



Australian Government

A U S T R A L I A N
A P P R E N T I C E S H I P S

Your Life. Your Career. Your Future.

Horticulture

Practice Aptitude Quiz

Practice Aptitude Quiz

Part 1: About this quiz

Use this quiz to prepare for an Apprenticeship in Horticulture

This quiz:

- Is NOT a formal assessment tool or pre-requisite for any job application
- Shows key learning standards for the Horticulture industry
- Has been developed with the help of industry leaders, TAFE and high schools

Quiz details

This quiz will:

- Take approximately 60 to 90 minutes to complete
- Ask you numeracy and literacy questions specific to the Horticulture industry
- Assess your literacy and numeracy at a Year 11 standard
- Allow you to use a calculator
- Share correct answers at the end

Who should take this quiz?

You should complete this quiz if you:

- Are thinking about starting an Apprenticeship in Horticulture
- Want to practise for a formal aptitude test

Need help with your literacy and numeracy skills?

If you want to improve your literacy and numeracy skills, reach out to any of the below:

- Australian Apprenticeship Support Network providers
- Your Registered Training Organisation when you start training
- Reading Writing Hotline:
1300 655 506
www.readingwritinghotline.edu.au
- Careers advisers and your teachers (if you're in high school)

More information about the Horticulture industry

Visit www.yourcareer.gov.au/industries/A/agriculture-forestry-fishing

On this page you'll be able to:

- See the most popular Horticulture occupations
- Get general information and statistics about the industry
- Search for Horticulture courses

Practice Aptitude Quiz

How to use this quiz

This is an interactive form that can be filled out on your computer.

You can either:

- Fill it out on your computer; OR
- Print it out; OR
- Write your answers down on paper as you go.

Use the answers section at the end of the quiz to see how you went.

How to complete this quiz on your computer

1. Download and save the quiz onto your computer
2. Open the file from your computer
3. Fill in the form using a keyboard and mouse

Practice Aptitude Quiz

Part 2: The Quiz

Section 1: Language and Literacy

1. The following text has 10 spelling errors in it. Identify the errors and list them with the correct spelling in the order you find them in the text:

Horticulture is a great career choice if you like to work outdoors and there are many different industry sectors that offer varied types of jobs and career paths. Some of the main sectors to choose from within horticulture consist of turf maintenance (sporting ovals), parks and gardens maintenance (public open space), landscaping (building gardens), nursery (growing plants), arboriculture (trees) and conservation and land management (bush landscapes). There are many career pathways and opportunities available to prospective employees willing to apply themselves.

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

2. Write the correct spelling for the following words:

- a. Watering _____
- b. Chemcials _____
- c. Hazasrrd _____
- d. Certifikate _____
- e. Sprinklar _____
- f. Equiepamnt _____
- g. Vocationl _____
- h. Gardan _____
- i. Careera _____
- j. Partisipate _____

Practice Aptitude Quiz

3. Select the 8 incorrectly spelt words from the group below:

Shovel	Spade	Wheelbarrow	Irrigation
Trench	Decidious	Evergreen	Flower
Leaflett	Disease	Chemocals	Knapsack
Vallve	Nursery	Sunblok	Secuteurs
Fertiliser	Fungi	Nutrition	Prunning
Excavate	Chainsaw	Virrus	Groundcover

4. Read the following passage and answer the questions that follow:

The Horticulture Industry is an industry which seeks to design, develop and maintain a variety of different living landscapes to suit the desired focus.

A horticultural project begins with an idea and ends with the completion of the final living landscape.

From the start to end there are a number of stages and each stage has its own series of steps. In order for each stage of the project to be completed successfully, effective communication is vital.

Communication can only be considered successful when the receiver of the information understands exactly what the sender of the information intended.

Feedback from the receiver of the information to the sender of the information can determine if the communication was successful.

Workplace communication is how we convey or share information in the workplace. People use a wide variety of ways to communicate with each other. Sometimes these are used alone or combined together to make a message or information clearer.

Methods of communication include verbal, written, electronic and non-verbal. When communicating you must be accurate, clear, concise, comprehensive and logical

Practice Aptitude Quiz

Section 2: Numeracy

Calculators may be used.

