



Medical Laboratory Technician Qualification (MLTQ)

QUALIFICATION WORKBOOK

(Learner Version)

By 2022, India is expected to be home to a skilled workforce of 500 million. About 12 million persons are expected to join the workforce every year. This talent pool needs to be adequately skilled.

Healthcare Sector Skill Council (HSSC) is a unique initiative of Confederation of Indian Industry (CII), National Skills Development Corporation (NSDC) and leading Healthcare Service Providers. HSSC is developing a system of quality-assured education and skill development for allied healthcare workers and paramedics across India. The organisation aims to support the upskilling of 4.8 million people in the Allied Healthcare and Paramedic workforce over the next 10 years.

Introducing HSSC Qualifications

HSSC qualifications are central to the system of education and skill development. All HSSC qualifications have been developed in close consultation with healthcare employers and they sit within the **National Skills Qualifications Framework (NSQF)**. As a result, employers and learners can have confidence that the qualifications are relevant to the skills needs of the healthcare sector and that they are nationally approved.

The India-EU Skills Project provides technical assistance to key partners and stakeholders to support the development and implementation of the **NSQF**.

HSSC MLTQ Workbook – Assessor’s Version

Produced by HSSC in association with the India-EU Skills Project

November 2015

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Section 1: Introducing the MLTQ Workbook

1. What is the Medical Laboratory Technician Qualification (MLTQ)?

This new qualification is for everyone in India who is studying to be a medical laboratory technician – and for those already carrying out this job. Designed by experienced healthcare staff, the MLTQ sets out the knowledge and skills that all medical laboratory technicians across the country need to carry out their work appropriately.

The MLTQ is made up of 18 **National Occupational Standards (NOS)**. Each NOS deals with a different aspect of the role of a medical laboratory technician. The NOS detail what you need to know and do to carry out that aspect of the job. The full list of NOS in the qualification is included in Appendix 1.

The qualification tests your knowledge and practical skills. It provides proof to you, to your employer and to patients that you have the competence to do the job of medical laboratory technician.

2. What is the MLTQ Workbook?

This workbook contains tasks and questions linked to the different NOS which make up the qualification. By working through the workbook, you can begin to show that you have the knowledge and skills needed for the role of Medical Laboratory Technician.

3. Who is this workbook for?

The workbook is for everyone who is working towards MLTQ:

- **Students on training courses:** You can use the questions and tasks to test your progress. Your trainer will guide you through the workbook and will assess your progress.
- **Experienced medical laboratory technicians:** You may be completing a

recognition of prior learning (RPL) process so you can gain the qualification. The workbook will help you to think about, explain and demonstrate how you do your job. It will also show areas where you might need some additional training to meet the requirements of the qualification. You should discuss how you complete the workbook with your advisor. This is the person who will guide you through the process and who will assess your progress.

4. How is the workbook structured?

In order to gain MLTQ, you need to demonstrate that you have the skills and knowledge described in the 18 NOS. The qualification provides proof of their competence in their role.

The 18 NOS included in the MLTQ have been grouped into 3 main themes. These are:

- 1. Ensuring health and safety**
- 2. Being an effective worker**
- 3. Specialist laboratory skills**

The workbook is structured around these themes. Each theme contains questions and tasks designed to help you demonstrate your knowledge, skills and experience.

The workbook contains 41 questions and tasks. Each task or question is cross-referenced to the requirements of the NOS. By completing the questions and tasks, you build up a **portfolio of evidence**, showing how your knowledge, skills and experience match the standards in the qualification. You can see how each question links to the NOS in Appendix 2.

Section 2: Completing the workbook

1. What does the workbook contain?

The workbook is divided into three main themes. Theme 1 and theme 3 are subdivided into a number of key work areas.

THEME	WORK AREAS IN THIS THEME
1. Ensuring Health & Safety (15 questions and tasks)	a) Maintaining a clean and safe working environment b) Preventing & controlling infection c) Understanding & applying appropriate waste management procedures
2. Being an Effective Worker (10 questions and tasks)	<ul style="list-style-type: none">This theme is not subdivided
3. Specialist Laboratory Skills (16 questions and tasks)	a) Collecting & analysing samples, and reporting results b) Contributing to high-quality laboratory services

- The **introduction to each theme** tells you how the theme links to the NOS.
- Each **question** has instructions on how to **record your answer**, along with space (usually a table or grid) for you to write in.

2. Understanding and completing the questions and tasks:

The **questions** ask you to provide different types of information:

- Describe** (e.g. Describe the infection control procedures you follow in your job): Here, you should give clear description of a procedure or process. You need to provide enough detail to show that you know exactly how to carry out the task.

- **Give examples** (e.g. Give examples of when you have to wash your hands in your job), asks for practical examples from your own role or context.
- **Explain** (e.g. Explain why it is important to wash your hands on these occasions.) asks you to give reasons for different things you do in their work.

Recording your answers:

There is space – usually a table or grid – following each question for you to write your answers.

- You **must** complete the answers as fully as possible. You need to provide enough detail to show you really have the knowledge needed to carry out tasks in the workplace.
- If you need more space to write your answer, you can add an additional page or pages.
 - **Paper copies of the workbook:** If you are completing a paper copy of the workbook, copy the answer table/grid onto another piece of paper and attach this to the printed table/grid. Remember to write the question number which the table refers to on this additional page.
 - **Electronic copies of the workbook:** If you are completing an electronic copy of the workbook, add an additional page following the question then copy the answer table/grid onto this additional page.

The **tasks** ask you to demonstrate how you do specific tasks:

- **Demonstrate** (e.g. Demonstrate how you process waste in your job). The instructions identify this as a **practical task**.
 - **In training courses:** The trainer will observe you carrying out this task.
 - **In RPL processes:** Your advisor can accept testimony from your

manager, or can observe you carrying out the task.

The trainer or advisor will complete an observation checklist to showing if you have completed the task to the appropriate standard.

3. When should you complete the workbook?

The workbook is for students on training courses and for experienced Medical Laboratory Technicians who are following an RPL process.

a) If you are a student on a training course:

The workbook is a tool that helps you and your trainer check your learning as you go through the training course.

