# Knowledge Assessment

**Assessment event 1 of 2**

## Criteria

### Unit code, name and release number

MSL933005 - Maintain the laboratory/field workplace fit for purpose (1)

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

MSL30118 - Certificate III in Laboratory Skills (1)

## 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: 10/10/2019

Date modified: 20/01/2020

For queries, please contact:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

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## 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:   * Clean work preparation areas * Clean and store equipment * Monitor stocks of materials and equipment * Maintain a safe work environment |
| **Assessment Event number** | 1 of 2 |
| **Instructions for this assessment** | This is a written assessment and it will be assessing you on your knowledge of the unit.  This assessment has 4 parts:   1. Multiple choice questions (Questions 1-10) 2. True or False questions (Questions 11-20) 3. Short answer questions (Questions 21 – 26) 4. 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?** | Calculator, pens and pencils |
| **Due date/time allowed** | To be issued by the beginning of week 3 of the unit delivery for return three weeks prior to the first occurrence of the Skills Assessment. |
| **Assessment feedback, review or appeals** | In accordance with the TAFE NSW policy *Manage Assessment Appeals,* all students have the right to appeal an assessment decision in relation to how the assessment was conducted and the outcome of the assessment. Appeals must be lodged within **14 working days** of the formal notification of the result of the assessment.  If you would like to request a review of your results or if you have any concerns about your results, contact your Teacher or Head Teacher. If they are unavailable, contact the Student Administration Officer.  Contact your Head Teacher for the assessment appeals procedures at your college/campus. |

## Part 1: Multiple choice (Questions 1 – 10)

Read the question and each answer carefully. Put an X in the table next to your chosen answer. (Choose the most appropriate response).

1. It is important for your safety and the safety of others in the area that you:

Table 2 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. commence the day with a clean work area |  |
| 1. clean as you go about your daily tasks |  |
| 1. finish the day leaving the laboratory clean and tidy |  |
| 1. all of the above |  |

1. Which of the following cleaning techniques would be the **most** appropriate for cleaning surfaces in a laboratory where the surfaces may be contaminated with microbiological materials?

Table 3 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Wiping with paper towel |  |
| 1. Using a sanitising agent with scrubbing of the surface |  |
| 1. Radiation of the surface with UV light |  |
| 1. A combination of b and c |  |

1. Ethical behaviour in a laboratory would **not** include:

Table 4 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. working diligently and responsibly in accordance with laboratory policy and procedures |  |
| 1. ensuring confidentiality of information, including client identification and test results |  |
| 1. altering the results of an analysis to ensure the test result was compliant |  |
| 1. behaving honestly, respecting others and treating them with courtesy and impartiality |  |

1. Sustainable practices that relate to a laboratory would **not** include:

Table 5 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. minimising waste |  |
| 1. leaving computer screens on continually |  |
| 1. turning off equipment when not in use |  |
| 1. regular cleaning of fume cupboard filters |  |

1. Field monitoring could be undertaken for:

Table 6 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. compliance under a statutory requirement |  |
| 1. part of an environmental management plan |  |
| 1. monitoring a particular site following a sampling plan |  |
| 1. all the above |  |

1. A consultative approach to WHS and environmental issues **does not** include:

Table 7 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. information about existing or new issues |  |
| 1. being directed to follow a particular set of instructions with no scope for input and consultation |  |
| 1. use of clear and understandable language and provision for non-English speaking and hearing-impaired people |  |
| 1. formal arrangements such as health and safety committees |  |

1. Incidents related to a laboratory or fieldwork could include:

Table 8 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. emergency situations such as fire, bomb threat, security threat and explosion |  |
| 1. biological, chemical or radioactive spills |  |
| 1. injuries, such as cutting, stabbing, puncturing, crushing, immersion in water, suffocation, snake bite, hypothermia, burns allergic reactions and assaults |  |
| 1. all of the above |  |

1. Which of these would **not** be considered an appropriate reason for regular stocktake of laboratory resources (equipment and reagents)?

