



# Victorian Certificate of Education 2006

## General Achievement Test

Wednesday 7 June 2006

Reading time: 10.00 am to 10.15 am (15 minutes)

Writing time: 10.15 am to 1.15 pm (3 hours)

### QUESTION BOOK

#### Structure of book

<i>Type of questions</i>	<i>Number of questions to be answered</i>	<i>Suggested times (minutes)</i>	<i>Suggested time allocation</i>
Writing Task 1	1	30	10.15 – 10.45
Writing Task 2	1	30	10.45 – 11.15
Multiple-choice questions	70	120	11.15 – 1.15

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers, and an English and/or bilingual dictionary.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

#### Materials supplied

- Question book of 40 pages.
- Answer sheet for multiple-choice questions.
- Script book for **both** Writing Task 1 and Writing Task 2.

#### Instructions

- Write your **student number** on the script book.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- Follow the times suggested for each task.
- You may complete tasks in any order and you may return to any task at any time.
- Do not waste time on one particular multiple-choice question. If you find a question very difficult, return to it later.
- Answer all questions.
- All written responses must be in English.

#### At the end of the test

- Place the answer sheet for multiple-choice questions inside the front cover of the script book.
- You may keep this question book.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

**WRITING TASK 1** To be answered in the script book in pen, not pencil.  
You are advised to allocate 30 minutes to this task.

Consider the information on these two pages.  
Develop a piece of writing presenting the main information in the material. You should **not** present an argument.

Your piece will be judged on:

- how well you organise and present your understanding of the material,
- your ability to communicate the information effectively; and
- how clearly you express yourself.

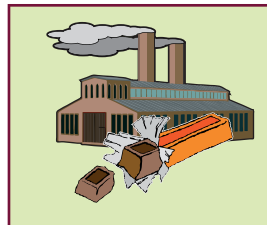
**Chocolate Components**

Epicatechin (antioxidant)  
Gallic acid (antioxidant)  
Tryptophan  
Theobromine  
Fat  
Cholesterol  
Carbohydrates (including Sugar)  
Vitamin A  
Vitamin B  
Zinc  
Magnesium  
Iron  
Calcium

**Potential Health Benefits/Problems**

Protects blood vessels, promotes cardiac health  
Protects blood vessels, promotes cardiac health  
Causes release of serotonin (brain chemical related to positive sense of wellbeing)  
Mild stimulant similar to caffeine, with mild mood improving effects  
Can contribute to obesity and heart problems  
All contribute, in limited amounts, to recommended daily intake

1847  
Dr Joseph Fry of England made the first chocolate bar leading to manufacture of chocolate on a large scale



**THE CACAO TREE**

Scientific name: *Theobroma* meaning 'Food of the Gods'

Size: Each pod = size of average pineapple

Number of cocoa beans: 30–50 in each pod

Amount of chocolate produced per pod (approx.): 7 milk chocolate bars or 2 dark chocolate bars

**The cocoa bean in history:**

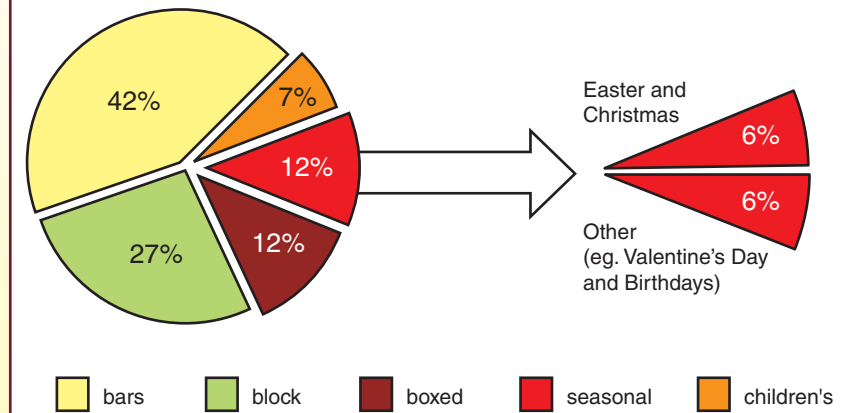
400 BC–1520 AD: Mayan and Aztec civilisations used cocoa beans for unsweetened drinks  
1521: The Spaniard Hernando Cortes conquered the Aztec capital and found cocoa beans highly prized – 1 rabbit + 100 cocoa beans = 1 slave  
1560s: Spaniards added sugar to cocoa solids



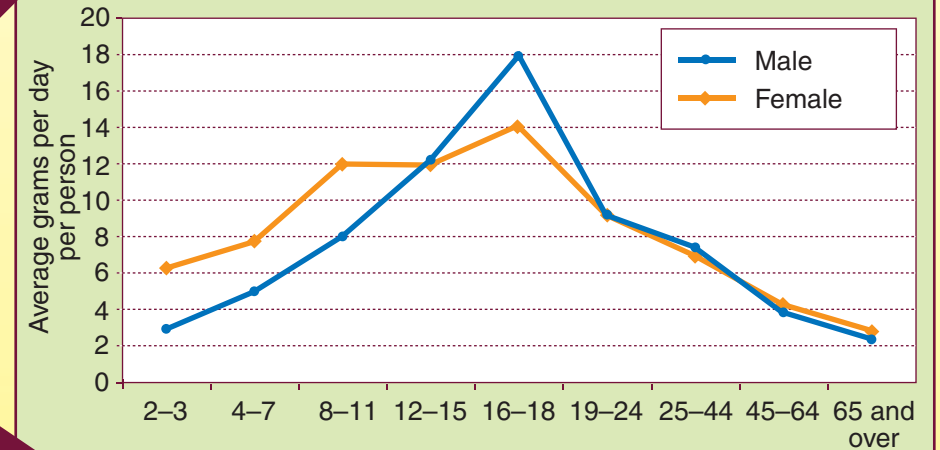
- 2006
- Expected Chocolate sales of A\$70 billion worldwide
  - 172 000 000 (approx) websites about chocolate