- The questions check that you can apply what you are learning to the job role of Medical Laboratory Technician. These questions can be done as homework, or in the classroom. .
- The practical tasks check that you can apply your skills appropriately in a work environment. They help you and your trainer to check that you can carry out laboratory tasks to the standard required in the qualification.

b) If you are an experienced Medical Laboratory Technician:

If you are working as a Medical Laboratory Technician, you may already have a lot of the knowledge and skills needed to gain the MLTQ. The workbook can help you complete the qualification without the need to undertake a full training programme. This is known as Recognition of Prior Learning (RPL). However, even if you have a lot of work experience, you may need time and support to think about your work so you can describe and demonstrate your knowledge and skills appropriately.

The questions and tasks in the workbook help you to reflect on your experience and gather the information and evidence needed to demonstrate how you meet the standards of the qualifications.

- The **questions** help you to identify and describe the knowledge you apply in their job. They can also help you and your advisor to identify where you might need additional help to think of examples, or where

you might have gaps in your knowledge.

- The **tasks** allow you to show how you follow appropriate procedures in your role. You can also include examples of evidence of your experience of carrying out these tasks (e.g. from work records)

4. How should you complete the workbook?

a) Step 1: You record your answers and evidence

The workbook is a tool to help you show how you are progressing towards the MLTQ. It does not take the place of the final assessment. Instead, it provides evidence of your progress, and helps you and your trainer to identify:

- where you are meeting the standards described in the NOS
- where additional study or practice is needed

The workbook is therefore a working document which you share with your trainer/advisor.

You can record your evidence in a number of ways. You can:

- write down your answers to the questions in the space provided in the workbook.
- discuss your answers with your trainer or advisor. Some questions ask you to give explanations, or to provide quite a lot of description. It can be easier to answer these questions in discussion. Remember, however, that you or your trainer/advisor must make a note of the content of your answer.
- note down the time/date of when you carried out practical tasks, and who observed these. This information can be cross-referenced with the observation feedback sheets completed by the observer.

b) Your trainer/advisor assesses your answers and evidence

The MLTQ sits at Level 4 in the **National Skills Qualification Framework (NSQF)**. Qualifications at this level need an in-depth knowledge of theoretical aspects of your work. However, you do need to be able to do the job safely.

Your trainer / advisor needs to be sure that the answers and evidence you

include in the workbook addresses the standards in the NOS at the appropriate level. They will use the guidance given in the NOS to ensure they don't ask for too much – or too little – detail in your responses.

Your trainer/advisor will usually assess individual sub-sections of the workbook as you work through it. If you have provided enough appropriate information, they will sign off the question or task as complete. However, if there are questions which require more work, they will identify them and you will be able to go back to do these again. You may need additional study or practice to help you complete the question or task. You should discuss this with your trainer /advisor.

c) Step 3: Your trainer/advisor will verify your work

Once you have completed a section or subsection of the workbook it must be verified by your trainer/advisor. This means that the trainer/advisor must confirm that:

- the answers you have given to questions are your own work;
- you have been observed carrying out the tasks in the workbook. Trainers use a specific template for documenting the observation.
- (for RPL) you have provided real and convincing evidence that you carry out this task in their workplace.

The workbook contains a space at the end of each set of questions and tasks which the trainer/advisor must sign and date when the tasks/questions have been completed.

5. After you complete the workbook

When you have completed all the tasks and questions in the workbook, you and your trainer / advisor must sign and date it at the end. Your trainer / advisor will then store the workbook securely until you have completed the all the assessment requirements of the qualification.

- a) The qualification assessor will review your workbook as part of the final assessment. This is to check that you have covered all of the standards of the qualification, not only those tested in the final assessment. This is particularly important if you are completing the qualification via RPL.
- b) The Healthcare Sector Skills Council (HSSC) is the organisation responsible for issuing your certificate. They need to be sure that you met all the requirements of the qualification. They review a sample of workbooks before confirming final results. If you achieve a borderline result in the final assessment, the content of your workbook will be taken into account in deciding results.
- c) HSSC will also sample completed workbooks as part of their quality assurance processes.

Section 3: Workbook Questions & Tasks

1. Ensuring Health & Safety

There are **15** questions and tasks in this section of the workbook.

These questions and tasks in this section will help you demonstrate that you can:

- maintain a safe and clean working environment
- understand and apply appropriate infection control procedures
- understand and apply appropriate waste management procedures

The questions and tasks in this section help you to meet the requirements of the following **National Occupational Standards (NOS)**

N9606: Maintain a safe, healthy and secure working environment

N9609: Follow biomedical waste disposal protocols

N9610: Follow infection control policies and procedures

N9611: Monitor and assure quality

Each question and task is cross-referenced to the NOS(s) it relates to.

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a) Maintaining a clean and safe working environment

Good hygiene and knowing how to deal with security risks are essential for minimizing hazards and risks in the healthcare environment.

What are ‘hazards’ and ‘risks’?

- A *hazard* is a possible source of harm or danger. For example, certain chemicals are **hazardous** because they could cause harm to people.
- A *risk* is the possibility that a person could be harmed if they come into contact with a hazard. For example, if laboratory technicians have to pour hazardous chemicals into a machine, there is a risk that they might be injured by the chemicals.

This section of the workbook helps you show how you address hazards and risks through:

- **understanding and following good hygiene procedures**
- **maintaining equipment appropriately**
- **complying with health and safety procedures**

1. Good hand hygiene is essential in all healthcare environments.

Give 3 examples of times when you should wash your hands in the course of your work. For each example you give, explain why hand washing is important at this time.

Question 1: Answer Grid

	When should you wash your hands?	Why?
Example 1		
Example 2		
Example 3		

2. Personal protective equipment, including clothing, is essential for keeping you and others safe in the healthcare workplace.

Identify any personal protective equipment (PPE) (including clothing) which you need to use in your job. Explain when and why you need to use this equipment.

For each item of equipment you identify: describe what you should do with it when you have finished using it.

- *Record your answers in the grid on the next page.*
- *There is space to describe 5 items of PPE. If you don't use 5 items of PPE, don't worry – describe what you use.*
- *If you use more than 5 items, you can add additional pages of information if you want to. See page X for guidance on how to do this.*

Question 2: Answer Grid

Name of PPE Item	When do you use this PPE item?	Why do you use this item?	How do you clean or dispose of this item when the task is finished?