Table 9 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. To ensure there are adequate supplies for expected requirements |  |
| 1. To identify who is putting items away inappropriately |  |
| 1. To check for out of date materials |  |
| 1. To ensure chemicals are stored correctly |  |

1. Which of these would be classified as inappropriate storage of stock (reagents and/or equipment)?

Table 10 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. Reagents stored alphabetically in their various classes |  |
| 1. Large volumes of poisonous material stored on work benches |  |
| 1. Flammable liquids stored in a flammable liquid cupboard |  |
| 1. Large containers stored on the bottom shelves |  |

1. Which of the following would be inappropriate for a chemical store?

Table 11 Multiple choice

| Answer choices | Put X next to your answer |
| --- | --- |
| 1. A lockable poison cupboard |  |
| 1. Fire-proof cupboard for volatile, flammable liquids |  |
| 1. An unventilated room |  |
| 1. Offsite storage for large amounts of hazardous materials |  |

## Part 2: True or false (Questions 11- 20)

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

Table 12 True or false

| Question | Write *True* or *False* |
| --- | --- |
| 1. Sterilisation is the destruction of all micro-organisms on a surface. |  |
| 1. An SDS is an important document that contains information on the clean-up of spills of hazardous materials. |  |
| 1. Minimising environmental impact should consider the effect of movement of vehicles in the field. |  |
| 1. When completing fieldwork reporting abnormal emissions or discharges would be considered as part of the legal and ethical requirements of the task. |  |
| 1. The purpose of paperwork for WHS and environmental incidents is not to blame but to determine how avoid the situation occurring again in the future. |  |
| 1. Visitors to a laboratory are not required to wear any personnel protective equipment as they will not be undertaking any task. |  |
| 1. The hazardous chemical register for a worksite must be available to all workers involved in the use, storage and handling of hazardous chemicals. |  |
| 1. If changing work pressures may result in stock shortages the issue should be raised with those responsible for ordering urgently. |  |
| 1. A technician in a laboratory has the right to expect that all possible controls are in place to lower laboratory risks. |  |
| 1. Maintenance issues related to equipment/instruments need only to be looked at during scheduled maintenance periods. |  |

## Part 3: Short answer (Questions 21 – 26)

Read the question carefully. Your answer should be a minimum of 5 words but no longer than 50 words.

**Note:** a table may only require a single word response.

1. Choose three routine tasks you complete in the laboratory/field and complete the following table for each showing:
2. the task
3. typical hazards and controls in place for the task
4. typical equipment required for the task
5. typical materials/resources required for the task
6. PPE required for the task.
7. waste minimisation and disposal procedures
8. environmental sustainability issues

Table 13 Short answer

|  |  |
| --- | --- |
| Task 1 |  |
| Typical hazards and controls in place |  |
| Typical equipment |  |
| Typical materials/resources |  |
| PPE required |  |
| Waste minimisation and disposal procedures |  |
| Environmental sustainability issues |  |
| Task 2 |  |
| Typical hazards and controls in place |  |
| Typical equipment |  |
| Typical materials/resources |  |
| PPE required |  |
| Waste minimisation and disposal procedures |  |
| Environmental sustainability issues |  |
| Task 3 |  |
| Typical hazards and controls in place |  |
| Typical equipment |  |
| Typical materials/resources |  |
| PPE required |  |
| Waste minimisation and disposal procedures |  |
| Environmental sustainability issues |  |

1. Arrange the following into an appropriate order for the general cleaning and disinfection of a work surface. Place the numbers in order to achieve the best result for the disinfection of a laboratory bench found in the chemical laboratory:

|  |  |
| --- | --- |
| Order | Procedure |
|  | Apply disinfectant to the surface and allow it to soak in |
|  | Leave surface to dry |
|  | Remove obvious physical contaminants such as such as dirt |
|  | Wipe down the surface |
|  | Clean with hot water and detergent |
|  | Rinse with water to remove detergent traces |