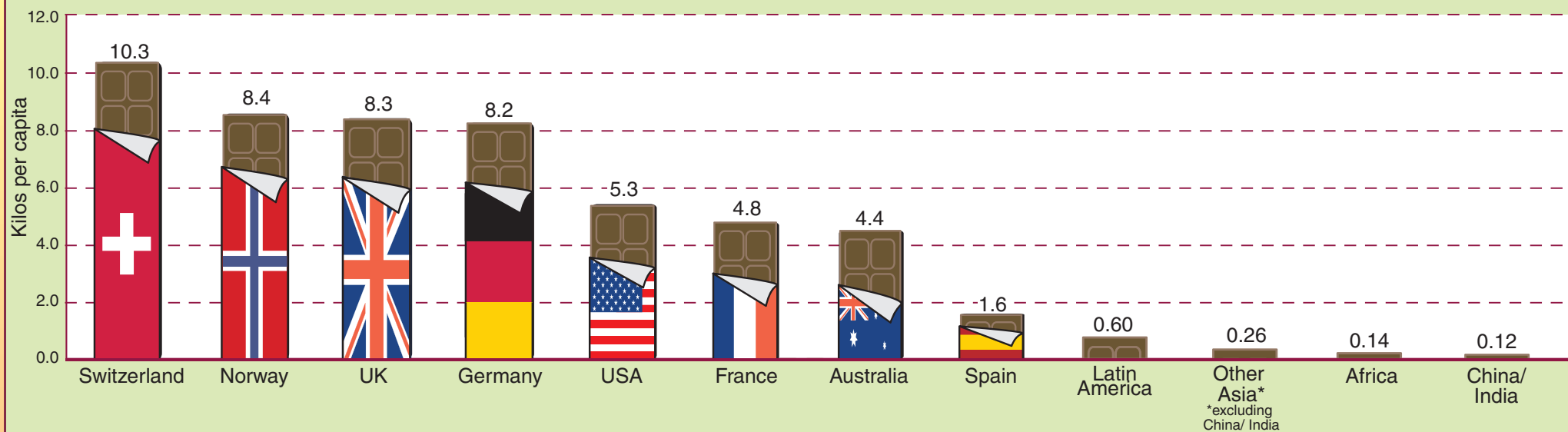
**Australian Chocolate Consumption**



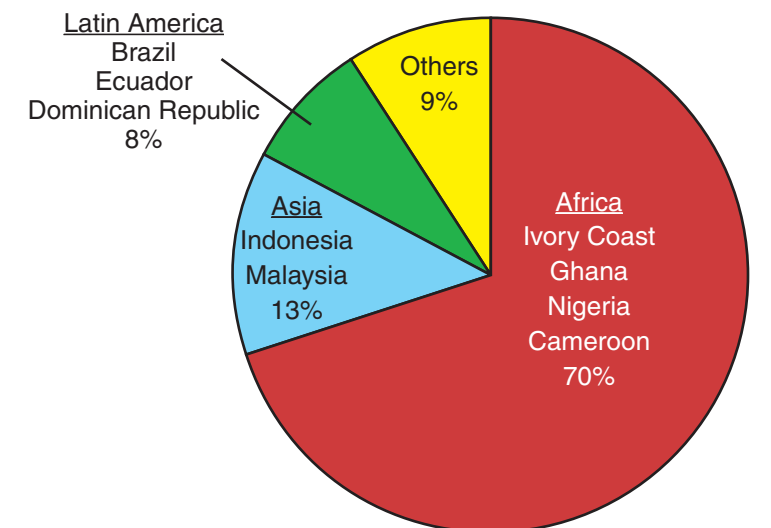
**Australian Chocolate Consumption - Age and Sex**



**Who eats it? Consumption of chocolate in 2002**



**World Cocoa Production by Country\*, 2002**



\* Cocoa only grows in countries within 20° of the equator

**WRITING TASK 2**      *To be answered in the script book in pen, not pencil.*  
*You are advised to allocate 30 minutes to this task.*

Consider the statements below.

Based on **one or more** of the statements, develop a piece of writing presenting your point of view.

Your piece of writing will be judged on:

- the extent to which you develop your point of view in a reasonable and convincing way; and
- how effectively you express yourself.

The news media bring us a wide range of information from all over the globe. They play a vital role in letting us know what is happening in the world around us.

The news media do not just report the news, they create it. It's all about entertainment and selling the story, rather than reporting the facts.

The news media can use their influence to expose wrongs and to protect the rights of individuals who otherwise would not have a voice in our society.

The news media give an extreme and exaggerated view of the world, generally emphasising the worst that can happen.

## MULTIPLE-CHOICE QUESTIONS

*To be answered on the Answer Sheet for  
Multiple-Choice Questions.*

*You are advised to allocate 2 hours to this task.*

Choose the response that is **correct**, or that **best answers the question**, and shade the square on the answer sheet for multiple-choice questions according to the instructions on that sheet.

A correct answer is worth 1 mark, an incorrect answer is worth 0 marks. No marks will be given if more than one answer is shown for any question. Marks will **not** be deducted for incorrect answers.

## UNIT 1

### Question 1



The types of music presented in the cartoon represent the difference between

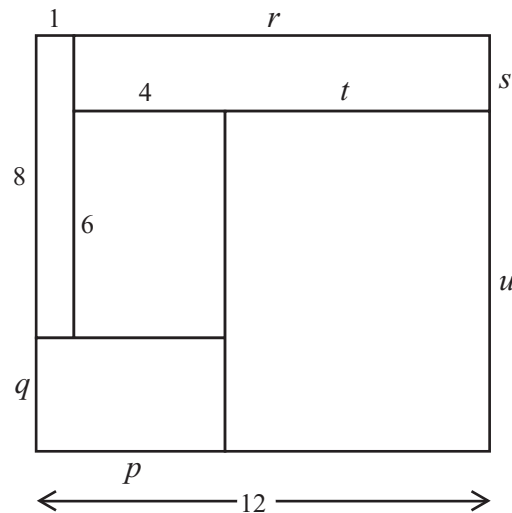
- A the happy and the sad.
- B the realistic and the unrealistic.
- C the pleasant and the unpleasant.
- D the simple and the complicated.

## UNIT 2

### Questions 2 and 3

Consider this rectangular board made of five smaller rectangular pieces. Lengths of some sides are given (in cm).

- The given lengths are as stated, but assume the diagram is not drawn to scale.
- $p$ ,  $q$ ,  $r$ ,  $s$ ,  $t$  and  $u$  are whole numbers.



### Question 2

What is the value of  $s$ ?

- A 2 cm
- B 3 cm
- C 4 cm
- D There is insufficient information provided to answer this question.

### Question 3

If the area of the rectangle with sides  $p$  and  $q$  is 15 square centimetres, what is the value of  $u$ ?

- A 9 cm
- B 10 cm
- C 11 cm
- D There is insufficient information provided to answer this question.

### UNIT 3

#### Questions 4 – 7

Sue Monk Kidd, *The Secret Life of Bees*, Headline Book Publishing, 2002.

Due to copyright restriction,  
this material is not supplied.

#### Question 4

For Lily, working at the peach stand is best described as

- A intense.
- B tedious.
- C fatiguing.
- D strenuous.

**Question 5**

In the passage, it is suggested that T. Ray's response to his daughter's interest in reading is based on his

- A attitude towards females.
- B fear of social embarrassment.
- C frustrated educational ambitions.
- D belief in the importance of hard work.

**Question 6**

In the passage, Lily's attitude to her future career

- A remains positive and unchanging.
- B is dependent upon her father's approval.
- C moves from simple acceptance to active optimism.
- D changes from confident acceptance to nervous apprehension.

**Question 7**

In the passage, it is suggested that the relationship between Lily and her father is one of mutual

- A fear.
- B respect.
- C affection.
- D contempt.



**UNIT 4****Questions 8 – 10**

At a local school, there are two honour boards giving the names of each year's best overall sports person in the junior school (years 7 – 9) and senior school (years 10 – 12).

Assume that:

- students do not repeat any year level;
- no two students have the same last name.

<b>Junior Champion</b>		<b>Senior Champion</b>	
1995	J. Smith	1995	T. Ardle
1996	D. Bloggs	1996	E. Gravinsky
1997	C. Xiang	1997	G. Nunn
1998	H. Mamoud	1998	C. Xiang
1999	H. Mamoud	1999	P. Little
2000	G. Jones	2000	J. Smith
2001	N. Nakamura	2001	H. Mamoud
2002	A. Faloa	2002	P. Love
2003	G. Boticelli	2003	G. Jones
2004	G. Boticelli	2004	N. Nakamura

**Question 8**

What year level could D. Bloggs have been in during 1996?

- A** 7 only                                      **C** 9 only  
**B** 8 only                                      **D** any of 7, 8 or 9

**Question 9**

What year level could C. Xiang have been in during 1997?

- A** any of 7, 8 or 9                      **C** 8 only  
**B** either 8 or 9 only                    **D** 9 only

**Question 10**

What year level could H. Mamoud have been in during 1998?

- A** any of 7, 8 or 9                      **C** 7 only  
**B** either 7 or 8 only                    **D** 8 only

**UNIT 5****Questions 11 – 14**

*Genetic testing makes it possible to determine whether a person has a genetic disorder or is predisposed to a particular disease. In the future, employers may seek the right to genetically test their potential employees.*

The statements (Questions 11 – 14) are from a debate about the topic that:

**Employers should have the right to genetically test potential employees.**

For Questions 11 – 14 choose the alternative (A – D) that best describes the relationship of the statements to the debate topic above.

The statement

- A** is most likely part of the argument for the topic.
- B** is most likely part of the argument against the topic.
- C** could possibly be part of the argument for or against the topic.
- D** is not relevant to either the argument for or against the topic.

**Question 11**

To deny a person a job on the basis of a genetic test interferes with what we, as a society, have always accepted as fate.

**Question 12**

There is a need to consider the benefits and the harms of genetic testing.

**Question 13**

Genetic testing has provided us with many scientific advances.