3. Using, maintaining and storing equipment appropriately is essential for minimizing hazards and risks in the healthcare environment.

Describe the main types of healthcare equipment you use in your job. Explain what each is used for and describe how you clean and store them after use. Describe any hazards or risks associated with not cleaning and storing them appropriately.

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 4 examples of equipment you use.*
- *You can add additional pages of information if you want to. See page X for guidance on how to do this.*

Question 3: Answer Grid

Type of equipment	What is this equipment used for?	How do you clean and store this equipment?	What are the risks if you don't clean and store this equipment properly?

4. Demonstrate how you clean your work area. During the this task, you should demonstrate how you:
- clean and store the different types of equipment identified in Question 3 appropriately
 - clean your work area, including surfaces
 - follow appropriate hand hygiene procedures
 - use any relevant personal protective equipment (PPE) appropriately
 - clear up spills of liquid appropriately

- *This is a practical task.*
- *Your trainer, advisor or assessor will observe you doing this task.*
- *You should show how you follow proper procedures for cleaning.*

5. Give 3 examples of the types of hazards which exist or risks which can arise in your work. Describe what you do if you think something poses a risk to you or others.

Question 5: Answer Grid

	Examples of hazard or risk	What should you do if this occurs?
Example 1		
Example 2		
Example 3		

6. Demonstrate what you should do if you discover the following emergencies in your workplace:
- a) a fire
 - b) a suspicious packet or person in your work area
 - c) a serious accident in your work area
 - d) a minor accident, where someone needs first aid

- *This is a practical task.*
- *Your trainer, advisor or assessor will observe you doing this task.*
- *You need to show that you can follow the proper procedures for dealing with emergency situations.*

Verification 1:

The person responsible for the assessment of the workbook should complete this page.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
1			
2			
3			
4			
5			
6			

The person responsible for the assessment of the workbook should complete this page.

OVERALL

Please circle the statement which matches your assessment:

- a) ALL of the questions in this section have been completed to the required standard.

- b) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

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b) Preventing and controlling infection.

The World Health Organisation (WHO) defines infection prevention and control in this way:

.measures [that] aim to ensure the protection of those who might be vulnerable to acquiring an infection both in the general community and while receiving care due to health problems... The basic principle of infection prevention and control is hygiene.

This section of the workbook looks at how you:

- **identify how and where risks of infection can occur in your work**
- **take action to prevent infection occurring and spreading**
- **ensure that your personal hygiene contributes to a safe and healthy environment**

7. Give 3 examples of situations which can cause or spread infection in your work area. Describe why each situation poses an infection risk and the possible effects on patients.

Question 7: Answer Grid

Situation	Why does this pose an infection risk?	Possible effects on patients
1.		
2.		
3.		

8. For each of the examples given in Question 7, describe the actions you should take if they occur. Explain why these actions are important.

Question 8: Answer Grid

If this happens...	you should.....	because....
1.		
2.		
3.		

9. Demonstrate how you minimize the risk of causing or spreading infection in your role. This includes demonstrating:

- how you protect patients from infection during phlebotomy activities
- how you handle samples to prevent the spread of infection
- what you do if you come into direct contact with blood or bodily fluid
- what you do if you spill blood or bodily fluid

- *This is a series of practical tasks.*
- *Your trainer, advisor or assessor will observe you doing these tasks.*
- *You need to demonstrate that you can follow the proper procedures for each task.*

Verification 2:

The person responsible for the assessment of the workbook should complete this page.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
7			
8			
9			

The person responsible for the assessment of the workbook should complete this page.

OVERALL

Please circle the statement which matches your assessment:

- c) ALL of the questions in this section have been completed to the required standard.

- d) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

c) Understanding & applying appropriate waste management procedures

'Healthcare waste' (HCW) refers to all waste from a healthcare environment. According to the World Health Organisation (WHO), 75%-90% of this waste is similar to domestic waste. However, the remaining 10%-25% of this waste may be infectious or hazardous, and needs special treatment.

According to WHO:

If these two basic categories of waste aren't segregated (separated) properly, the entire volume of HCW must be considered as being infectious according to the precautionary principle, hence the importance of setting up a safe and integrated waste management system.

This section of the workbook looks at how you:

- **identify the different types of waste which you deal with in your job, and the hazards they present**
- **process these different types of waste**
- **minimize the hazards which the waste presents**
- **maintain your own safety, and the safety of others, when processing waste.**

10. Give examples of at least 3 different types of waste you handle in your job.
Describe the main hazards posed by each type of waste.

Question 10: Answer Grid

Type of waste	Main risks

11. There are a number of steps involved in the processing of waste: handling; packaging; storing; transporting; and disposal.

Choose 3 of the types of waste you named in Question 10. For each one, identify:

- the hazards that can arise if the waste is not processed properly.
- the step(s) in the process where the hazards you have identified can occur.

Record your answers in the grid on the next page

There is space in the grid for information about 3 examples of different types of waste.

Question 11: Answer Grid

Type of waste	Possible hazards during processing	When in the process can this happen?

12. For the 3 types of waste you have identified:

- describe what you should do at each step in the process to ensure the waste is processed appropriately
- explain why each step is important.

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 3 examples of types of waste.*

Question 12: Answer Grid

Steps	Types of Waste		
	1.	2.	3.
1. Handling the waste			
2. Packaging the waste			
3. Storing the waste			
4. Transporting the waste			
5. Disposing of the waste			

13. Give at least 3 examples of things you do to protect your own health and safety and prevent the spread of infection when you are handling waste. Explain why each of these actions is important.

Question 13: Answer Grid

What do you do?	Why do you do it?

14. It is important that spillage of waste is dealt with correctly.

For the 3 types of waste you identified in Question 11:

- list the equipment you need to deal with a spillage
- describe the procedure you follow to deal with the spillage correctly
- explain why each step in the procedure is important.

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 3 examples of types of waste.*

Question 14: Answer Grid

Type of waste	Equipment needed	Procedure	Why each step is important

15. Demonstrate how you process the different types of waste you have identified in Question 11.

- *This is a series of practical tasks.*
- *Your trainer, advisor or assessor will observe you doing these tasks.*
- *You need to demonstrate that you can follow the proper procedures for processing different types of waste.*

Verification 3:

The person responsible for the assessment of the workbook should complete this page.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
10			
11			
12			
13			
14			
15			

The person responsible for the assessment of the workbook should complete this page.

