

# Section 1: Aptitude test

Problem solving (30 minutes) – 13 marks

Understanding argument (15 minutes) – identify flaws, assumptions and draw conclusion – 10 marks

Data analysis and inference (15 minutes) – verbal, statistical, graphical – 12 marks

Total: 35 marks of 60 from the whole paper

*Directions: Answer every question. Points are awarded for correct answers only. There are no penalties for incorrect answers. All questions are worth 1 mark. Some questions have more than 1 correct answer. Read carefully to ensure that you select the appropriate number of answers. Answers for short-answer questions must fit in the space provided Calculators are not permitted during any portion of the test.*

## **Ex 1: BMAT past year paper 2010**

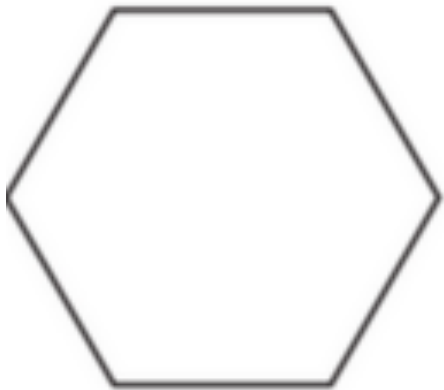
Societies with a flourishing arts sector (including visual art, theatre, music and dance) tend to be more democratic, more egalitarian, economically more robust and to have more fulfilled, healthier citizens. So, if we want to live in the most democratic, egalitarian and economically robust society, we should demand that the Government subsidises the arts to a level which enables them to flourish. Which one of the following illustrates a flaw in the above argument?

- A There may be other important demands on government money.
- B A flourishing arts sector may influence citizens' psychological health.
- C A strong economy may be a precondition of a flourishing arts sector.
- D Some of the arts (for example, opera) may be seen as non-egalitarian.

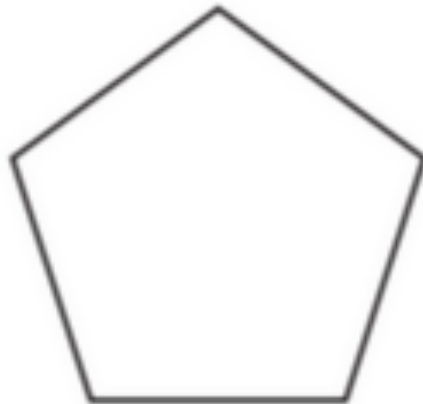
## Ex 2: Inspired by CIE A levels Thinking skills

It's a new year! Lily is resurfacing the floor of her house. She likes repeated motifs so she plans to only use 1 type of tiles. She was given a choice of tiles as shown below. However, one of the tiles won't cover the floor without leaving out numerous gaps (which is ugly). Which of the below should she avoid?

A



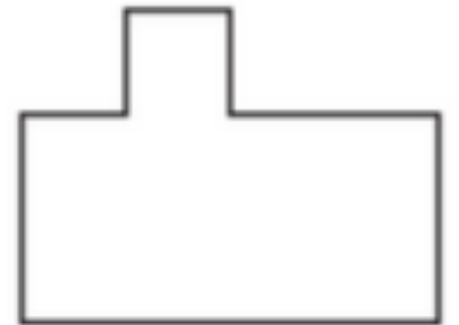
B



C



D



- **Ex 3: Inspired by CIE A levels thinking skills past paper**
- In a tearoom in the county of Cambridgeshire, a group of 6 people, including 5 senior citizens, go to a restaurant for a nice English afternoon tea. 3 people have meals costing 12 pounds each; 2 people have meals costing 13 pounds each; 1 person has a meal costing 14 pounds.
- The tearoom has two special offers:
  - Groups of 6 or more can have one of the cheapest meals free.
  - Senior citizens get a reduction of 2.50 pounds each.
- Only one special offer may be used at a time.
- If they take the better special offer for the group, how much is the total bill?
- 
- A GBP 51.50
- B GBP 63.00
- C GBP 63.50
- D GBP 64.00

# Section 2: Scientific and Mathematical Knowledge

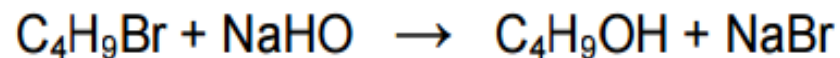
Directions: Answer every question. Points are awarded for correct answers only. There are *no penalties for incorrect answers*. All questions are worth 1 mark. Some questions have more than 1 correct answer. Read carefully to ensure that you select the appropriate number of answers. Calculators are not permitted during any portion of the test.

<http://www.admissionstesting.org/images/47829-bmat-test-specification.pdf>

A minute per question, if you can't do it immediately, leave it and come back later!

## Section 2 (Questions taken from BMAT past year papers)

- 2 2.74g of 1-bromobutane is reacted with excess aqueous sodium hydroxide to produce 1.11g of butan-1-ol according to the equation below.