1. You have been asked to lay instant turf for a client's front lawn. The area measures 6 metres x 9 metres. How many square metres (m^2) of turf will you need to cover the area?

2. A garden design for a client's garden has been drafted. The plan has been drawn to a scale of 1:100. The plan requires you to plant five trees along a fence at 3 metres (3,000 millimetres) apart. How many millimetres would 3 metres be at 1:100 scale?

3. There is a need to spray some herbicide on a very weedy garden bed using a backpack pump and spray hose. The garden bed measures 10 x 9 metres. The chemical you are using is to be diluted in water at a rate of 10mls per litre of water with an application rate of 1 litre per 10 m^2 .
 - a. How many litres of diluted chemical solution would be required to cover the area?

 - b. How much concentrated chemical is required to make up this amount of solution?

4. A garden bed has been excavated and requires new soil to be added. The bed measurements are 4 metres long x 3 metres wide x 0.3 metres deep. Using the formula $\text{area} = \text{length} \times \text{width} \times \text{depth}$, calculate the volume of soil required to refill the bed:

Practice Aptitude Quiz

5. Ramos has been asked to calculate how many pavers will be required for a new pathway that is to be paved. The new pathway is 15 metres long and 1.5 metres wide. The number of pavers required for 1 m² is approximately calculated at 38 pavers, which includes an allowance for a few damaged pavers. How many pavers does Ramos require for the job?

6. Chris has been asked to plant out a garden bed that is 5 metres x 3 metres, using a native groundcover *Myoporum parvifolium* or Creeping boobialla. This prostrate plant typically grows to 0.1 m high x 1.5 m wide and will be planted out in mass for a quick carpet like effect. Planting density will be three plants per m². How many plants will Chris need to complete the job?

7. Nang is installing a new trellis system for growing grape vines and needs to determine how much trellis wire to purchase. The vine rows are 25 m long. Each row has 3 lines and there are 45 rows. How much length of wire will Nang require?

8. When pruning a tree support lines are often used to control the fall of large limbs. If support line rope costs \$8.00 a metre, how many complete metres of rope could be bought for \$250.00?

Practice Aptitude Quiz

9. Match the numbers to their descriptions, write your answers in the table below:

$\frac{3}{8}$

35°

25%

5:4

16.37

$2\frac{1}{3}$

a. percentage	
b. decimal number	
c. fraction	
d. mixed number	
e. ratio	
f. angle	

10. Solve the following equations:

a. $2 + 6 \times 7$

b. $4 - 11 \div 2$

c. $50 + 26$

d. 2×57

e. $(12 - 4) \times 3$

f. $(35 \div 5) \div (14 \div 4)$

g. 9^2

h. $\sqrt{25}$

Practice Aptitude Quiz

11. Solve the following subtraction, addition, multiplication and division questions:

a. Subtract:

i. 1,784 from 5,218

ii. 29.461 from 43.18

b. Find the total of:

i. \$2.00, \$21.45 and \$8.23

ii. 18.32, 471.019 and 315

iii. 2.63 m and 50 cm

c. Multiply:

i. 6.87 by 10

ii. 13.8 by 3

iii. 46.2 by 8.5

d. Divide:

i. 3.45 by 10

ii. 3024 by 14

iii. 56.2 by 0.2

12. Michael purchased a whipper-snipper for \$250 which he later sold for \$375.

a. How much profit did he make?

b. What was the profit as a percentage of the cost price?

**13. Tom is a landscaper who buys the following items from a hardware store:
plants \$450, post hole shovel \$55, tie wire \$5, and a bag of fertiliser \$14.
Tom gets 10% trade discount.**

a. How much would Tom pay without discount?

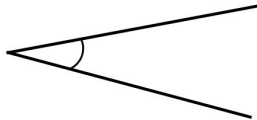
b. How much will he pay with the discount?

c. How much has Tom saved?

Practice Aptitude Quiz

19. Estimate the size of the following angles by selecting the appropriate answers from the list below:

a.

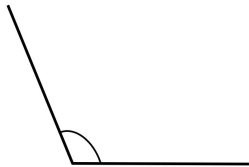


30

110

170

b.



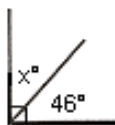
30

110

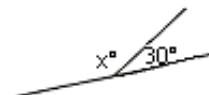
190

20. Find the value of x° in the following:

a.