OVERALL

Please circle the statement which matches your assessment:

- e) ALL of the questions in this section have been completed to the required standard.

- f) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

2. Being An Effective Worker

There are **10** questions and tasks in this section of the workbook.

These questions and tasks in this section will help you demonstrate that you can:

- carry out your role effectively and within appropriate boundaries
- work effectively with others
- ensure you provide high-quality healthcare services

The questions and tasks in this section help you to meet the requirements of the following **National Occupational Standards (NOS)**

N9603: Act within the limits of one's competence and authority

N9604: Work effectively with others

N9605: Manage work to meet requirements

N9607: Practice code of conduct while performing duties

N9611: Monitor and assure quality

Each question and task is cross-referenced to the NOS(s) it relates to.

The information in italics provides guidance for assessment by trainers, advisors and assessors only.

16. Give at least 3 examples of the main tasks which you normally carry out in your role. Describe how you organize your work to make sure you can carry out the tasks to the required standard. In your answer, you should include information about:

- how you prepare for each task
- the steps involved in the task
- how long the task should take
- how you check that the task is completed properly

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about up to 4 examples of the main tasks you do in your job.*
- *You can add more tasks if you want to. See page x for guidance on how to add additional pages.*

Question 16: Answer Grid

Task	Preparation	Steps	Time	Checks

17. Identify some of the main supplies you need to carry out the tasks you described in Question 16. Describe:

- why you need these supplies.
- how you ensure that supplies are kept at an appropriate level.
- what you should do if you discover that supplies are out of stock or when they do not reach the required standard.

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 4 types of supplies.*
- *You can add additional information if you want to. See page x for guidance on how to do this.*

Question 17: Answer Grid

Supplies needed	Why are they needed?	How do you check there are sufficient levels of supplies?	What do you do if there is not enough – or they are not up to standard?

18. Demonstrate that you can carry out the tasks you described in Question 16 to the required standard.

- *This is a series of practical tasks.*
- *Your trainer, advisor or assessor will observe you doing these tasks.*
- *You need to demonstrate that you can follow the proper procedures for doing the tasks you have listed.*

19. It is important to recognise the limits of your role. Give 3 examples of tasks you cannot do without the direct permission, supervision or help of a more senior colleague. Explain why you need this permission/supervision/help.

Question 19: Answer Grid

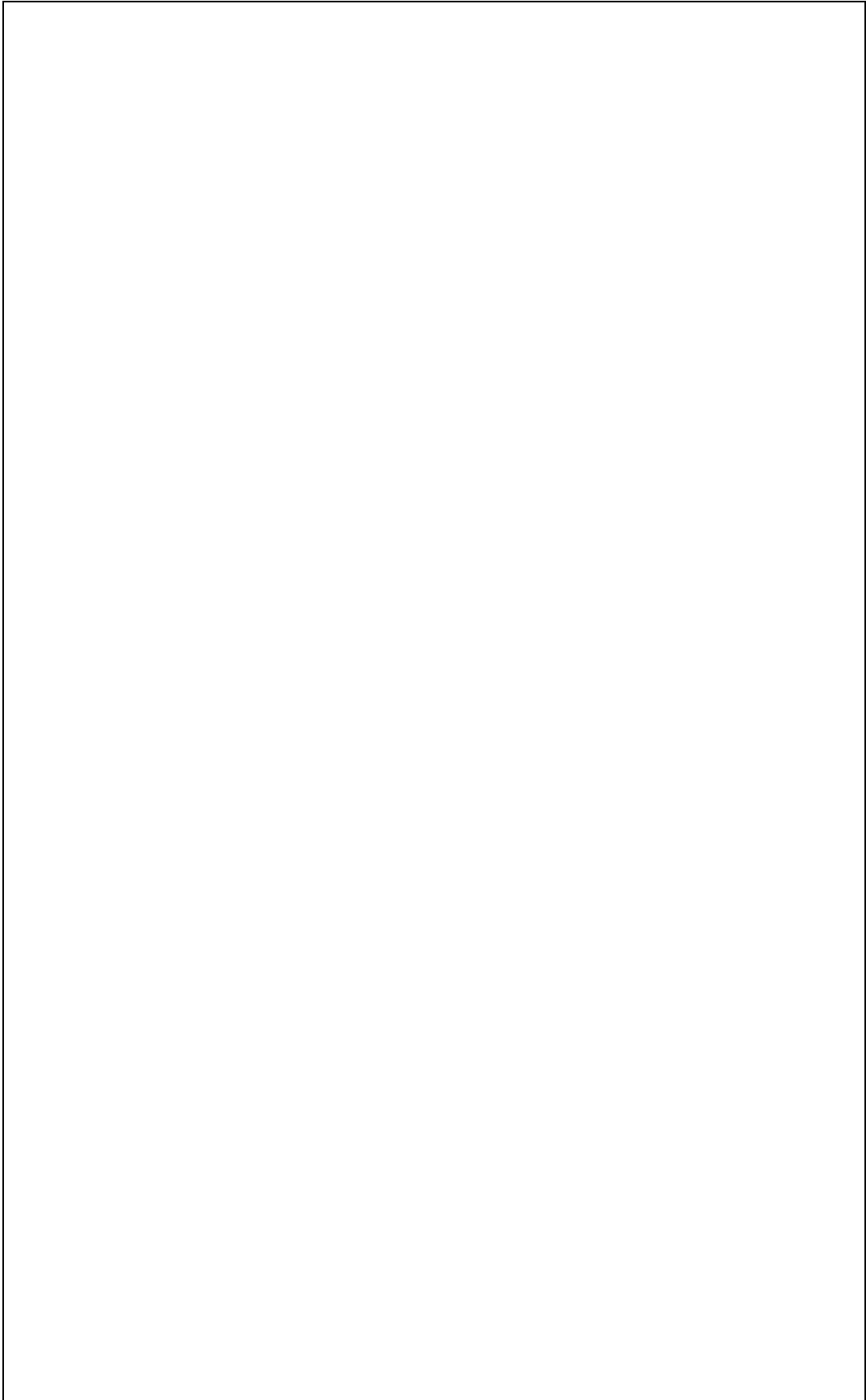
	When should you wait for supervision, permission or help?	Why?
Example 1		
Example 2		
Example 3		

20. Problems can occur when things go wrong or when work is not completed in time or to the correct standard. It is important to know what to do in these circumstances.