What is the percentage yield of butan-1-ol?

( $A_r$  : H = 1; C = 12; O = 16; Na = 23; Br = 80)

- A 26%
- B 40%
- C 54%
- D 75%

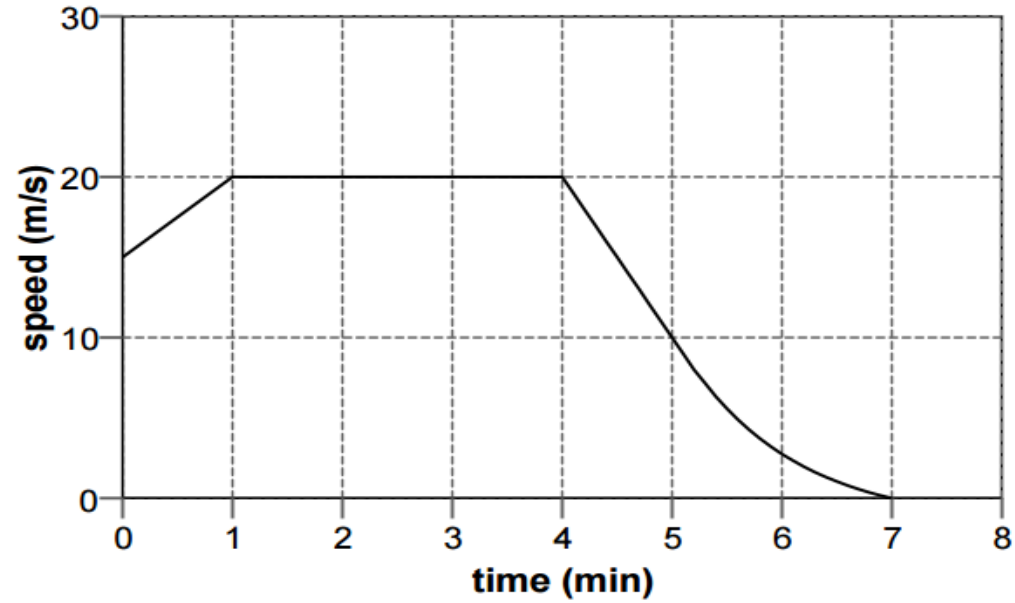
**5** The following statements are about hormone levels and their effect:

- 1** Increasing levels of insulin cause an increase in blood glucose levels.
- 2** Increasing levels of oestrogen increases the thickness of the inner lining of the uterus.
- 3** Increasing levels of adrenaline increases the heart rate.

Which of the statements are true?

- A** 1 and 2
- B** 1 and 3
- C** 2 and 3
- D** all of the above
- E** none of the above

15 The graph represents the motion of a vehicle during part of a journey.



What is the best estimate of the distance travelled during the part of the journey shown?

- A 100.00m
- B 107.50m
- C 115.00m
- D 6.00km
- E 6.45km
- F 6.90km

(Questions taken from BMAT past year papers)



**8** Simplify:

$$4 - \frac{x^2(1-16x^2)}{(4x-1)2x^3}$$

**A**  $2 - \frac{1}{2x}$

**B**  $2 + \frac{1}{2x}$

**C**  $4 - \frac{1}{2x}$

**D**  $4 + \frac{1}{2x}$

**E**  $6 - \frac{1}{2x}$

**F**  $6 + \frac{1}{2x}$

# Section 3

- Time: 30 minutes
- Directions: Answer only one task from the choice of four essay titles. You must write your answer by hand, and are limited to a space consisting of one side of A4. You are permitted to make any preparatory notes as needed, but time spent on such notes counts against the 30 minutes allowed for the essay. In this task, you are expected to show how well you can order and explore ideas, and convey these ideas in clear, effective writing. You may not use dictionaries or any other reference books or resources. Essays are assigned a numerical score. To achieve a top mark, you must address all aspects of the question and write compellingly with few errors in logic or in use of English.

# Section 3

Example:

***The scientist is not someone who gives the right answers but one who asks the right questions.***

Explain what this statement means. Argue to the contrary that the right answers are more important than the right questions. To what extent do you agree that the right questions must be asked before science can progress?

# Resources

- <http://www.kaptest.co.uk/courses/uk-university/bmat/bmat-preparation>
- <http://www.blackstonetutors.co.uk/free-bmat-past-papers.html> - Past year Qs + answers
- <http://www.admissionstestingservice.org/for-test-takers/bmat/preparing-for-bmat/> Past year Qs
- <http://www.bmatcrashcourse.com/free-resources/> - A few notes on GCSE knowledge
- <http://www.bmatcrashcourse.com/how-universities-use-bmat/> - A website made by my friend in uni, Ali Abdaal, quite legit. How universities use BMAT, not to be taken as the gospel truth, but quite an interesting read.
- Preparing for the BMAT: The Official Guide to the Biomedical Admissions Test by Heinemann