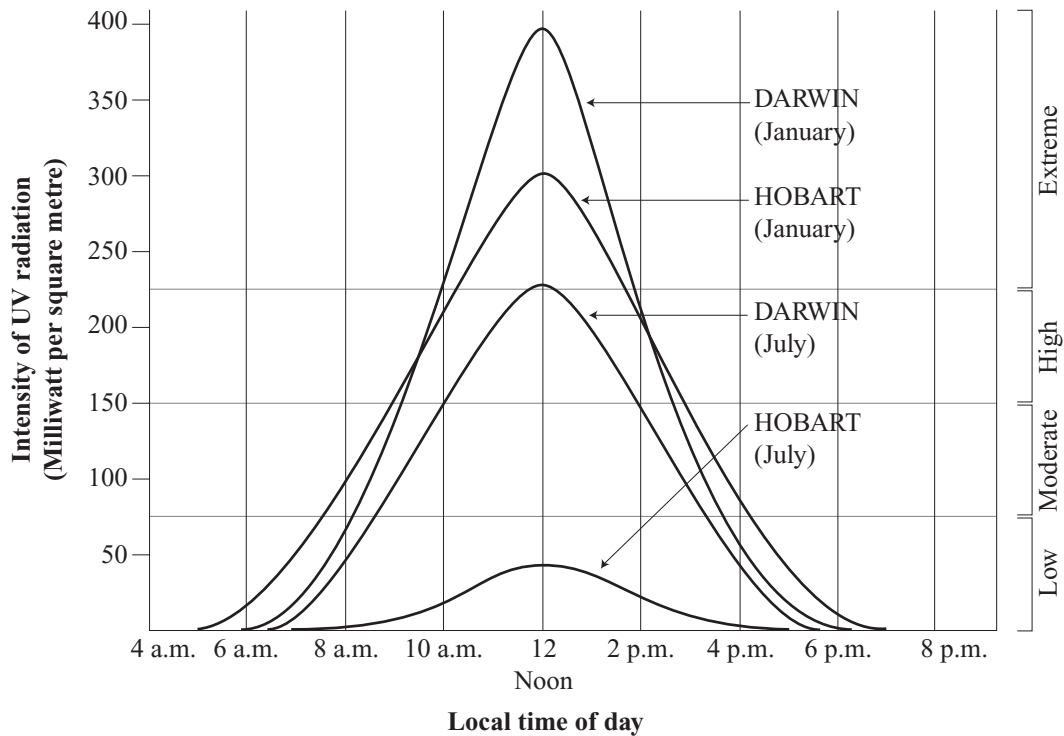
**Question 14**

Employers have a right to make decisions that best serve the interests of their organisation.

## UNIT 6

### Questions 15 – 17

The UV radiation that reaches the Earth from the Sun can cause skin cancer. The figure below indicates the intensity of UV radiation (milliwatt per square metre) in two Australian cities at two times of the year. The health risks associated with various intensities of UV radiation are also indicated (Low, Moderate, High or Extreme).



### Question 15

Of the following, when and where is the intensity of UV radiation greatest?

- A Darwin, 12 noon, July
- B Hobart, 2 p.m., January
- C Darwin, 8 a.m., January
- D Hobart, 12 noon, July

**Question 16**

Which one of the following is the most appropriate advice for someone who wishes to totally avoid High and Extreme UV radiation in Darwin during the given month?

- A In July, stay inside between 6 a.m. and 4 p.m.
- B In July, stay inside between 10 a.m. and 2 p.m.
- C In January, stay inside between 6 a.m. and noon.
- D In January, stay inside between 11 a.m. and 1 p.m.

**Question 17**

Which of the following is the best estimate of how many hours a day in January the intensity of UV radiation in Hobart is greater than that in Darwin?

- A 0 hours
- B 5 hours
- C 7 hours
- D 9 hours

## UNIT 7

### Questions 18 – 22

*The following passage is taken from a commentary about urban legends, sometimes referred to as urban myths.*

Our modern folklore is important in explaining the world around us. We name our fears by forming compelling tales out of them. That is why the content of most urban legends is invariably about the very things that frighten us most — cold-blooded killers, poison, disease, kidnappers, to name but a few. An urban legend is therefore most often a story about orderly everyday life, turned into a nightmare due to a bizarre set of circumstances. The most appealing feature of such a story is that the events depicted in it are perfectly plausible. Consider the following: there is nothing supernatural about a venomous little creature inside a piece of clothing. Clothes can now be imported from the most exotic countries. It is possible that a spider could sneak inside a shipment of clothing and travel across the world from Taiwan to Finland. Why couldn't it bite an unsuspecting patron selecting a pullover? This 'what if' element is the driving force behind every legend. 5

Urban legends are the folklore of the modern industrialised world and are much more universal than their medieval counterparts. The rapid flow of information and people from one country to another makes these legends spread at lightning speed around the world. They are the sum of all our subconscious fears, hopes and desires. Everything we find frightening, infuriating, or desirable soon finds its way into them. They travel orally or via the Internet throughout our society, changing their shape constantly. Although in every legend there is a relatively unchanging core, the local variations and subtypes of any given story are endless. There are as many versions as there are tellers, as the oral form makes 'standard' versions a sheer impossibility. 10

We take heed of the legends and we pass them on because we need other people to experience these feelings with us. We need other people to laugh at them and get shocked by them just the way we did when we first heard them. We want to know that other people can confirm the horror or shock that we feel. 15

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### Question 18

The passage suggests that the “‘what if’ element” (line 12) explains

- A the varied content of urban legends.
- B how urban and medieval legends are different.
- C the fascination that people have with urban legends.
- D the disbelief people often have about urban legends.

**Question 19**

According to the passage the reason urban legends keep spreading is because

- A people are easily manipulated.
- B they are educational and informative.
- C the stories, while true, seem unbelievable.
- D the stories, though untrue, appear credible.

**Question 20**

In the passage, the urban legend about the spider (lines 10 – 13) is presented as a

- A believable scenario that is fictional.
- B believable scenario that is based on fact.
- C good example of how urban legends spread.
- D ridiculous example of how people will believe anything.

**Question 21**

According to the passage, ‘standard’ versions (line 23) of urban legends

- A exist because they represent all humanity.
- B exist because they are sent via the Internet.
- C do not exist because individual people influence their content.
- D do not exist because the core of each story has a different origin.

**Question 22**

According to the passage, urban legends have a purpose. This is to

- A evoke fear in people by exaggerating real events.
- B give people a sense of security through sharing their fears.
- C provide people with realistic and acceptable explanations of events.
- D entertain people with highly improbable accounts of unusual events.

## UNIT 8

### Questions 23 – 25

At mineral springs, hand pumps are used to bring the mineral water up from under the ground. In the European hand pump (Figure 1) the handle is moved up and down to lift and deliver the water. The handle rotates around a pivot and is connected to a rod that passes into the main cylinder of the pump. Figure 2 shows cross-sections of such a pump during successive down, up and down movements of the handle.