Give an example of a time when you have had to deal with a work problem. Describe what happened, what you did to resolve the problem, and what you learned from this experience.

- *Write your answer in the box on the next page.*
- *Try to keep your answer to no more than one page.*

Question 20: Answer Box

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to Question 20.

21. Your role may bring you into contact with different groups of people. Give examples of the different groups of people you come into contact with in your role. How does your role relate to each group?

Question 21: Answer Grid

Groups of people	Their relationship to me and my work

22. Good communication is an essential part of the healthcare workers role.

Give examples of how you communicate with people in each of the groups you identified in Question 19. In answering this question, think about:

- the type of information you have to communicate
- the forms of communication you use
- how you know that your communication is successful

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 4 groups of people.*
- *You can add additional information if you want to. See page x for guidance on how to do this.*

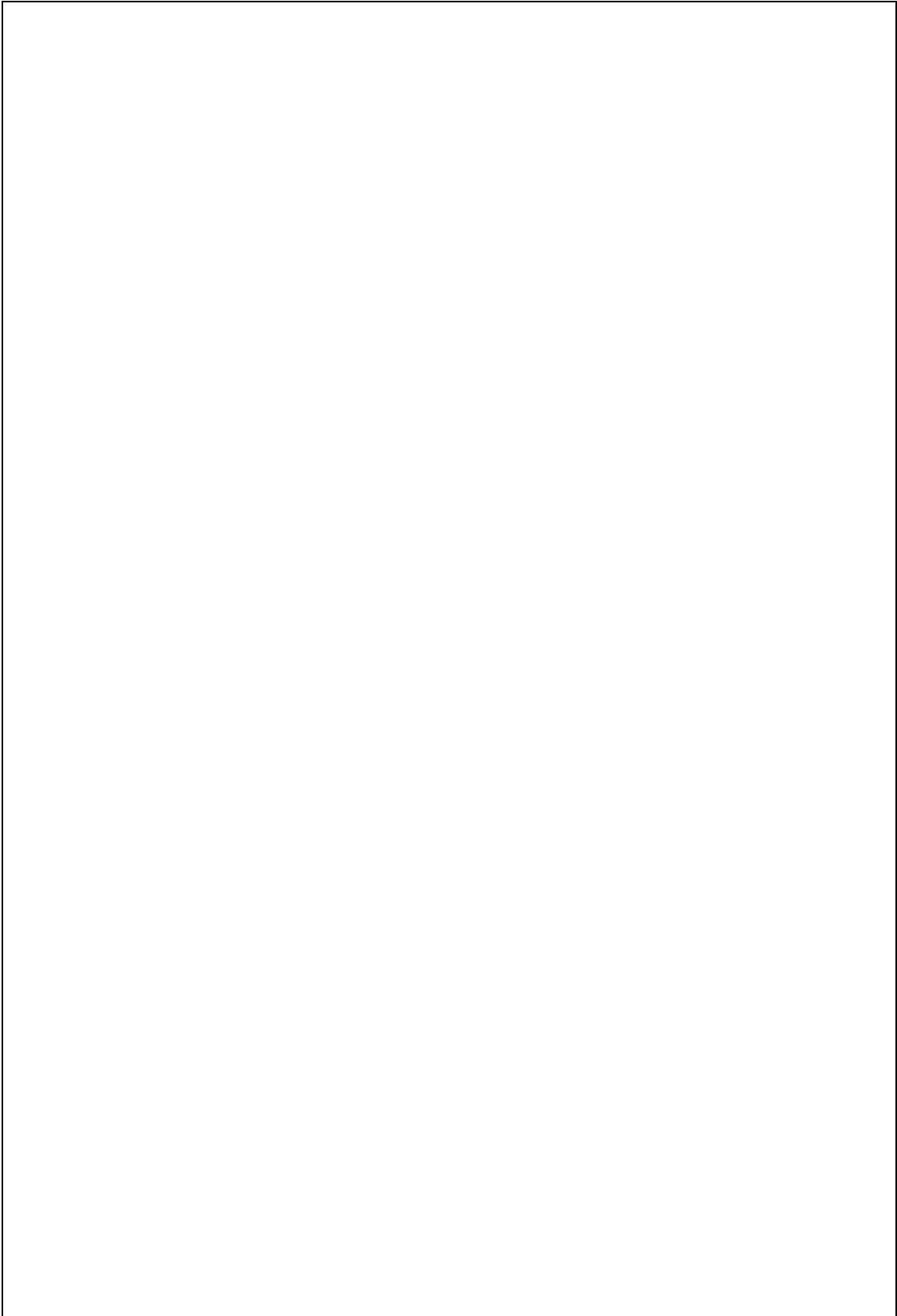
Question 22: Answer Grid

Group	Type of information	How do you communicate this information?	How do you know you that you've been successful?

23. Give an example of a time when you have had to deal with a communication problem at work. Describe in detail what you did to overcome the problem, and how successful you were.

- *Write your answer in the box on the next page.*
- *Try to keep your answer to no more than one page.*

Question 23: Answer Box

A large, empty rectangular box with a thin black border, intended for the user to provide an answer to Question 23.

24. In your work, you may have access to information which is confidential.

This information should only be shared with people who are authorised to see it.

Give examples of confidential information which you deal with in your work. Explain why it is confidential, and how you ensure that it is kept secure.

- *Record your answers in the grid on the next page*
- *There is space in the grid for you to write about 4 types of information.*
- *You can add additional information if you want to. See page x for guidance on how to do this.*

Question 24: Answer Grid

Type of information	Why is it confidential?	How do you keep it secure?

25. High-quality healthcare depends on workers keeping their knowledge and skills up to date.

Give examples of activities you participate in to keep your own knowledge and skills up to date. Explain how each activity helps you in your work.

- *Record your answers in the grid on the next page*
- *There is space in the grid for information about 4 different activities.*
- *You can add additional information if you want to. See page x for guidance on how to do this.*

Question 25: Answer Grid

What do you do?	How does this help your work?

