# Knowledge assessment 1

**Assessment event 1 of 3**

## Criteria

### Unit code, name and release number

MSL973016 - Perform aseptic techniques (1)

### Qualification/Course code, name and release number

MSL50118 - Diploma of Laboratory Technology (1)

MSL40118 - Certificate IV in Laboratory Techniques (1)

MSL30118 - Certificate III in Laboratory Skills (1)

\*\*Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is my own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: 1.0

Date created: 22/07/2019

Date modified: 12/11/2019

For queries, please contact:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

© 2019 TAFE NSW, Sydney  
RTO Provider Number 90003 | CRICOS Provider Code: 00591E

This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

The contents of this document are copyright © TAFE NSW 2019, and should not be reproduced without the permission of the TAFE NSW. Information contained in this document is correct at time of printing: 12 November 2019. For current information please refer to our website or your teacher as appropriate.

## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your knowledge as would be required to work safely using aseptic techniques in a microbiology laboratory. |
| **Assessment Event number** | 1 of 3 |
| **Instructions for this assessment** | This is a written assessment and it will be assessing you on your knowledge of the unit.  This assessment is in 5 parts:   1. Multiple choice questions 2. True or False questions 3. Short answer questions 4. Complete the table 5. Assessment feedback |
| **Submission instructions** | On completion of this assessment, you are required to upload it or hand it to your trainer for marking.  It is important that you keep a copy of all electronic and hardcopy assessments submitted to TAFE and complete the assessment declaration when submitting the assessment. |
| **What do I need to do to achieve a satisfactory result?** | To achieve a satisfactory result for this assessment all questions must be answered correctly. |
| **What do I need to provide?** | Pens and your student workbook for this unit |
| **Due date/time allowed** | 1 hour |
| **Assessment feedback, review or appeals** | Appeals are addressed in accordance with Every Student’s Guide to Assessment. |

## Part 1: Multiple choice

Read the question and each answer carefully. Put an X in the table next to your chosen answer.

1. Flaming the neck of a broth bottle:

Table 2 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. draws sterile air into the bottle |  |
| 1. creates an updraft, drawing airborne contaminants away from the sample |  |
| 1. sterilises the neck of the bottle |  |
| 1. both b) and c) |  |

1. Which of the following would be inappropriate for visually identifying microorganisms?

Table 3 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. broth subculture |  |
| 1. contaminated subculture |  |
| 1. lawn plate subculture |  |
| 1. all of the above |  |

1. A contaminated agar plate should be disposed of in the:

Table 4 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. stainless steel autoclave bucket |  |
| 1. contaminated waste bin |  |
| 1. biohazards sharps bin |  |
| 1. general waste bin |  |

1. Contaminated but reusable equipment, for example, broth bottles, should be place in the:

Table 5 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. stainless steel autoclave bucket |  |
| 1. contaminated waste bin |  |
| 1. biohazards sharps bin |  |
| 1. general waste bin |  |

1. Pure culture is important for microbiological investigation and interpretation of results because:

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. the presence of two or more types of microorganisms will change further test results |  |
| 1. visual observations of single isolated colonies are used to identify microorganisms |  |
| 1. a contaminated culture may result in the identification of the incorrect microorganism |  |
| 1. All of the above |  |

1. Name **two** hygiene procedures that are followed in a microbiology laboratory in order to obtain growth free of contamination?