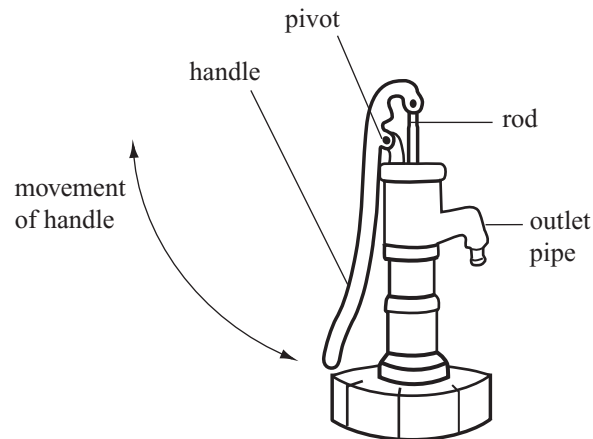


Figure 1

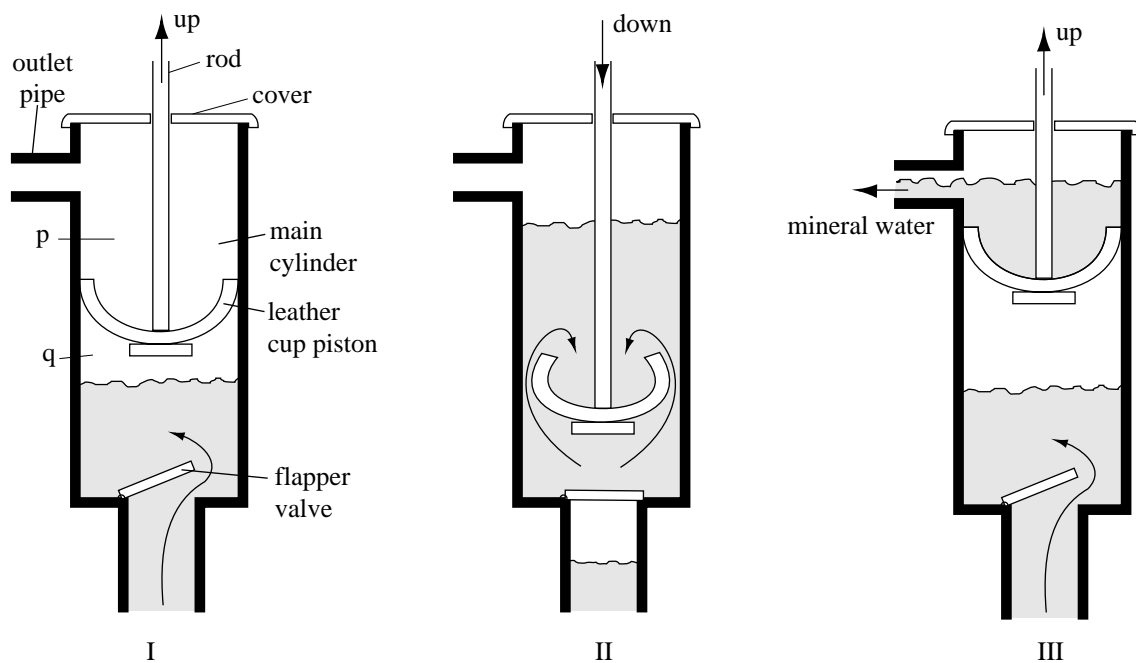


Figure 2

**Question 23**

Water passes through the outlet pipe

- A when the flapper valve is open and the cup is moving up only.
- B when the flapper valve is closed and the cup is moving up only.
- C when the flapper valve is open and the cup is moving either up or down.
- D in none of the situations described in A, B or C.

**Question 24**

If the flapper valve at the bottom of the main cylinder of the pump were unable to close properly, water would most likely

- A not touch the leather cup piston.
- B be emptied through the outlet pipe.
- C be lifted into the main cylinder above the cup.
- D move down out of the main cylinder when the piston moves down.

**Question 25**

Suppose the amount of water coming from the outlet pipe reduces.

Which one of the following is **least** likely to cause this problem (i.e. reduce the amount of water coming from the outlet pipe)?

- A a hole developing in the cup
- B removal of the cover over the main cylinder
- C failure of the flapper valve to close completely
- D a poor contact between the piston and the wall of the main cylinder as the piston moves up

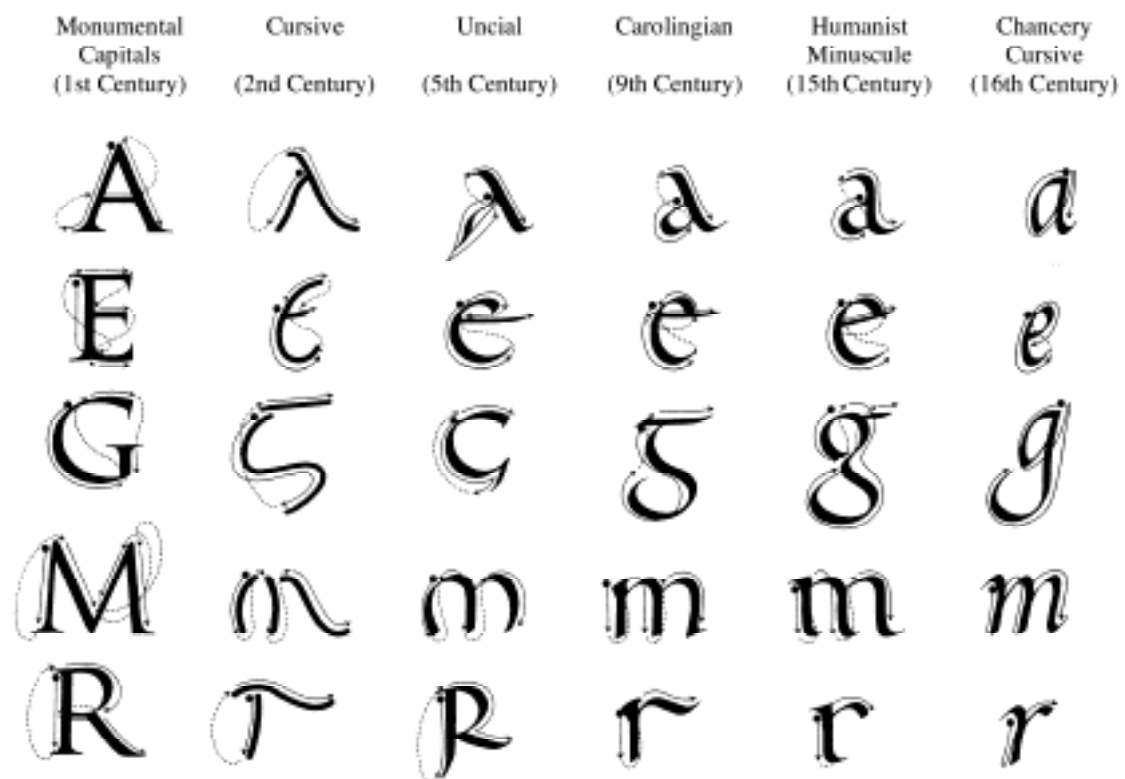


## UNIT 9

### Questions 26 – 28

Figure 1 below provides information about the production and style of six letters from the Roman alphabet. Handwritten letters are produced when a writing tool is pressed against a writing surface and lifted from it, in a continuous and predetermined sequence of movements. The path taken by the writing tool is called the 'ductus'.

In Figure 1 the ductus of each letter is represented by a thin line. The dot signifies the starting point in the formation of each letter, while the direction taken by the writing tool is indicated by arrows. The broken lines signify the path of the writing tool when not in contact with the writing surface.



**Figure 1: Styles of Letters**

### Question 26

The total number of times the writing tool comes into contact with the writing surface during the formation of the Humanist Minuscule 'g' is

- |              |              |
|--------------|--------------|
| <b>A</b> 2 . | <b>C</b> 4 . |
| <b>B</b> 3 . | <b>D</b> 6 . |

**Question 27**

The broken lines in Figure 1

- A** represent the only way to make the letter.
- B** should be followed to achieve the desired style.
- C** indicate the beginnings and ends of straight lines.
- D** suggest an alternative path by which the letter can be formed.

**Question 28**

Figure 1 suggests that, between the first and sixteenth centuries, the writing of Roman letters became

- A** more rigid.
- B** less precise.
- C** less flowing.
- D** more efficient.

## UNIT 10

### Questions 29 – 33

A bank operates a number of automatic teller machines (ATMs). The current model, the **Mark 2**:

- is stocked with \$20 and \$50 notes only, so can only dispense (i.e. provide) the requested amounts that are combinations of these values. The \$50 notes and \$20 notes are kept in separate bins;
- dispenses the **minimum** number of notes to fulfil a request.

#### Question 29

Which one of the following amounts can be dispensed by the **Mark 2**?

- |           |   |
|-----------|---|
| A    \$10 | C    \$60                                       |
| B    \$30 | D    All of the above amounts can be dispensed. |

#### Question 30

At one of the ATMs, the two bins containing the notes have accidentally been swapped, so now the ATM dispenses \$50 notes instead of \$20 notes, and \$20 notes instead of \$50 notes.

For which one of the following requested amounts will the difference between the amount requested and the amount dispensed be greatest?

- |           |           |
|-----------|-----------|
| A    \$60 | C    \$80 |
| B    \$70 | D    \$90 |

### Questions 31 – 33 refer to the following additional information:

The diagram opposite shows the computer program rules used to control an earlier-model ATM, the **Mark 1**.

- RA (requested amount) is the amount the customer wants to draw out of the ATM.
- On the diagram, points P, I, II, III, IV, V and VI are reference points.