Verification 4:

The person responsible for the assessment of the workbook should complete these two pages.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
16			
17			
18			
19			
20			
21			
22			
23			

24			
25			

OVERALL

Please circle the statement which matches your assessment:

- a) ALL of the questions in this section have been completed to the required standard.

- g) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

3. Specialist Laboratory Skills

This section of the workbook focuses on the specialist skills required by medical laboratory technicians.

There are **16** questions and tasks in this section of the workbook. These questions and tasks in this section will help you demonstrate that you can:

- carry out all aspects of tests on blood and other clinical samples, from collection through to reporting
- maintain laboratory equipment appropriately
- conduct research under guidance
- support and provide effective guidance for more junior members of staff

The questions and tasks in this section help you to meet the requirements of the following **National Occupational Standards (NOS)**

N0301: Correctly collect, transport, receive, accept or reject, and store blood samples

N0302: Conduct analysis of body fluids/samples

N0303: Maintain, operate and clean laboratory equipment

N0305: Prepare and document medical tests and clinical results

N0306: Establish and monitor quality assurance program

N0307: Supervise and guide other laboratory personnel

N0308: Conduct research under guidance

N0409: Assist in fine needle cytology

Each question and task is cross-referenced to the NOS(s) it relates to.

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a) Collecting and analysing samples, and reporting results

Medical Laboratory Technicians have important responsibilities for collecting blood samples, and for assisting medical staff in the collection of samples using fine needle cytology. They also have responsibility for analysing a range of different types of samples.

MLTs are also responsible for recording, storing and reporting on information gathered from tests. They have a duty to ensure that records are stored safely, and for ensuring that information is shared only with people who are authorised to see it.

This section of the workbook looks at how you:

- **prepare for the collection of blood or samples**
- **collect samples appropriately**
- **ensure high standards of patient care at each stage in the collection process**
- **make judgements on the acceptability of samples for analysis**
- **carry out appropriate analysis of samples**
- **record the findings of the analysis**
- **store and share the information you gather**

26. There are a number of checks you must carry out before you begin to take a blood or cytology sample from a patient. These checks ensure that the correct samples are taken, the correct tests are carried out, and the patient is happy with the procedure.

Describe the checks you carry out before you begin the process of taking a sample from a patient. Explain:

- why each check is important
- what you should do if the check highlights a problem.

Record your answers in the grid on the next page

There is space in the grid for information about 4 different checks. However, you may carry out more checks.

You can add additional information if you want to. See page x for guidance on how to do this.

Question 26: Answer Grid

Check	Why is this check important?	What should you do if this check highlights a problem?

27. Describe the procedure you follow when you take a blood sample (after you have carried out the checks you described in Question 26). Explain why each step in the procedure is important.

- *Record your answers in the grid on the next page*
- *If there isn't enough space on the grid for all the steps you follow you can add an additional page. See page x for guidance on how to do this.*

Question 27: Answer Grid

Steps in the procedure	Why is this step important?

28. Describe the procedure you follow when you are assisting a medical professional to take a cytology sample. You should describe the steps you follow before, during and after the taking of the sample. Explain why each step is important to the success of the sample taking.

- *Record your answers in the grid on the next page*
- *If there isn't enough space on the grid for all the steps you follow you can add an additional page. See page x for guidance on how to do this.*

Question 28: Answer Grid

Steps in the procedure	Why is this step important?

29. Give 3 examples of problems which might arise during the taking of blood or cytology sample from a patient. For each example, describe the action you should take to deal with the problem.

Question 29: Answer Grid

	Possible problem	What should you do?
Example 1		
Example 2		
Example 3		

30. Demonstrate how you take blood following the procedures you have outlined in Questions 26, 27 and 28. You should ensure that you demonstrate appropriate patient care throughout the procedure.

- *This is a practical task.*
- *Your trainer, advisor or assessor will observe you doing this task.*
- *You need to demonstrate that you can follow the proper procedures for taking blood.*

31. Give 3 examples of the types of samples which you have to analyse as part of your job. For each type of sample, list the types of tests you carry out.

Question 31: Answer Grid

	Sample	Type(s) of test
Example 1		
Example 2		
Example 3		

32. Choose 3 of the tests you have identified in Question 31. For each test, describe the procedure you follow to:

- decide if the sample is acceptable for testing
- prepare the sample for analysis
- carry out the analysis to the appropriate standard
- record the results to the appropriate standard
- store or dispose of samples after the analysis is complete

For each test, identify the problems which can occur if you do not follow the procedure correctly.

- *Record your answers in the grids on the next 3 pages*
- *Use one grid for each test you describe.*

Question 32: Answer Grid 1 of 3

Test 1: Name of test:		
	The procedure you follow	What you do if there's a problem at this stage
1. Deciding if a sample is acceptable		
2. Preparing the sample for analysis		
3. Carrying out the analysis		
4. Recording the results		
5. Storing or disposing of samples		

Question 32: Answer Grid 2 of 3

Test 2: Name of test:		
	The procedure you follow	What you do if there's a problem at this stage
1. Deciding if a sample is acceptable		
2. Preparing the sample for analysis		
3. Carrying out the analysis		
4. Recording the results		
5. Storing or disposing of samples		

Question 32: Answer Grid 3 of 3

Test 3:		
Name of test:		
	The procedure you follow	What you do if there's a problem at this stage
1. Deciding if a sample is acceptable		
2. Preparing the sample for analysis		
3. Carrying out the analysis		
4. Recording the results		
5. Storing or disposing of samples		

33. Problems can sometimes occur during the analysis process. Describe what you should do in each of the situations below:

- a) you have found that a sample is not acceptable for analysis
- b) the test result identifies abnormalities
- c) the test result is not clear
- d) you find a test result which you don't think is accurate

Question 33: Answer Grid

Problem	Action
a) Sample not acceptable	
b) Test identifies abnormalities	
c) Test result not clear	
d) Test result may be inaccurate	

34. Demonstrate how you carry out the tests following the procedures you have described in Questions 32 and 33.

- *This is a practical task.*
- *Your trainer, advisor or assessor will observe you doing this task.*
- *You need to demonstrate that you can follow the proper procedures for carrying out the tests.*

35. After you have carried out tests, you may need to produce reports on your findings.

Give 3 examples of reports you have to produce in your job. For each example, state:

- the information which the report should contain
- the procedure you follow to compile the report
- who has the authority to see this report
- how you ensure that only the authorised people have access to the information

- *Record your answers in the grid on the next page*
- *If there is not enough space on the grid, you can add an extra page. See page x for guidance on how to do this.*

Question 35: Answer Grid

Type of report	What information is included?	How do you compile the report?	Who is allowed to see this report?	How do you ensure that only authorised people see the report?
1.				
2.				
3.				

