



Thursday 9 January 2014 – Morning

LEVEL 2 AWARD THINKING AND REASONING SKILLS

B901/01 Unit 1 Thinking and Reasoning Skills

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- Quality of written communication will be assessed in questions 9 and 10.
- This document consists of **16** pages. Any blank pages are indicated.

SECTION A

You are advised to spend no longer than 30 minutes on this Section.

It is worth 30 marks.

Answer all the questions in this Section.

1 Consider the argument in the box below:

It has been proved that coloured lights affect children’s emotions. Children learn better in school when they are happy. Consequently, all schools should replace their lights with yellow ones.

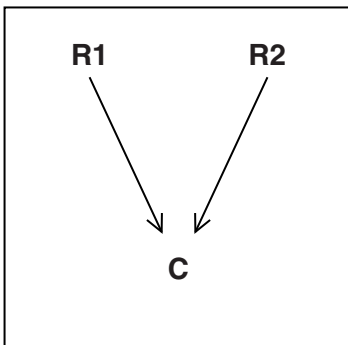
(a) Mark up the argument as follows:

(i) Underline the conclusion. [1]

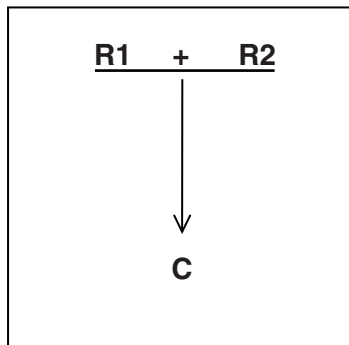
(ii) Circle the conclusion indicator word. [1]

(b) When asked to provide an argument map for the above argument three students provided the following maps:

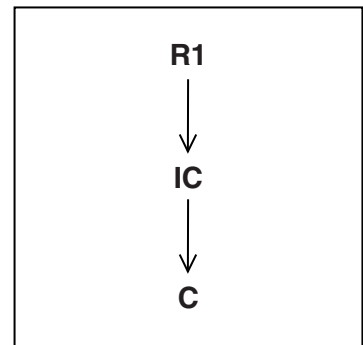
Map A



Map B



Map C



(i) Circle the correct map. [1]

(ii) Explain why this is the right answer.

.....

..... [1]

(c) Identify one assumption in the argument above.

.....

..... [1]

2 Amir has a part-time job in a mobile phone shop. His employer offers him the following information and advice:

No-one will be able to survive without a mobile phone by 2020

(a) Is this claim a fact or an opinion?

..... [1]

47 million British adults have a mobile phone

(b) Is this claim a fact or an opinion?

..... [1]

You should get yourself a touch screen mobile phone as most teenagers have got one

(c) State the weakness in this argument.

..... [1]

- 3 Sarah has collected the following information about her classmates and their food preferences. This is presented in the table below.

Name	Personal details			
	Gender	Is vegetarian	Believes it is important to eat healthily	Eats at least 5 fruit/vegetables per day
Hiba	Female	Yes	Yes	Yes
Charlie	Male	No	Yes	No
Elaine	Female	Yes	No	Yes
Mohamed	Male	Yes	No	Yes
Kris	Male	No	Yes	Yes
Julie	Female	Yes	Yes	Yes
Tracey	Female	Yes	No	Yes
Pierre	Male	No	Yes	Yes

In the table there are a number of patterns which can be identified in the food preferences of Sarah's classmates.

- (a) Identify any **three** patterns in the data:

1.....

2.....

3.....

[3]

(b) Sarah draws the following conclusion from her information:

‘Females at school are healthier than males at school’.

Her teacher tells her that she cannot draw this conclusion.

Explain why:

.....

.....

.....

..... [2]

4 Bethany, Clive, Edward and Fazena travel to college using different modes of transport.

Use the information provided below to identify which student uses which mode of transport.