#### Question 31

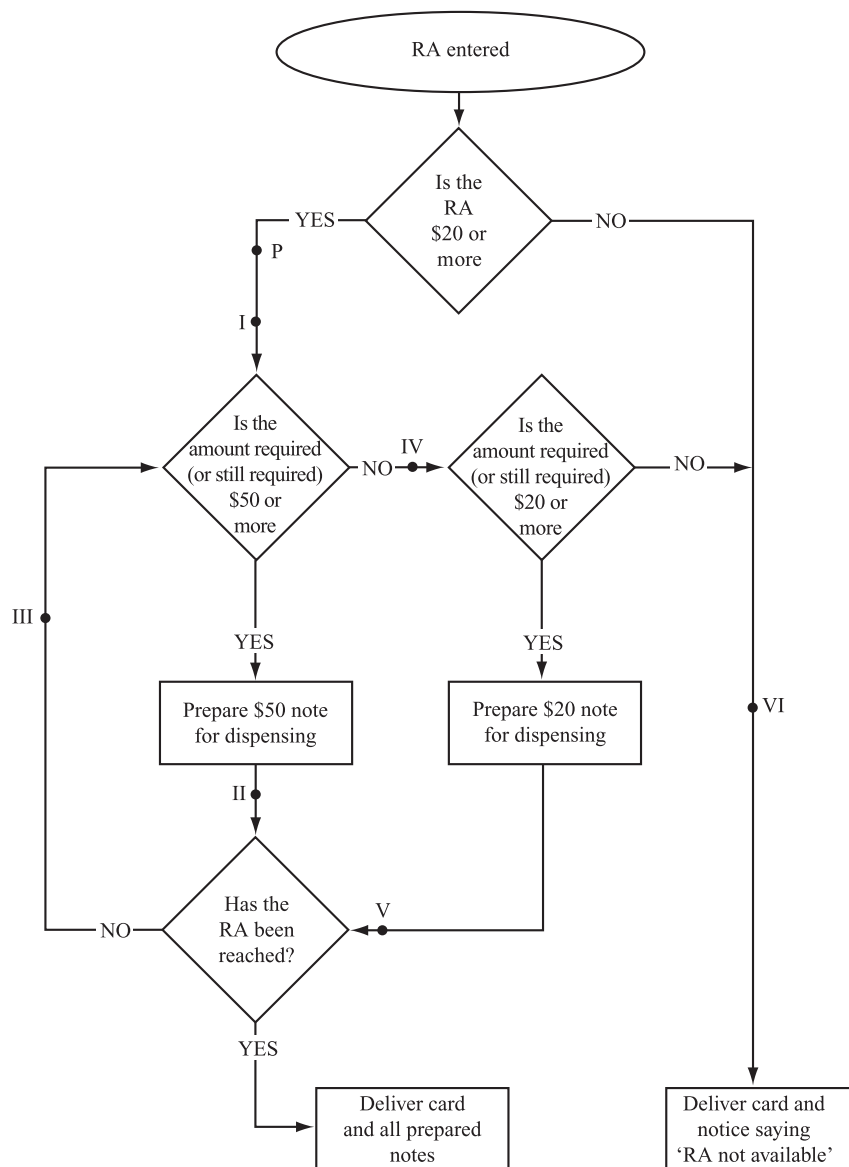
Of the following amounts, which one will be dispensed by the **Mark 2** ATM, but **not** the **Mark 1** ATM?

- |            |            |
|------------|------------|
| A    \$80  | C    \$120 |
| B    \$100 | D    \$150 |

#### Question 32

If a customer requests \$60 from a **Mark 1** ATM, the program will pass through point P and then points

- |                              |                                 |
|------------------------------|---------------------------------|
| A    I, II, III and VI only. | C    I, IV, and V only.         |
| B    I, II and III only.     | D    I, II, III, IV and VI only |

**Mark 1 model****Question 33**

Suppose that a **Mark 1** ATM correctly dispenses \$50 and \$100 but does not dispense \$70.

A fault at which one of the following points in its program is the most likely cause of this problem?

- A IV
- B III
- C II
- D I

## UNIT 11

### Questions 34 – 36

Unlike most other countries, Australia has a system of compulsory voting. This system has been challenged as undemocratic by some commentators who claim that people should not have to vote unless they want to. This argument is plausible but it is reasonable to point out that democracy is not the same as not having to do things ‘unless you want to’. There are many things we might not want to do (like pay certain taxes) but these things might be, democratically, required of us by our fellow citizens through parliament. 5

A critic of compulsory voting might offer a second argument about consequences. This argument would contend that forcing people to vote contaminates the political process with input from the ignorant or uninterested. Such elitist critics would also contend that there are some informed and responsible citizens who decide that there is no one they want to vote for and hence they should not be compelled to do so. 10

Defenders of compulsory voting point out that the system does not compel people to vote, rather it compels them (with the threat of a fine) to attend a polling centre when there is an election. They need not vote. These advocates of compulsory voting argue that compelling people to go to a polling centre during an election is intended to counteract the natural laziness of some who will find any excuse not to vote. It does not compel to vote those who conscientiously object to all of the candidates. This argument has been described as a mere word game, but it is not so if we believe that voting is not only a right it is also a responsibility of a citizen. Because it is a responsibility of citizens it is reasonable to require people to demonstrate that they do not vote for a reason other than laziness. These supporters of compulsory voting would point to the fact that less than half the eligible voters vote in many countries, and that this degrades the system more than the trivial requirement that citizens vote. 15

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### Question 34

The writer suggests that those who are reluctant to vote are predominantly

- |             |                  |
|-------------|------------------|
| A lazy.     | C ill-informed.  |
| B ignorant. | D conscientious. |

### Question 35

As part of the argument the writer distinguishes

- A the ignorant from the elitists.
- B compulsory from optional voting.
- C voting from attending a polling centre.
- D what people want from what they do not want.

### Question 36

The writer sees the argument about conscientious objectors as

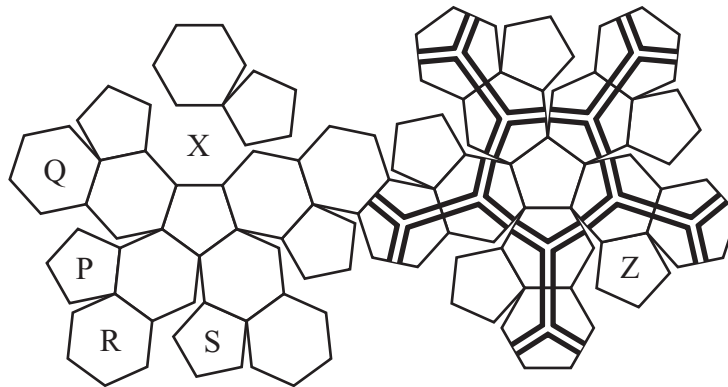
- |               |                          |
|---------------|--------------------------|
| A trivial.    | C a mere word game.      |
| B convincing. | D more than a word game. |

## UNIT 12

### Questions 37 – 40

The figure illustrates the pieces from which a complete round ball can be formed when all of the edges are joined. The ball consists of pentagon (e.g. P) and hexagon (e.g. Q) pieces only. The piece at position X is not shown.

Double lines are painted on the ball to form a pattern of larger pentagons. These painted pentagons stretch across several pieces, but are only shown on the right half of the diagram.



**Figure 1**

### Question 37

How many pentagon pieces are there in the complete ball?

- |      |      |
|------|------|
| A 10 | C 20 |
| B 12 | D 24 |

### Question 38

Which one of the following pieces joins with piece Z in the complete ball?

- |     |     |
|-----|-----|
| A P | C R |
| B Q | D S |

### Question 39

How many hexagon pieces are there in the complete ball?

- |      |      |
|------|------|
| A 10 | C 20 |
| B 12 | D 24 |

### Question 40

To how many pentagon pieces is each hexagon piece connected when the ball is formed?

- |         |        |
|---------|--------|
| A three | C five |
| B four  | D six  |

## UNIT 13

### Questions 41 – 44

The following poem is set in the northern hemisphere, where students return to school in September after the summer break.