Verification 5:

The person responsible for the assessment of the workbook should complete these two pages.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
26			
27			
28			
29			
30			
31			
32			
33			

34			
35			

OVERALL

Please circle the statement which matches your assessment:

- b) ALL of the questions in this section have been completed to the required standard.

- h) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

b) Contributing to high-quality laboratory services

This section of the workbook looks at the work which the Medical Laboratory Technician does to make sure that the laboratory functions well, and that laboratory services are the best they can be.

This section of the workbook looks at how you make sure that:

- **laboratory equipment is always clean and maintained to appropriate standards**
- **junior staff in the laboratory receive the support and guidance they need to do their job**
- **all aspects of laboratory work meets the required quality assurance standards**
- **you contribute to research to help improve understanding of areas related to the laboratory's work**

36. Give 3 examples of laboratory equipment you are responsible for. For each piece of equipment:

- a. describe the procedures you follow when you:
 - clean the equipment, using sterilization and/or decontamination techniques if appropriate
 - check the equipment for faults
 - monitor the performance of the equipment to make sure that it functions well
- b. identify any problems that can occur if you don't follow these procedures

- *Record your answers in the grid on the next page*
- *If there is not enough space on the grid, you can add an extra page. See page x for guidance on how to do this.*

Question 36: Answer Grid

Name of equipment	Cleaning procedure	How do you check for faults?	How do you monitor the performance of the equipment?	Possible problems if you don't follow the procedures
1.				
2.				
3.				

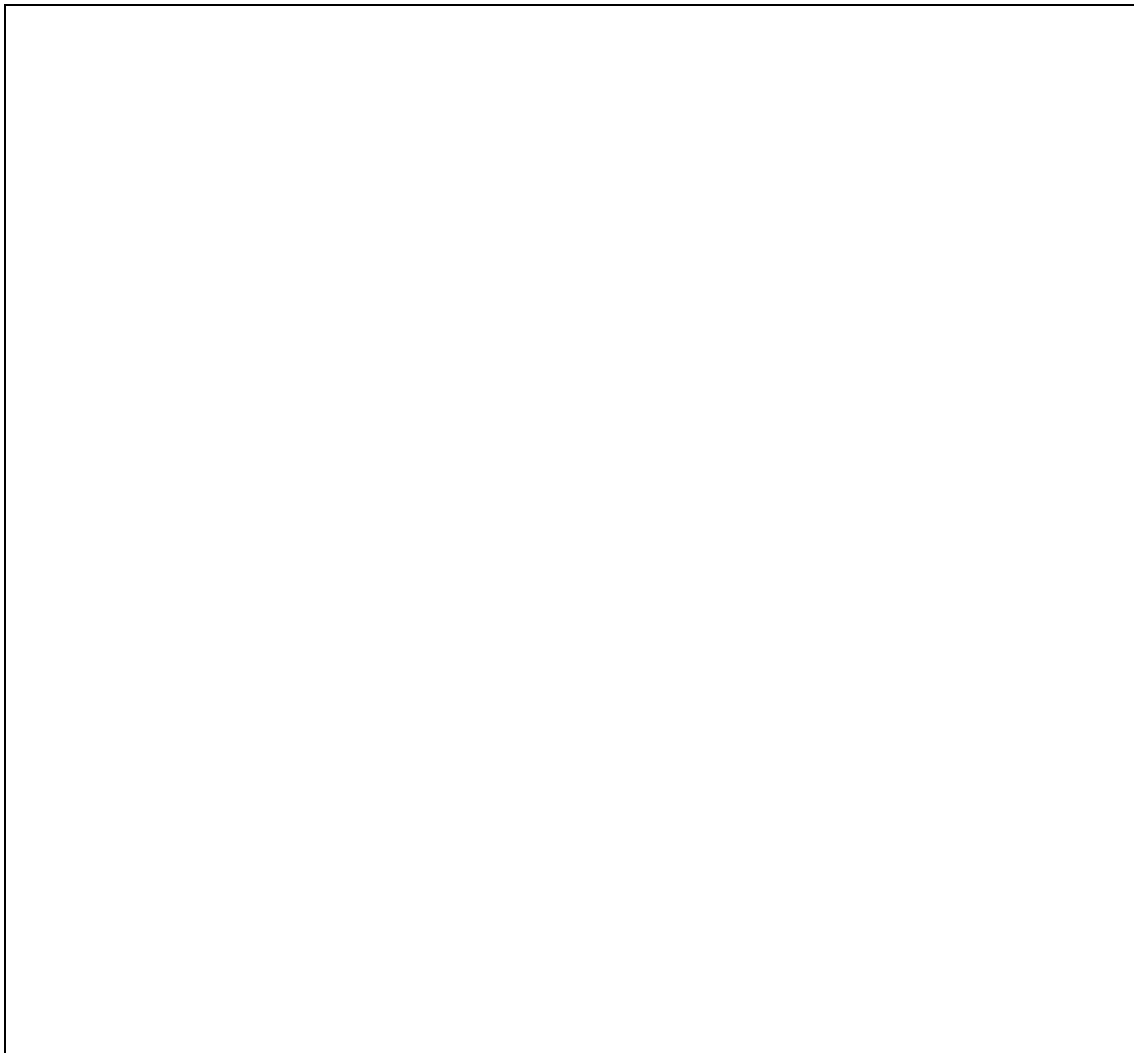
37. Demonstrate how you clean and check the equipment you identified in Question 36, following the procedures you described.

- *This is a practical task.*
- *Your trainer, advisor or assessor will observe you doing this task.*
- *You need to demonstrate that you can follow the proper procedures for cleaning and checking the equipment.*

38. Draw a diagram of the structure of your team. What is each team member's role, and what are they responsible for? Identify any team members who you manage or supervise.