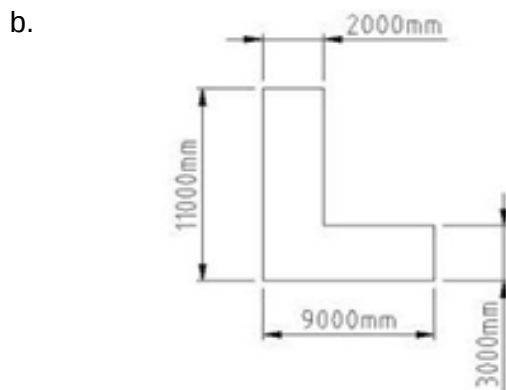
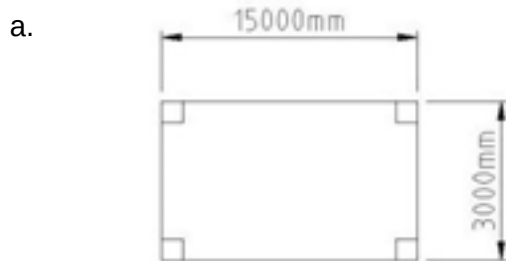


b.

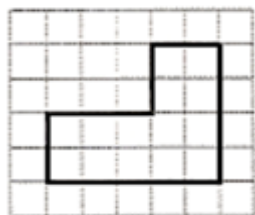


Practice Aptitude Quiz

21. Find the perimeter of these shapes:



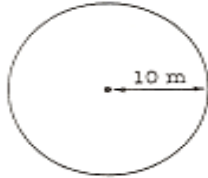
22. If each square represents 1 square metre, what is the area of the shape shown?



23. A bricklayer estimates there are 55 bricks to the square metre. How many bricks are needed to create a 6 square metre garden retaining wall?

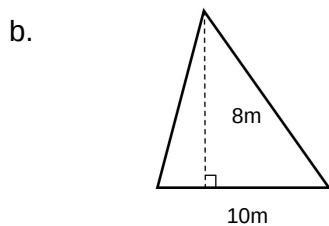
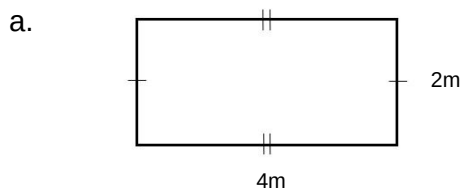
Practice Aptitude Quiz

24. Calculate the area of this circle? Use the formula $A = \pi r^2$, where $\pi = 3.14$:



25. A concrete footing, in the shape of a cylinder has a radius of 400 mm and a height of 600 mm. What is the volume of the footing in metres? Use the formula $V = \pi r^2 h$, where $\pi = 3.14$.

26. What is the area of these shapes?



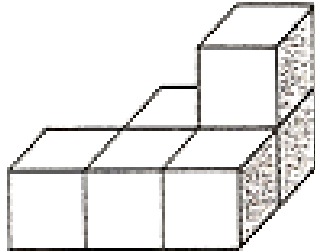
27. A circular flowerbed with a radius of 3 metres is to be surrounded by a concrete path 1 metre wide. Use the formula $A = \pi r^2$, where $\pi = 3.14$.

a. Calculate the area of the path:

b. A quote to supply and lay the concrete for this path is \$10 per square metre. What is the cost of the path?

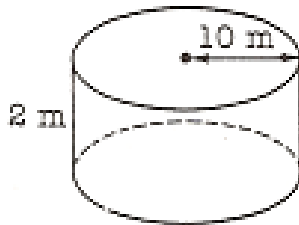
Practice Aptitude Quiz

28. If each cube represents 1 cubic metre, what is the total volume of the shape shown?

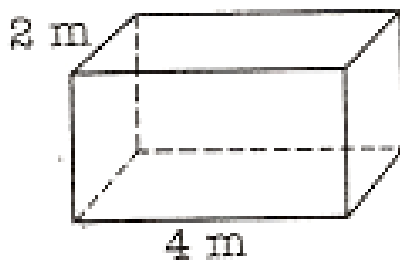


29. Calculate the volume of the cylinder using the formula $V = \pi r^2 \times \text{height}$:

Use $\pi = 3.14$.