1. Select and name two different surfaces that clean in your laboratory (these could be in a general laboratory, a micro-laboratory, balance room, instrumental laboratory etc.). Complete the table indicating:

* The location of the surface
* The type of the clean (general, sanitising or sterilisation)
* The appropriate cleaning agents
* The equipment required
* Wastes generated and any special procedures for their disposal
* PPE required

|  |  |
| --- | --- |
| Surface 1 |  |
| Location of the surface |  |
| Type of clean |  |
| Cleaning agents |  |
| Equipment required |  |
| Wastes generated/ special procedures |  |
| PPE |  |
| **Surface 2** |  |
| Location of surface |  |
| Type of clean |  |
| Cleaning agents |  |
| Equipment required |  |
| Wastes generated/ special procedures |  |
| PPE |  |

1. Read the following SOP for the Cleaning and Storage of Glassware and then complete the exercise at the end.

**Note:** for this task cleanliness includes the absence of residue and trace contaminants.

**SOP: Cleaning and Storage of Glassware**

1. Examine for physical damage: Any cracked or broken glassware is to be discarded in the broken glass disposal container
2. Cleaning and removal of residue
   1. Remove all tape and labels
   2. Wash with a laboratory grade detergent. (Cleaning with a stiff brush will be sufficient to give a thorough physical clean)
   3. Where water-insoluble organic compounds have been used, organic solvents such as ethanol or propanone by be required
   4. Strong acids are useful for removing resistant residues, such as insoluble metal salts and decomposed organic matter. **Note:** if strong acids such as sulfuric and nitric are to be used the SDS should be read closely before use
   5. Rinse well several times with tap water and then rinse with distilled water if required. The glassware is now read for drying
3. Automatic cleaning apparatus
   1. If available, a laboratory dishwasher may be used for cleaning some types of laboratory glassware (beakers, conical flasks, volumetric flasks)
   2. Automated pipette and burette washers may be used if available. Burette taps must be open and have at least 3 washes with a cleaning solutions, followed by several rinses with pure water
4. Sterilisation
   1. glassware that has been contaminated with micro-organisms will need to be sterilised by autoclaving
   2. After sterilising, glassware can then be cleaned as outlined above
5. Drying

5.1 If the glassware is not required immediately after cleaning, then air drying on a rack is satisfactory. Hot air drying racks or glassware drying cupboards can accelerate drying

1. Storage

6.1 Once dry, glassware should be stored in the appropriate place in the laboratory

After examining the SOP: Cleaning and Storage of Glassware, rearrange the steps in the table for cleaning and storing glassware into the appropriate order in which they should be carried out to ensure the glassware is ready for use.

|  |  |  |
| --- | --- | --- |
| Steps | No | Correct Order |
| Wash residue with organic solvent | 1 |  |
| Place clean, dry glassware in storage cabinet | 2 |  |
| Remove any labels | 3 |  |
| Dispose of damaged glassware in glass disposal container | 4 |  |
| Rinse several times with distilled water | 5 |  |
| Place clean glassware on drying rack | 6 |  |
| Wash with detergent and cleaning brush | 7 |  |
| Rinse several times with tap water | 8 |  |

1. For an allocated area of a laboratory complete the table below by:

* identifying the particular laboratory area
* listing the main types of glassware, equipment, reagents that are available
* listing storage requirements for the identified glassware, equipment, reagents.

This list will form one section of your later Skills Assessment. The section will be returned to you at the Skills Assessment for you to complete a stocktake on the identified glassware, equipment and reagents over 2 sessions.

| Laboratory area: | | | | | |
| --- | --- | --- | --- | --- | --- |
| Glassware | Storage | Equipment | Storage | Reagents | Storage |
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1. Describe the process for the collection of used equipment, the inspection of faults and removal from service of equipment that needs repair in the laboratory area:

## Part 4: 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.***