- *Draw your diagram in the box below.*
- *If there is not enough space, you can add an additional page. See page x for guidance on how to do this.*

Question 37: Answer Box



39. As a member of the laboratory team, you have a duty to make sure that the quality of the laboratory services is monitored and maintained at a high level.

List any responsibilities you have for monitoring or checking the services you provide. This might include monitoring or checking:

- the performance of pieces of laboratory equipment over time
- the accuracy of tests results produced by the laboratory
- the work of individual team members to ensure that it meets required standards.

For each example, describe:

- a) the monitoring or checking tasks you carry out you
- b) the action you take if a piece of work, or a piece of equipment, does not reach the required standards.

Record your answers in the grid on the next page

There is space in the grid for 4 monitoring or checking tasks. If you carry out more tasks you can add them in an additional page. See page x for guidance on how to do this.

What do you monitor/check?	How do you monitor/check this?	What do you do if the work or equipment is not up to standard?

Question 39: Answer Grid

40. This question looks at how you support other members of your team:

IF YOU MANAGE OTHER PEOPLE:

Describe 3 things you do to make sure that your team members are appropriately trained and supported to do their job. Explain how these actions contribute to high-quality laboratory services.

IF YOU DO NOT HAVE RESPONSIBILITY FOR MANAGING OTHERS:

Describe 3 ways in which you help other or support other members of your team. Explain how these actions help the team to provide high-quality laboratory services.

- *Record your answer in the grid on the next page.*
- *If there is not enough space in the grid, you can add an additional page. See page x for guidance on how to do this.*

Question 40: Answer Grid

Tick the option which applies to you ():	
a) I manage other people. ()	
b) I don't have responsibility for managing others. ()	
What do you do?	How does this help the team provide high-quality laboratory services?

41. Many Medical Laboratory Technicians carry out research tasks under the supervision of a healthcare scientist (e.g. microbiologist; biochemist)

Identify a time when you have had to undertake a research task.

Describe:

- the aim of the research, and the task you had to perform
- what data you needed and you gathered the data you needed
- how you made sure that your research task met ethical standards for research

- *Write your answer in the box on the next page.*
- *Try to keep your answer to no more than one page.*

Verification 6:

The person responsible for the assessment of the workbook should complete the following pages.

Assessor's Notes			
	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date
36			
37			
38			
39			
40			
41			

OVERALL

Please circle the statement which matches your assessment:

- 6) ALL of the questions in this section have been completed to the required standard.

- 7) NOT ALL of the questions in this section have been completed to the required standard

If you selected b): Which questions does the candidate need to try again?

Assessor name:

Signature:

Date:

Section 4: Completing the Workbook

The person responsible for assessing the workbook must complete this section. The candidate should sign the candidate confirmation

1. Verification Table

There are 6 Verification Pages in the workbook. You must complete each page to show that the candidate has completed the requirements of the questions and tasks in the workbook.

This table summarises your assessment recorded on the Verification Pages. Please complete it fully. If the candidate has not met the requirements of any of the questions, you should record those question numbers here.

Verification Page	Question Nos.	Date assessed	Questions not complete	Signature
1	1-6			
2	7-9			
3	10-15			
4	16-25			
5	26-35			
6	36-41			

2. Reassessment

In this table you should record your assessment of any questions which the candidate did not complete in the first assessment.

Assessor's Notes			
Qu. No.	Outcome (C= complete / NC = not complete)	Comments: <i>Assessor comments should note if candidate has met the required standard, identifying any particular areas of strength or weakness.</i>	Assessor initials & date

3. Candidate confirmation – To be signed by the candidate

I confirm that the answers and evidence recorded in this workbook are my own work.

Name:

Signature:

Date:

4. Assessor confirmation – To be signed by the person responsible for assessing the contents of the workbook.

I confirm that the assessment has been carried out in accordance with the requirements of the Healthcare Sector Skills Council and are a true assessment of the evidence provided by the candidate.

Name:

Signature:

Organisation:

Date:

Appendices

Appendix 1: National Occupational Standards in the MLTQ

The Qualification Pack for the Medical Laboratory Technician Qualification contains the following National Occupational Standards (NOS)

Code	Title
N9602	Ensure availability of medical & diagnostic supplies
N9603	Act within the limits of one's competence & authority
N9604	Work effectively with others
N9605	Manage work to meet requirements
N9606	Maintain a safe, healthy & secure working environment
N9607	Practice code of conduct while performing duties
N9609	Follow biomedical waste disposal protocols
N9610	Follow infection control policies and procedures
N9611	Monitor and assure quality
N0301	Correctly collect, transport, receive, accept or reject, and store blood samples
N0302	Conduct analysis of body fluids/samples
N0303	Maintain, operate and clean laboratory equipment
N0304	Provide information about test results
N0305	Prepare and document medical tests and clinical results
N0306	Establish and monitor quality assurance program
N0307	Supervise and guide other laboratory personnel
N0308	Conduct research under guidance
N0409	Assist in fine needle cytology

Full information about the content of the NOS can be found at

<http://www.healthcare-ssc.in/index.php/national-occupational-standards>

Appendix 2: How the questions and tasks link with the NOS

The table on the next page shows how the questions and tasks relate to the NOS.

A more detailed version of this information is available for trainers and advisors. This shows the links between the questions/tasks and the individual criteria in each NOS

Question numbers

	N9602	N9603	N9604	N9605	N9606	N9607	N9608	N9609	N9610	N9611	N0301	N0302	N0303	N0304	N0305	N0306	N0307	N0308	N0409	
Hazards and risks																				
1																				
2																				
3																				
4																				
5																				
6																				
Infection control																				
7																				
8																				
9																				
Waste management																				
10																				
11																				
12																				
13																				
14																				
15																				
Being an effective worker																				
16																				
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21																				
22																				
23																				
24																				
25																				
Collecting and analysing samples																				
26																				
27																				
28																				
29																				
30																				
31																				
32																				
33																				
34																				
35																				
Contributing to high-quality laboratory services																				
36																				
37																				
38																				
39																				
40																				
41																				

Table: How workbook questions cross reference with MLTQ NOS

**HSSC MLTQ QUALIFICATION WORKBOOK
(Learner's Version)
November 2015**

**Designed and developed with the technical assistance of the
India-EU Skills Development Project.**