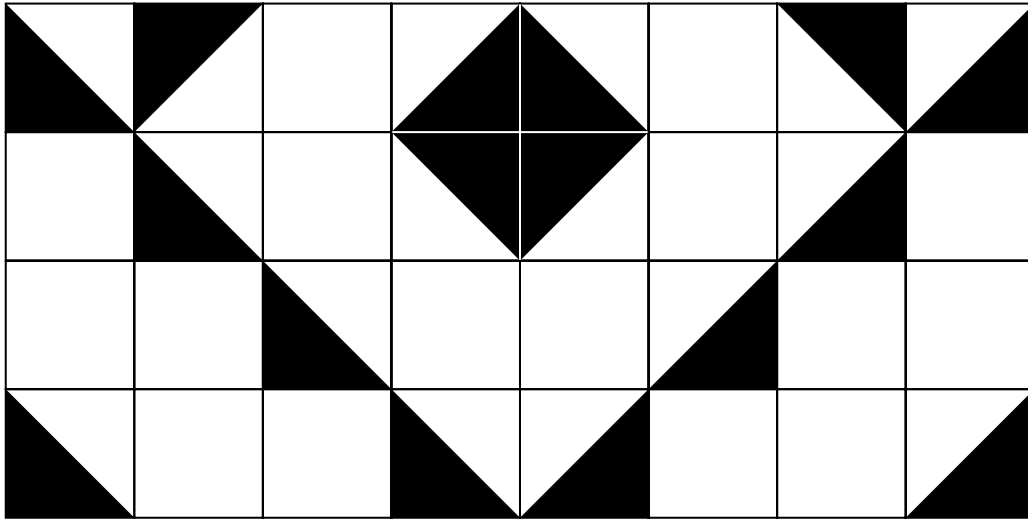
- Clive and Edward are friends with the person who travels by train to college.
- The person who travels by taxi sits next to Fazena and Clive in History lessons.
- Clive and Edward went to the cinema with the person who travels by bus to college.
- Bethany does not travel by train to college or have lessons with Fazena.

Use the matrix to work out which student uses which mode of transport and then complete the sentences below.

	Taxi	Bus	Train	Cycle
Bethany				
Clive				
Edward				
Fazena				

- (a) Bethany travels to college by [1]
- (b) Clive travels to college by [1]
- (c) Edward travels to college by [1]
- (d) Fazena travels to college by [1]

- 5 Sam, a local builder, has been asked by the headteacher to lay a new patio in the school playground. The patio's design can be seen below. There are 32 square slabs all of the same size.



- (a) How many different types of paving slab are needed to make up the design?

..... [1]

- (b) The headteacher has told Sam that the patio must be ready by 6.00pm. Sam makes a list of the order in which he needs to do things and how long each task will take.

Tasks and timings

Tasks – what needs to be done	Timings
Flattening the ground	1 hour
Mixing cement by hand	25 minutes
Laying slabs	3 minutes for each slab
Time for cement to set	3 hours
Brushing to remove dirt	15 minutes

- (i) Using the information above, what is the latest time Sam must start the job to meet this deadline?

The latest time Sam must start laying the patio is

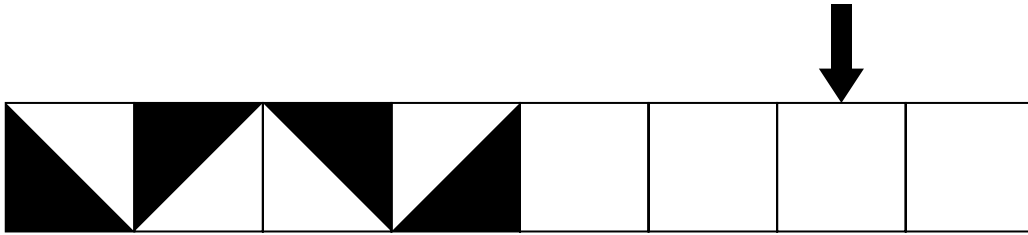
..... [1]

- (ii) If Sam had the help of another builder who works at the same speed, why would it reduce the time needed to complete the job by only 1 hour 38 minutes?

..... [1]

(c) Sam has also been asked to lay some edging paving slabs which follow a set pattern.

Draw the correct pattern on the tile indicated below.



[1]

6 The image below could be used to support the following claim:

'Many UK teenagers are binge drinkers.'



(a) Identify **two** questions you would like to ask about this image to decide whether it can be used to support the above claim. Explain why your questions would be useful.

(i) Your first question:

.....
.....

Explanation:

.....
.....

[2]

(ii) Your second question:

.....
.....

Explanation:

.....
.....

[2]

(b) Look at the following conclusions about how to reduce teenage binge drinking. Identify the reason which gives the strongest support to each conclusion. Tick the correct box.

(i) Conclusion 1:

The minimum age for buying alcohol should be increased to 21.

Reasons:

Alcohol is a poison if taken to excess.

In some states of the USA, you have to be 21.

It will be harder for teenagers to buy alcohol.

Shops need to sell alcohol more responsibly.

[1]

(ii) Conclusion 2:

Drinks should be priced according to how much alcohol they contain.

Reasons:

Alcohol is too expensive.

People should be able to choose the strength of drinks they buy.

People will be deterred from buying stronger alcoholic drinks.

The more alcoholic a drink, the more expensive it is to produce.

[1]

(iii) Conclusion 3:

There should be more anti-drinking campaigns directed at teenagers.