30. If the volume of this box is 24 cubic metres, how high are the sides?



Practice Aptitude Quiz

Section 3: General knowledge

1. Plant botanical names are recorded using the Latin language and are written using italics. Plant common names are written in English and begin with a capital letter. Which of the following is **NOT** a common name? Select the correct answer.

Seaside daisy

Eucalyptus camaldulensis

River red gum

2. Most plants produce flowers, leaves, stems, and roots. They all carry out different functions for the plant. Which of the following is **NOT** a leaf function? Select the correct answer.

Release oxygen into the air

Anchor the plant to the ground

Manufacture sugar

3. Which of the following is **NOT** a function of a plant's root system? Select the correct response.

Uptake of water and nutrients from the soil

Production of seed

Anchor the plant to the soil

Practice Aptitude Quiz

4. Plants require nutrition to allow them to grow, flower and produce seeds. Which one of the following is NOT considered a nutritional substance? Select the correct response.

Iron

Nitrogen

Phosphorus

Wetting agents

Potassium

Calcium

5. A tree type is determined by either of two main growth groups: evergreen (has leaves in all seasons) and deciduous (lose their foliage during the winter or dry season). You have been asked to recommend a species of tree that is to be planted in a client's back yard outside the kitchen window. The client has requested that the tree provide shade in the summer and allow light to come through in winter. Which would you choose; an evergreen tree or a deciduous tree?

6. Plants are used in many industries and can be found in many everyday use products. Plants also act as air purifiers and help to reduce carbon levels within the atmosphere. From the list below, select the benefit which plants do NOT provide us:

Building products

Food substances

Heat

Plastics

Habitat for insects

Medicine

Cotton fabrics

Reduce water table levels

Natural chemicals

Practice Aptitude Quiz

7. Many plants produce fruits that contain seeds inside the flesh. Which of the following fruit has its seeds on the outside? Select the correct response.

Orange

Apple

Strawberry

Tomato

8. An automated irrigation system has been installed in a garden that you are maintaining. The irrigation controller is functioning correctly, however the timing schedule for when the irrigation will turn on needs to be adjusted. Considering issues such as water wastage through sun evaporation during the heat of the day and how plants respond better to deep watering around their root zones when the sun is shining, when would you program the system to turn on? Select the correct response.

Turn on several times in short bursts during the middle of the day

Turn on once during the morning for a longer period

Turn on several times in short bursts at night

Practice Aptitude Quiz

9. Soil structure and soil composition are very important elements for the successful growing of plants. Most plants grow well in free draining soil. Which step would most improve the drainage in an area that was waterlogged and had water pooling on the soil surface? Select the correct response.

- Core or spike the area to aid in drainage of the topsoil profile
- Integrate some clay into the soil
- Integrate a fertilizer into the soil
- Increase the irrigation water flow within the irrigation controller

10. Implementing sustainable environmental practices is a vital component of horticultural activities. Are the following statements true or false? Select the correct response.

a. Australian tropical plants that thrive on lots of water and lots of nutrients would be the best plants to plant in a hot and dry area.

True

False

b. Australian native plants that thrive with minimal summer watering and low nutrients are the best plants to plant in a hot and dry area.

True

False

Practice Aptitude Quiz

11. Soils in Australia are said to be typically nutrient poor, requiring fertiliser to be added. Typically, soils are tested for their structure, texture, pH (concentration of Hydrogen ions in the soil) and infiltration rates (the ability of water to drain through a soil profile). Different soils have a variety of these characteristics. Select the one characteristic of soil that is NOT important to infiltration rates:

- | | | |
|---|---|--|
| <input type="radio"/> Wettability of the soil | <input type="radio"/> Drainage | <input type="radio"/> Salinity |
| <input type="radio"/> Compaction rates | <input type="radio"/> Uneven soil surface | <input type="radio"/> Soil flammability/ignition |
| <input type="radio"/> Swelling/Shrinking | <input type="radio"/> Water quality | <input type="radio"/> Moisture content |

12. Pest & Diseases

If a plant is suspected of having a pest or a disease then management steps need to be taken to control these elements, otherwise the plant will suffer and could potentially die. Some of the available options we have to control these elements consist of removing the infected part of the plant, spraying chemicals to kill the disease and feeding the plant with fertilisers. Match the appropriate action for the plant related issues below:

- | | | | |
|--|--|--|---|
| a. Apply a liquid fertiliser to the leaves | b. Remove the branch using a pruning saw | c. Apply a chemical root insecticide to soil | d. Apply a systemic insecticide to leaves |
|--|--|--|---|

Issue	Chosen action
i. Broken branch due to storm damage	
ii. Caterpillars feeding on new leaf growth	
iii. Insect grubs feeding on plant roots	
iv. Plant leaves gone yellow and weak	

Practice Aptitude Quiz

13. Plant health is very important as plant diseases can be spread very easily. If you work in multiple gardens and move from location to location, what would be the most effective way you could prevent the spread of disease between plants and other gardens? Select the correct response.

Use blunt and dirty tools all the time

Wear long sleeves to protect your skin

Clean and sterilize your tools in between every job

14. Insects can cause widespread damage to plants by eating crops and orchard leaves. Some insects cause damage via chewing and eating the plant leaves and roots, others by piercing and sucking sugars from the plant leaves and young stems. Which two of the following adult insects have chewing and eating mouthparts? Select the correct answer/s.



Locust



Butterfly



Aphid



Mosquito

Practice Aptitude Quiz

15. Nutrients are essential for plant growth, what part of a plant is responsible for extracting nutrients from the soil? Select the correct answer.

Stems

Flowers

Roots

Bark

16. Zoe is employed at the Smithton Golf Course. She has been asked to mow the practice fairway using a ride-on mower.

What items of PPE could she use to protect herself? Select all appropriate equipment:

a. Gloves

b. Steel capped boots

c. Safety glasses

d. Ear muffs/ ear plugs

e. PVC apron

f. Wide brimmed hat

g. Half face respirator mask

17. Joe and Sally started weeding a large garden bed in a public park when they noticed a break in an irrigation line that had eroded a large hole in the ground beside a footpath. The large hole had the potential to cause an injury to someone should they step into it.

Select which course of action they should take:

Have Joe stand by the whole for the rest of the day, warning passers by of the danger

Just keep weeding and attend to the irrigation break at a later time.

Inform work colleagues immediately, and organise for someone to fence off the area (barricade), until it can be fixed,

Practice Aptitude Quiz

18. Read the following passage and answer the questions that follow.

Personal Protective Equipment (PPE) consists of items of clothing or equipment, which are used to help protect your body from hazards in the workplace that cannot be controlled by other means.

In the Horticulture industry major hazards include: using chemicals in spray and solid form; managing heavy loads; working outdoors with exposure to heat and rain; and using power tools and machinery such as lawn mowers and tractors.

Match the PPE items below to the workplace protection issues they address in the table on following page.

Ear protection/ear muffs

Steel cap boots

Safety harness

Protective eye wear

Full body spray suit

PVC apron

Gloves

Respirator mask

Issue	PPE
a. 7\Ya \W'gpray drift over your body	
b. Foreign objects in your eye	
c. Crushing toes and feet	
d. Chemical splashes	
e. Falling from heights	
f. Handling small sharp objects	
g. Noisy machines and tools	

Practice Aptitude Quiz

19. Pruning tools need to be kept sharp and clean, free of any plant sap or debris. This is necessary to ensure that only the necessary required force is used to cut plant materials and also to restrict plant diseases being transferred from plant to plant.

To maintain pruning tools, you can use a wire brush with warm soapy water to soften and remove sap and sharpening stones or wheels to create a new working edge that is sharp.

When sharpening pruning tools, which personal protection items should be used?

Gloves

Closed toe shoes

Safety glasses

Ear muffs

All of the above

20. 2-stroke fuel mixture has 2-stroke oil added to the petrol fuel to provide lubrication to the engine. Other engines have oil lubrication found in a reservoir at the base of the engine and is not mixed with the fuel.

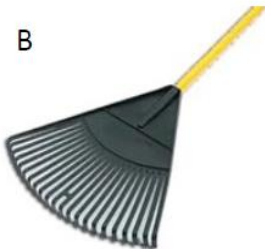
Tracey works at the local golf course. She has two different push mowers available for her use. Both mowers require refuelling.