#### *Quieter Than Snow*

I went to school a day too soon  
 And couldn't understand  
 Why silence hung in the yard like sheets  
 Nothing to flap or spin, no creaks  
 Or shocks of voices, only air. 5

And the car park empty of teachers' cars  
 Only the first September leaves  
 Dropping like paper. No racks of bikes  
 No kicking legs, no fights,  
 No voices, laughter, anything. 10

Yet the door was open. My feet  
 Sucked down the corridor. My reflection  
 Walked with me past the hall.  
 My classroom smelt of nothing. And the silence  
 Rolled like thunder in my ears. 15

At every desk a still child stared at me  
 Teachers walked through walls and back again  
 Cupboard doors swung open, and out crept  
 More silent children, and still more.  
 They tiptoed around me 20  
 Touched me with cold hands  
 And opened their mouths with laughter that was

Quieter than snow.

*Berlie Doherty*

### Question 41

The poem as a whole suggests the poet is

- A excited.
- B unnerved.
- C indifferent.
- D overwhelmed.

**Question 42**

In describing her visit to the school, the poet gives particular emphasis to

- A her own forgetfulness.
- B the reversal of her expectations.
- C her sense of relief at finding the school deserted.
- D the reinforcement of her negative views of school.

**Question 43**

Which sensory feature does the poet most emphasise?

- A sight
- B smell
- C touch
- D sound

**Question 44**

The poet sees herself as

- A a wary intruder in the school.
- B a welcomed visitor to the school.
- C a suspicious stranger in the school.
- D the rightful proprietor of the school.

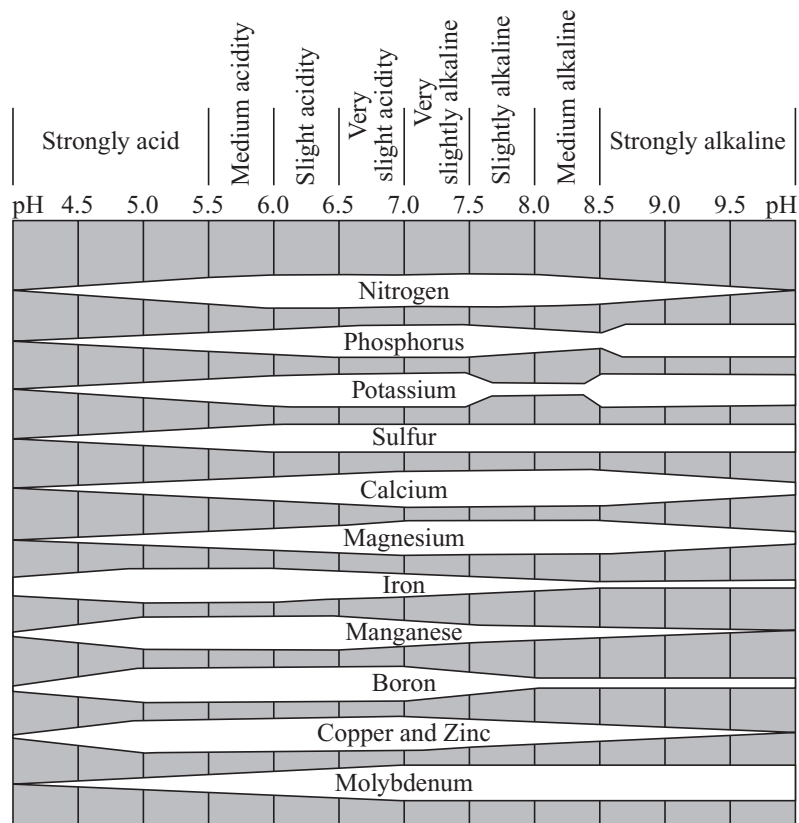


## UNIT 14

### Questions 45 – 50

Soils provide the chemical elements necessary for plant growth. The availability of these elements to the plant is related to the pH of a soil as shown in Figure 1. The wider the white bar for an element at a particular pH, the greater its availability.

- A pH of 7.0 is neutral. A pH below 7.0 is acidic. A pH above 7.0 is alkaline.



**Figure 1**

**Question 45**

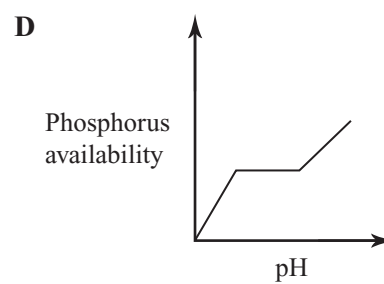
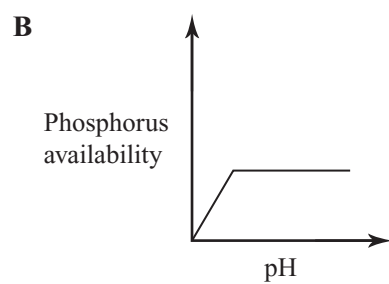
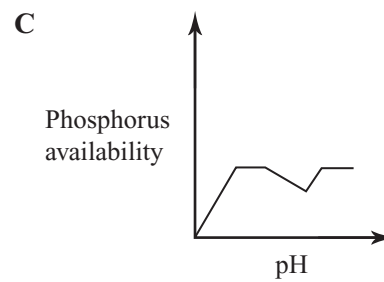
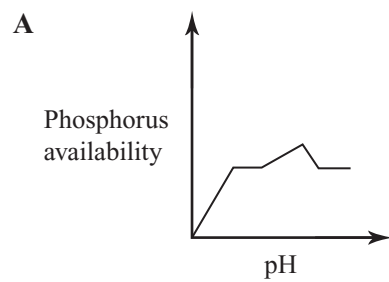
Of the following, which pH maximises the availability of magnesium and sulfur but minimises the availability of potassium?

- A** 4.5  
**B** 6.0

- C** 8.0  
**D** 9.0

**Question 46**

Which of the following best represents the relationship between pH and the availability of phosphorus?



**Questions 47 – 50 refer to the following additional information:**

It is possible to determine the elements that are not readily available in soils by the condition of plant leaves, as indicated in Table 1.

Assume:

- plants grow best in soils with maximum availability of the element;
- if there is not the maximum availability of an element, symptoms of deficiencies occur;
- adding lime to soil increases pH;
- adding ammonium sulfate to soil decreases pH.

**Table 1**

Element not available	Colour of leaves	Appearance of leaves
<b>Symptoms appearing first in OLDEST leaves</b>		
Nitrogen	General yellowing	
Magnesium	Patchy yellowing	
Potassium	Scorched margins	Spots surrounded by pale zones
Phosphorus	Yellow	
Molybdenum		Mottling
<b>Symptoms appearing first in YOUNGEST leaves</b>		
Calcium	Black	
Sulfur	Yellow	Small leaves; some pigmentation
Iron		Interveinal yellowing
Copper	Dark blue-green	Curling; death of tips
Zinc	Yellow	Small leaves; some mottling
Boron	Yellow margins	Distorted
<b>Symptoms appearing first in either YOUNGEST or OLDEST leaves</b>		
Manganese		Interveinal yellowing; veins pale green

**Question 47**

Of the following, a soil of medium acidity (pH 5.5 – 6.0) is most likely to be first indicated by

- A mottling of oldest leaves.
- B distortion of youngest leaves.
- C death of the tips of youngest leaves.
- D interveinal yellowing in youngest leaves.

**Question 48**

The oldest leaves of a plant are a patchy yellow, the youngest leaves rather small with some pigmentation, and both the youngest and oldest leaves show interveinal yellowing.

Of the following, the pH of the soil is most likely to be

- A 4.75 .
- B 5.75 .
- C 6.75 .
- D 7.75 .

**Question 49**

A plant shows interveinal yellowing in some leaves.

Of the following, which nutrient is most likely **not** readily available in the soil?

- A iron only
- B manganese only
- C either iron or manganese, or both
- D it could be one of at least six elements

**Question 50**

A crop of corn is found to have small, yellow leaves with only some pigmentation.

In order to improve the corn it would be best to add

- A ammonium sulfate.
- B manganese.
- C zinc.
- D lime.

UNIT 15

Questions 51 – 55

The following passage and Figure 1 are from a newspaper television guide. They refer to a television series that began in 1990. Its creator is Dick Wolf.

