# Knowledge assessment 2

**Assessment event 2 of 3**

# Trainer & Assessor Marking Guide

## 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\*\*

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For queries, please contact:

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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)

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Instructions for the trainer and assessor** | This is a written assessment and will be assessing the student on their 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   Model answers, sample responses or a criteria for each question are provided below.  Use these to support your judgement when determining a satisfactory result.  The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct. However, if a student provides information other than indicated below, and in the professional opinion of the assessor it is appropriate and meets the intent of the question, it may be considered correct.  The assessment feedback page must be signed by both the student and the assessor so the student displays that they have received, understood and accepted the feedback.  Complete the assessment feedback to the student and ensure you have taken a copy of the assessment prior to it being returned to the student.  Ensure the students name appears on the bottom of each page of the submitted assessment. |
| **About this marking guide** | The student’s response to each question must contain the information indicated in this marking guide in order for their response to be correct.  All questions must be answered correctly in order to satisfactorily complete this assessment event.  Assessors will need to make a judgement call as to whether each answer/response meets the criteria based upon the:   * Rules of Evidence:   + Validity – does the answer address the assessment question and does the evidence reflect the four dimensions of competency?   + Sufficiency – is the answer sufficient in terms of length and depth?   + Currency – has the work been done so recently as to be current?   + Authenticity – is this work the student’s own authentic work? * Principles of Assessment:   + Fairness – individual student’s needs are considered in the assessment process   + Flexibility – assessment is flexible to the individual student   + Validity – any assessment decision is justified, based on the evidence of performance of the student   + Reliability – evidence presented for assessment is consistently interpreted and assessment results are comparable irrespective of the assessor conducting the assessment * Dimensions of competency   + Task skills   + Task Management Skills   + Contingency Planning Skills   + Job Role Environment Skills |
| **Student must provide** | Pens and your student workbook for this unit |
| **Assessor must provide** | A room suitable for examination, a timer, spare pens |
| **Time allowed** | 30 minutes |

## Part 1: Multiple choice

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

1. What does sterile mean?

Table 2 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Free from spores |  |
| 1. Free from any living microorganism and spores | X |
| 1. Free from spores of mould |  |
| 1. Free from microorganisms |  |

1. What is the function of an autoclave?

Table 3 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. To sterilise culture media, materials and contaminated waste using steam under pressure | X |
| 1. To sterilise heat sensitive / labile materials |  |
| 1. To incubate culture media and contaminated waste |  |
| 1. To sterilise culture media, materials and contaminated waste using boiling water |  |

1. A water sample was passed through a 0.2um membrane in a Millipore filtration apparatus. The water sample filtrate was streaked onto TSA and incubated. Which result would indicate that the filtrate is sterile?

Table 4 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Bacteria from the water sample passed through the membrane and colonies of bacteria had grown on the TSA plate |  |
| 1. Bacteria from the water sample passed through the membrane and there was no growth on the TSA plate |  |
| 1. Bacteria from the water sample was unable to pass through the membrane and colonies of bacteria had grown on the TSA plate |  |
| 1. Bacteria from the water sample was unable to pass through the membrane and there was no growth on the TSA plate | X |

1. Membrane filtration is used to:

Table 5 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. sterilise liquid by physically removing microorganisms | X |
| 1. chemically inhibit the growth of microorganisms |  |
| 1. kill microorganisms |  |
| 1. physically kill spores |  |

1. Radiation is used as a method of sterilising:

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. plastic consumables and other heat sensitive equipment | X |
| 1. glass test tubes and broth bottles |  |
| 1. agar and agar plates |  |
| 1. all of the above |  |

1. Ethical behaviour in a microbiology laboratory would be considered to be:

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. sharing confidential test results with your colleagues over lunch |  |
| 1. accidentally contaminating a sample and not informing your supervisor |  |
| 1. throwing out a sample that has incorrect paperwork and failing to inform the requesting or authorised doctor |  |
| 1. none of the above | X |

## 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. Boiling kills living microorganisms and spores | F |
| 1. An inoculation instrument is flamed to sterilise it | T |
| 1. The blue flame is used for sterilising | T |
| 1. It is ethical to share a patient’s test results with their family when they call | F |
| 1. Autoclaving and reusing glass containers and test tubes reduces waste | T |

## Part 3: Short answer

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

1. Name **two** items that should be flamed (3 to 10 words).

**Any 2 of the following is correct**

Inoculation loop

Stab wire

Glass container or test tube

1. List **four** sterilisation techniques used in a microbiology laboratory (4 to 10 words):

**Any 4 of the following is correct**

Autoclaving, UV light, radiation, high temperature boiling, membrane filtration, gas or chemical treatment

1. When working in a laboratory undertaking testing of patient specimens, what legal requirements need to be considered (10 to 30 words)?

Patient confidentiality, document security, release of records to authorised agents (i.e. requesting doctor or authorised doctor)

1. You are about to conduct an aseptic transfer. List the environmental sustainability issues related to this task (10 to 50 words):

Biohazardous materials – safe disposal

Consumption of energy (gas and electricity)

Water usage (RO water – electricity and water usage)

Sharps – safe disposal, could be recycled

Consumables – safe disposal and / or recycling of

## Part 4: Complete the table

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

1. Complete the following table comparing radiation and autoclaving as a method of sterilisation. Circle the correct answer.

|  |  |  |
| --- | --- | --- |
| Sterilisation technique | Penetrates plastic packaging | High temperature required |
| Autoclaving | No | Yes |
| Radiation | Yes | No |

1. Completed the table below for work health and safety requirements in a microbiology laboratory (5 to 20 words per cell).

|  |  |
| --- | --- |
| Stage of processing | Work Health and Safety (WHS) requirements |
| Sample receipt | PPE  Care with handling breakable / infectious packages (cuts and infection control) |
| Preparation for aseptic transfer | Disinfection of workstation and equipment  Handwashing  PPE |
| Aseptic transfer | PPE  Sharps and infectious agents covered until use and after use |
| Analysis of results | PPE  Care with handling breakable / infectious items (cuts and infection control) |
| Housekeeping | Disinfection of workstation and equipment  Handwashing  PPE  Safe and correct disposal of wastes |