Mower (A) has an oil cap, oil dipstick and oil sump; whereas Mower (B) does not. One of the mowers requires 2-stroke fuel and the other unleaded fuel only. Which mower should Tracey fill with the 2-stroke fuel mixture? Mower (A) or (B)?

Practice Aptitude Quiz

21. The following tools are used in the Horticulture Industry. Match the tool names to the pictures of the tools:

Name of Tool	Write in the letter associated with the correct picture
Long handled square mouth shovel	
Fork	
Outdoor Broom	
Leaf Rake	
Pruning Saw	
Secateurs	



Practice Aptitude Quiz

ANSWERS

Section 1: Language and Literacy

1. outdoors, career, sectors, horticulture, maintenance, gardens, management, career, opportunities, employees.
2. Watering, Chemicals, Hazard, Certificate, Sprinkler, Equipment, Vocational, Garden, Career, Participate
3. Decidious, Leaflett, Chemocals, Vallve, Sunblok, Secuteurs, Prunning, Virrus
4.
 - a. The main purpose of the horticultural industry is to design, develop and maintain a variety of different living landscapes to suit the desired focus.
 - b. Communication is the most important tool or skill to use to ensure a project is completed successfully.
 - c. You can tell if someone has understood the instruction you gave them from the feedback the receiver gives you.
 - d. Verbal: speaking to each other, Written: sending a request, Electronic: sending an email; non-verbal: gestures.

Section 2: Numeracy

1. 54 m² of turf
2. 30 mm or 3 cm
3. a. 9 litres of mixed solution b. 90 mls of concentrated chemical
4. 3.6 m³ of soil
5. 855 pavers
6. 45 plants required
7. 3,375 m of wire required
8. 31 m of rope
9. a. 25% b. 16.37 c. 3/8 d. 2½ e. 5:4 f. 35°
10. a. 44 b. -1.5 c. 76 d. 114 e. 24 f. 2 g. 81 h. 5
11. a. i. 3,434 ii. 13.719
b. i. \$31.68 ii. 804.339 iii. 3.13 m
c. i. 68.7 ii. 41.4 iii. 392.7
d. i. 0.345 ii. 216 iii. 281
12. a. \$125 b. 50%
13. a. \$524.00 b. \$471.60 c. \$52.40
14. a. 20 b. 5
15. a. 280000 b. 2000

Practice Aptitude Quiz

16. \$1700.00
17. \$1,204.00
18. 30 litres per minute
19. a. 30° b. 110°
20. a. 44° b. 150°
21. a. 36,000 mm b. 40,000 mm
22. 14 m²
23. 330 bricks
24. 314 m²
25. 0.30 m³
26. a. 8 m² b. 40 m²
27. a. 21.98 m² b. \$219.80
28. 6 m³
29. 628 m³
30. 3 m

Section 3: General Knowledge

1. *Eucalyptus camaldulensis*
2. Anchor the plant to the ground
3. Production of seed
4. Wetting agents
5. Deciduous tree as it loses its leaves in winter and allows light to come through the window.
6. Plastics
7. Strawberry
8. Turn on once in the morning for a longer period
9. Core or spike the area to aid in drainage of the top profile
10. a. False b. True
11. Soil flammability/ignition
12.
 - i. b. Remove the branch using a pruning saw
 - ii. d. Apply a systemic insecticide to the leaves
 - iii. c. Apply a chemical root insecticide to the soil
 - iv. a. Apply a liquid fertilizer to the leaves

Practice Aptitude Quiz

13. Clean and sterilize your tools in between every job

14. Locust and Aphid

15. Roots

16. a, b, c, d & f

17. Inform work colleagues immediately, and organise for someone to fence off area.

18.

	Issues	PPE
a.	Spray drift over the body	Full body spray suit, protective eye wear and respirator mask
b.	Foreign objects in your eye	Protective eye wear
c.	Crushing toes and feet	Steel cap boots
d.	Chemical splashes	PVC apron, gloves and protective eye wear
e.	Falling from heights	Safety harness
f.	Handling small sharp objects	Gloves
g.	Noisy machines and tools	Ear protection/ear muffs

19. All of the above

20. Mower (B)

21. E, D, A, B, C, F