Passage 1

In *Law and Order* Wolf concocted the perfect TV concept, a series in which every episode is blissfully self-contained and the focus on the story is so steadfast that actors can be shuffled in and out without breaking stride. What is rare about *Law and Order*'s actor shuffle is the show's dogged devotion to putting the story front and centre. Actors rotate in and out, filling the same six regular parts established in the show's first episode.

5

It has managed to be a show that fans of pulpy crime stories could appreciate, and that devotees of literate, smartly acted drama could embrace. In hindsight, it all makes perfect sense, that a drama about cops and lawyers with an easily changeable cast — so self-contained that any episode could be watched whenever — would be the perfect formula to feed the ever-hungry TV beast.

10

**SAME TYPES, DIFFERENT FACES**

The faces may change, but a hallmark of *Law & Order* is that the characters vary very little. Since its debut, the mother ship has based its formula on a bedrock of six firmly established types.

Sardonic, seen-it-all homicide detective with a face like all New York and an accompanying deadpan wit, which he bounces off ...



George Dzundza (1990-90)  
Paul Sorvino (1991-92)  
Jerry Orbach (1992- )

... his partner, the younger, sexier man of action with a few rough edges; his idealism is bloodied but unbowed.



Chris Noth (1990-95)  
Benjamin Bratt (1995-99)  
Jesse L. Martin (1999- )

Elected Manhattan district attorney with one ear cocked to the details of the case, one to the media coverage and potential political fallout. Frequent quote: "Make a deal."



Steven Hill (1990-2000)  
Dianne Wiest (2000-02)  
Fred Thompson (2002- )

Brash, articulate, single-minded prosecutor. Knows every angle and is unafraid to cut corners on civil liberties, but strangely sexless, especially given ...



Michael Moriarty (1990-94)  
Sam Waterston (1994- )

... earnest 'second chair' and (after role originator Richard Brooks) miniskirted gofer to the brash, articulate, single-minded partner.




Richard Brooks (1990-93)  
Carey Lowell (1996-98)  
Jill Hennessy (1993-96)  
Angie Harmon (1998-2000)  
Elisabeth Röhm (2001-04)

Clear-eyed, fair-minded lieutenant, captain or detective sergeant who's a bulwark of strength to the troops and invariably supplies the key investigative path they've overlooked.



Dann Florek (1990-93)  
S. Epatha Merkerson (1993- )

Figure 1

**Question 51**

Both Passage 1 and Figure 1 suggest that the characters in the *Law and Order* series are best described as

- A uninteresting.
- B stereotypical.
- C unpredictable.
- D individualistic.

**Question 52**

Both Passage 1 and Figure 1 suggest that, in the *Law and Order* series, the

- A characters and actors are more important than plot.
- B actors have a higher status than the characters they play.
- C characters have a higher status than the actors who play them.
- D characters and the actors who play them have the same status.

**Question 53**

Passage 1 suggests that the popularity of the *Law and Order* television series is partly due to its

- A rotating actors.
- B unusual themes.
- C weekly timeslot.
- D appeal to a broad audience.

**Question 54**

In Passage 1, the phrase ‘ever hungry TV beast’ (line 11) refers to the

- A all-consuming nature of television.
- B demands of television programming.
- C impact of television on family values.
- D television viewers’ consumption of unsuitable programs.

**Question 55**

According to Figure 1, the character who controls the direction the plot takes is the

- A ‘sardonic, seen-it-all detective’.
- B ‘elected Manhattan District Attorney’.
- C ‘brash, articulate, single-minded prosecutor’.
- D ‘clear-eyed, fair-minded lieutenant, captain or detective sergeant’.

**UNIT 16****Questions 56 – 58**

The manager of a medical clinic is drawing up a duty roster. The clinic is open each week day (Monday to Friday) for two sessions (morning and afternoon), and for morning sessions on weekends (Saturday and Sunday). It is staffed by five doctors — Paul, Wanda, Neel, Doran and Effat. The doctors' availability for duty is shown below. At any given time, there must be three doctors on duty. No doctor can work more than ten sessions per week.

- On weekdays, Paul is available in the morning only.
- Wanda is **not** available on Mondays or Thursdays, or in the mornings of the remaining days.
- Neel is available at any time.
- Doran is **not** available on Wednesdays and Saturdays.
- Effat is **not** available on Monday, Wednesday, Friday or Sunday.

**Question 56**

It is **not** possible to roster Paul together with

- A Neel.
- B Effat.
- C Doran.
- D Wanda.

**Question 57**

For which one of the following sessions is it **not** possible to staff the clinic at the required level?

- A Monday morning
- B Wednesday morning
- C Friday afternoon
- D All these sessions can be staffed.

**Question 58**

The clinic manager considers hiring another doctor.

If this doctor covered just the sessions that could not be covered by the current staff, how many sessions would this doctor need to cover?

- A one
- B two
- C three
- D None, as all sessions can be staffed already.

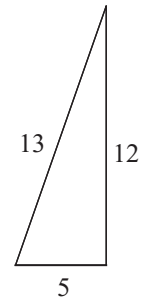
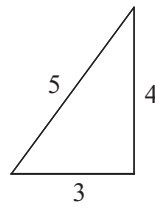
## UNIT 17

### Questions 59 – 61

A *Pythagorean triple* is a set of three whole numbers that gives the lengths of the sides of a right-angled triangle.

Two well-known examples are shown here.

The longest side, opposite the right-angle, is called the *hypotenuse*.



**One method** of generating a Pythagorean triple is:

**Step I:** Choose any odd whole number except 1.

**Step II:** Square this number.

**Step III:** Find two consecutive whole numbers that add together to give the value obtained in Step II.

The results from Steps I and III form a Pythagorean triple.

For example, starting with 3 at Step I gives 9 for Step II, and 4 and 5 for Step III. So, [3,4,5] is the resulting Pythagorean triple.

### Question 59

Which one of the following is **not** a Pythagorean triple that could be generated by this method?

- A [7,24,25]
- B [9,40,41]
- C [11,60,61]
- D [13,82,83]

### Question 60

According to the method described, the length of the hypotenuse of a triangle with a side 15 cm long chosen at Step I

- A would be 112 cm.
- B would be 113 cm.
- C would be 225 cm.
- D cannot be determined by the method.

### Question 61

For a Pythagorean triple produced by this method, the whole number chosen in Step I

