
- what are possible benefits of participating and any risks?
- any other additional information to support patient's decisions
- agreement to informed consent; agreement to voluntary participation; agreement to personal information collection and processing

The student can use a format of their choice but should cover the points above.

## Mark allocation

<b>Task</b>	<b>Number of marks available</b>
Extended written task 1: maintenance of complex medical equipment	20
Extended written task 2: testing equipment calibration	20
Extended written task 3: escalation of issues related to equipment	20
Extended written task 4: research and innovation	20
<b>Total marks</b>	<b>80</b>

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