Reasons:

Heavy drinking has put a strain on the NHS.

If teenagers are better informed, they will make better choices.

Recent healthy-eating campaigns have been effective.

Teenagers do not listen to adults.

[1]

7 Jill has to attend a job interview at 9.00 am which is 10 miles from her home. She can get there by bus. The bus stop is a 10 minute walk from her house. The bus runs at 20 minute intervals, with the first bus of the day at 6.00 am. The bus journey should take 40 minutes and she has a 5 minute walk from the bus stop to the interview.

(a) What is the latest bus she can catch to get to her job interview on time?

- 7.20 am
- 7.40 am
- 8.00 am
- 8.20 am

Circle the correct answer

[1]

(b) If Jill left her house at 7.55 am and all buses were running 15 minutes later than timetabled, she would still get to her interview on time. Explain why.

.....
..... [1]

SECTION B

You are advised to spend no longer than 30 minutes on this Section.

It is worth 30 marks.

Answer all the questions in this Section.

Document A: Statement of Dr. James, The Armoran Institute (USA) which specialises in caring for psychiatric patients.

In the typical alien abduction, the victim is paralysed by some unknown force, taken to a small round room, and then examined by a number of large-eyed, grey-skinned, hairless, short creatures. The victims are then returned to their beds and wake up with no memories of the experience.

We have carried out extensive research. Our sample, based on 6000 adults, indicated that one out of every fifty people had been abducted. Therefore, this figure suggests that about 33,000,000 people have been abducted to date.

Document B: Questionnaire used by The Armoran Institute to support the claim that about 33,000,000 people have been abducted by aliens.

Have you experienced any of the following?

Question 1: A period of time of an hour or more, where you cannot remember either where you have been or why you were there.

Question 2: Finding scars or wounds on your body and not remembering how or where you got them.

Question 3: Feeling that you were flying through the air.

Saying yes to 2 out of the 3 questions is taken as evidence of alien abduction.

Document C: Statement of a believer in alien abductions.

I am absolutely fascinated by the subject. Why are we, as human beings, sure that we are the only life forms in the Universe? There is lots of scientific evidence to suggest that life exists on other planets, so I believe the claim of 33,000,000 alien abductions to be true. Lots of people say they have been abducted by aliens. Either they were really abducted by aliens or they are all liars.

Document D: Statement of a non-believer in alien abductions.

Dr. James has based his research on his psychiatric patients. He states that they were not mentally ill – then why was he treating them? His only explanation for their stories and responses to the questionnaire was that they had been abducted by aliens. However, until someone produces physical evidence that abductions have occurred, it seems more reasonable to believe that Dr. James's research is dodgy. What Dr. James doesn't say is that his patients got a lot of attention from his research. Furthermore, no mention was made of what he had to gain in fame and book sales by encouraging his patients to come up with more details of their "abductions". Dr. James received a \$200,000 advance for his first book on alien abductions.

8 (a) In Document A, Dr. James claims that alien abductions are common. Using Documents A and D:

(i) Explain one way in which the credibility of Dr. James’s claim is strengthened.

.....
..... [2]

(ii) Explain one way in which the credibility of Dr. James’s claim is weakened.

.....
..... [2]

(b) In Document B, The Armoran Institute claims that:

Saying yes to 2 out of the 3 questions is taken as evidence of alien abduction.

State two alternative explanations, other than alien abductions, for people having had any of the experiences listed in Document B.

Explanation 1:

.....
.....

Explanation 2:

.....
..... [2]

(c) In Document C, the believer claims:

There is lots of scientific evidence to suggest that life exists on other planets, so I believe the claim of 33,000,000 alien abductions to be true.

Identify two assumptions the believer is making.

Assumption 1:

.....
.....

Assumption 2:

.....
..... [2]

(d) In Document C, the believer says:

Lots of people say they have been abducted by aliens. Either they were really abducted by aliens or they are all liars.

Name the flaw in the believer's argument.

..... [1]

(e) Someone answers 'yes' to questions 2 and 3 in Document B.

(i) According to The Armoran Institute, would this be:

Both necessary and sufficient evidence for alien abduction.

Necessary but not sufficient evidence for alien abduction.

Neither necessary nor sufficient evidence for alien abduction.

Sufficient but not necessary evidence for alien abduction.

Tick the correct answer.

[1]

(ii) Explain your answer.

.....
.....
..... [2]

ADDITIONAL ANSWER SPACE

If additional answer space is required, you should use the following lined page. The question number(s) must be clearly shown in the margins.

A large rectangular area with a solid vertical line on the left side and horizontal dotted lines across the rest of the page, providing space for writing answers.



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