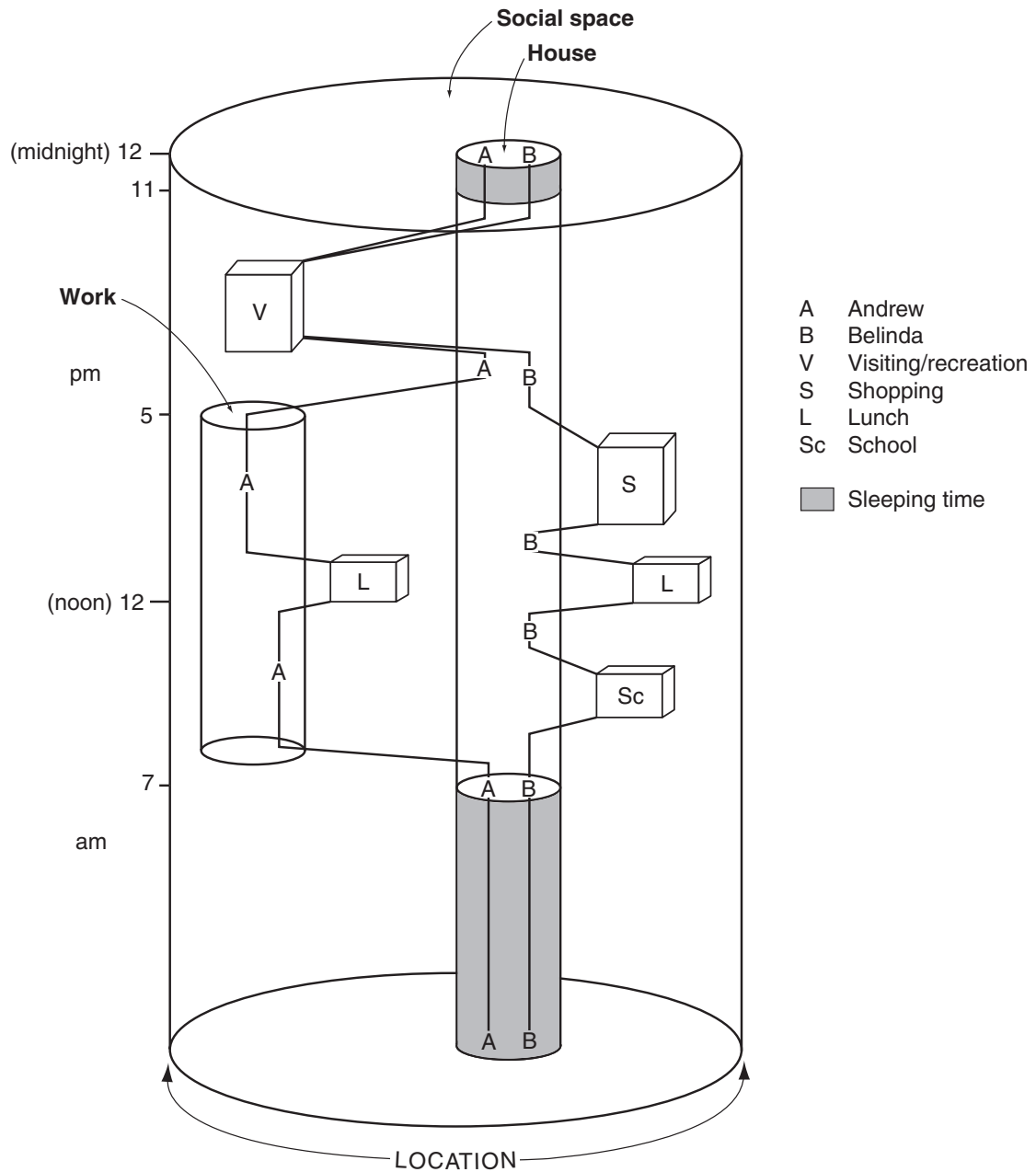
- A will always be the shortest side.
- B can be either the hypotenuse or shortest side.
- C can be either the shortest or middle-length side.
- D can be any one of the three sides.



**UNIT 18**

**Questions 62 and 63**

Figure 1 shows a specific day in the life of two adults, Andrew and Belinda. The large cylinder contains the movements of the two adults between different locations. It also contains two smaller cylinders, one for the house and one for work.



**Figure 1**

**Question 62**

Which of the following is **NOT** true?

The figure allows the relative distance between

- A the house and where Belinda shops to be measured.
- B the house and where Andrew works to be measured.
- C where Belinda shops and Belinda lunches to be measured.
- D where Andrew goes visiting and the house to be measured.

**Question 63**

Andrew's place of work is

- A closer to home than the school is.
- B further from home than the school is.
- C about the same distance from home as the school is.
- D at a distance from home that cannot be compared to the school.

**UNIT 19**

**Question 64**

Cartoon by Barney Tobey, cartoon about an art gallery, [www.cartoonbank.com](http://www.cartoonbank.com)

Due to copyright restriction,  
this material is not supplied.

The cartoon ridicules the

- A** fundamental importance of art.
- B** predictability of children's taste in art.
- C** snobbery associated with art appreciation.
- D** relationship between art galleries and children.

## UNIT 20

### Questions 65 – 67

The Mohs scale indicates the relative hardness of minerals. The harder a mineral, the higher its number on the scale. If mineral A can be scratched by mineral B, then mineral B is the harder mineral, and is ranked higher on the scale.

The softest reference mineral is talc (which cannot scratch any other reference mineral) at a value of 1, and the hardest is diamond (which can scratch any other reference mineral) at a value of 10. The other eight reference minerals on the scale are given whole number values from 2 to 9. Other minerals have values between those given to the reference minerals.

All of the minerals named in the following questions are reference minerals, and so all have different whole number values on the scale.

- Apatite scratches both fluorite and gypsum, but not orthoclase or topaz. Topaz scratches fluorite and orthoclase.

### Question 65

A possible order of these five reference minerals on the Mohs scale, in order of increasing hardness, is

- A topaz, orthoclase, apatite, gypsum, fluorite.
- B apatite, fluorite, gypsum, orthoclase, topaz.
- C fluorite, gypsum, apatite, orthoclase, topaz.
- D gypsum, fluorite, apatite, topaz, orthoclase.

### Questions 66 and 67 refer to the following additional information:

A new mineral is discovered. It scratches quartz, apatite, calcite and topaz, but not corundum.

### Question 66

The newly discovered mineral's value on the Mohs scale would be between

- A 3 and 4.
- B 4 and 5.
- C 6 and 7.
- D 8 and 9.

### Question 67

Which of the following is the best conclusion on the basis of the information provided?

- A Quartz is harder than topaz.
- B Fluorite's value on the Mohs scale is less than 6.
- C Gypsum's value on the Mohs scale is greater than 2.
- D Aside from diamond, corundum cannot be scratched by any mineral.

*Painting of Nancy Cunard (also known as Mrs Fairbairn) by Alvaro Guevara,*  
National Gallery of Victoria.

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this material is not supplied.

## UNIT 21

### Questions 68 – 70

Questions 68 – 70 refer to Passages 1 and 2 below and the painting on the facing page.

#### Passage 1

A 1919 newspaper commented:

It is the fashion to go to an unflattering portrait painter. Mr Alvaro Guevara is the latest lion of the brush, and some of his portraits must give a shock to his fair sitters. He is a ‘modernist’, and his ideas of perspective are such that the dear ladies always seem to be sliding down the floor.

#### Passage 2

An entry from a 2003 catalogue by the National Gallery of Victoria described the work:

*Mrs Fairbairn* captures brilliantly the strong yet fragile personality of the obsessively thin Nancy Cunard, whom Guevara described as ‘like a green stick caterpillar who survives by nibbling a dandelion’s leaf’. It is a perfect example of Guevara’s style — what the critic P.G. Konody, writing in the *Observer* in 1926, called ‘those ultra-modern tendencies which ... led him to defiance of perspective and to other departures from the normal.’

#### Question 68

The writer of Passage 1 sees the portrait of Nancy Cunard as

- A trendy.
- B classical.
- C out of date.
- D progressive.

#### Question 69

The writer of Passage 1 describes Nancy Cunard as ‘sliding down the floor’ because

- A she is weak and thin.
- B she is relaxed and elegant.
- C the painting lacks light and shade.
- D the painting lacks depth and perspective.

#### Question 70

The writer of Passage 2 seems to

- A admire the painting.
- B be amused by the painting.
- C be objective about the painting.
- D disapprove of modernist paintings.

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**ACKNOWLEDGMENTS:** Control Publications, for the extract adapted from ‘Climate Change and Disease’, *Australasian Science*, August 1999; Larry S. Bourne (ed.) and Oxford University Press, for the *Daily Prism* diagram; CSIRO, for the extract adapted from ‘Soils: An outline of their properties and management’, *Discovering Soils 1*, CSIRO, Melbourne, 1977; John Ditchburn and [www.inkcinct.com.au](http://www.inkcinct.com.au), for the cartoon about music; Berlie Doherty and Oxford University Press, for the poem, *Quieter than Snow*, 1999; Sue Monk Kidd and Headline Book Publishing, for the extract from *The Secret Life of Bees*, 2002; Brian Lowry and [www.theage.com.au/articles/2004/04/21/1082530226248.html?from=storyhs](http://www.theage.com.au/articles/2004/04/21/1082530226248.html?from=storyhs), for article about Law & Order; The National Gallery of Victoria, for the reproduction of the painting, *Mrs Fairbairn*, by Alvaro Guevara; S. Selinger, for the extract adapted from *Chemistry in the Marketplace*, Harcourt Brace Jovanovich Group, Australia, 4th ed., 1988; Barney Tobey and [www.cartoonbank.com](http://www.cartoonbank.com), for the cartoon about an art gallery; [www.uta.fi/FAST/US7/PAPS/urbanl.html](http://www.uta.fi/FAST/US7/PAPS/urbanl.html), for *Urban Legends* article.

**END OF QUESTION BOOK**