Table 7 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Wash hands before transfer and disinfect bench before transfer |  |
| 1. Wash hands after transfer and disinfect bench after transfer |  |
| 1. Wash hands before transfer and disinfect bench after transfer |  |
| 1. Wash hands after transfer and disinfect bench before transfer |  |

1. Which subculture technique shows whether a culture is pure, mixed or contaminated?

Table 8 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. A lawn plate subculture |  |
| 1. Streak plate subculture |  |
| 1. Slope subculture |  |
| 1. Broth subculture |  |

1. What is the effect of the disinfectant used to wipe down benches?

Table 9 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. To completely eliminate microorganisms, present on the bench |  |
| 1. To reduce the number of microorganisms, present on the bench. |  |
| 1. To remove any dust present on the bench |  |
| 1. To remove any stains and dust marks present on the bench |  |

1. How do you minimise the generation of aerosols when flaming?

Table 10 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Rapidly draw the inoculation instrument through the flame |  |
| 1. Instead of flaming, just drop the inoculation instrument into disinfectant |  |
| 1. Slowly draw the wire through the tip of the blue cone, starting at the base of the wire, and ending with the loop |  |
| 1. Wave the inoculation instrument backwards, forwards and side to side through the flame multiple times |  |

## Part 2: True or false

Read the question and then write **True** or **False** in the space provided.

Table 12 True or false

| Question | Write *True* or *False* |
| --- | --- |
| 1. A contaminated subculture plate indicates that sterile practices were followed |  |
| 1. A pure culture is one in which proper sterilisation techniques have been applied |  |
| 1. Pure cultures are those with a single species |  |
| 1. Disinfectants and antiseptics do not reduce or kill spores |  |
| 1. An antiseptic is used to reduce the microbes on people and animal’sskin |  |
| 1. All microorganisms require atmospheric oxygen for growth |  |
| 1. Moulds grow well at 37OC |  |
| 1. Human pathogenic bacteria grows best at 37OC |  |

## Part 3: Short answer

Read the question carefully. The word count is listed at the end of each question below.

1. List two sterile practices and explain why they are important in obtaining accurate test results (15 to 30 words).
2. List two steps for good hygiene before commencing aseptic transfer (15 to 20 words):
3. What is the purpose of sterile practices and hygiene procedures (10 to 30 words)?
4. What is the effect of poor sterile practices and hygiene procedures on the culture and results (10 to 30 words)?
5. Give two examples of:
   1. Physical microbial control (5 to 15 words)
   2. Chemical microbial control (2 to 10 words)
6. When finished in the laboratory, what steps should you take to disinfect your workstation and yourself (15 to 30 words)?
7. What specific type of agar is used for fungi cultures (2 words)?
8. Write one fact about each of the following types of culture media:
   1. Nutrient media (2 to 10 words)
   2. Minimal media (2 to 15 words)
   3. Selective media (2 to 15 words)
   4. Differential media (2 to 10 words)

## Part 4: Complete the table

Read the question carefully and complete each row of the table below.

1. List the uses of the following substances in culture media (5 to 30 words per cell):

Table 13 True or false

| Ingredient | Used for: |
| --- | --- |
| Water |  |
| Sodium chloride |  |
| Proteins and sugars |  |
| Buffers |  |
| Selective agents |  |
| Enrichment additives |  |

1. Complete the table below for potential hazards and the controls we might use to prevent them (1 to 50 words per cell):

Table 14 True or false

| Hazard | Potential hazard | Controls |
| --- | --- | --- |
| Sharps |  |  |
| Burners |  |  |
| Molten agar |  |  |
| Ultraviolet (UV) light |  |  |
| Infectious agents |  |  |
| Hazardous substances |  |  |

1. Where should the following items be safely and correctly disposed of (1 to 5 words per cell)?

Table 15 True or false

| Item | Disposal receptacle |
| --- | --- |
| Inoculated agar plate |  |
| Contaminated transfer pipette |  |
| Contaminated swab |  |
| Bottle of inoculated broth |  |
| Contaminated scalpel blade |  |
| Contaminated syringe needle |  |

1. Complete the table below by describing the following principles of infection control (5 to 30 words per cell):

Table 16 True or false

| Principle | Description |
| --- | --- |
| Hand hygiene |  |
| PPE |  |
| Handling and disposal of sharps |  |
| Managing the physical environment |  |
| Aseptic technique |  |
| Waste management |  |

## Part 5: Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***