

COMBINED SCIENCE

Paper 5129/01
Multiple Choice

<i>Question Number</i>	<i>Key</i>	<i>Question Number</i>	<i>Key</i>
1	B	21	C
2	B	22	A
3	A	23	D
4	A	24	A
5	B	25	C
6	D	26	C
7	C	27	B
8	D	28	C
9	C	29	C
10	A	30	B
11	C	31	B
12	C	32	C
13	B	33	B
14	D	34	C
15	D	35	D
16	C	36	A
17	B	37	A
18	D	38	C
19	D	39	B
20	B	40	D

Comments on specific questions (Physics)

No question proved to be either very easy or very difficult. **Questions 10** and **11** were most challenging with **Question 10** proving more of a problem for the more able candidates than it did for the less able. In **Question 11** widespread guessing was evident from all the candidates.

Question 1

The period of a pendulum was well known among the more able candidates, although some did choose option **A**. Less able candidates were evenly divided between options **C** and **D**.

Question 2

This again highlighted candidates' confusion, possibly caused by not reading the question carefully, in interpreting distance/time and speed/time graphs, with many more choosing option **A** (distance/time) than did the key, option **B** (speed/time).

Question 3

Less able candidates' responses were equally divided between options **B** and **D**.

Question 4

Option **B** attracted most of the incorrect responses.

Question 5

The incorrect answers were almost equally divided between options **A** and **D**.

Question 6

Candidates appeared to be unsure as to what determines the sensitivity of a liquid-in-glass thermometer with the majority of responses equally divided between option **A**, including some of the more able, and the key, option **D**. The remainder were also equally divided between options **B** and **C**.

Question 7

Both options **A** and **D** attracted responses from a number of the more able candidates.

Question 8

This question highlighted again that it is, generally, the more able candidates who remember to use $\sin i / \sin r$ (option **D**) for refractive index and not just i / r (option **A**).

Question 9

Uncertainty was shown by some of the more able candidates who chose either option **A** or option **D**. Option **B** attracted a significant response from less able candidates.

Question 10

This was correctly answered by the majority of candidates, including a large number of the less able. Option **B** proved to be a 'positive distractor', one which positively correlates with success in the test and indicates that some of the more able candidates chose this option.

Question 11

Some uncertainty and guessing was shown here among the candidates with more choosing option **B** than did the key, option **C**. Both options **A** and **D** also attracted a significant response.

Question 12

The composition of the nucleus was well known with option **A** the favoured incorrect response.

Question 13

The majority of the responses were almost equally divided between the key, option **B**, and option **C**.

Comments on specific questions (Chemistry)

Question 14

This was an easy question for the vast majority of the candidates.

Question 15

A large number of the weaker candidates chose option **A**, indicating that there was a degree of misunderstanding of atomic and ionic structure.

Question 16

There was evidence of guesswork amongst the weaker candidates. The better candidates recognised that the elements are in Group 1 and Group 7 of the Periodic Table and form an ionic compound with a formula XY. Candidates should be reminded to use the Periodic Table supplied on the back of the examination paper.

Question 17

A significant proportion of the candidates thought that a typical covalent compound conducts electricity in aqueous solution, and chose option **A**.

Question 18

This was an easy question, particularly for the better candidates.

Question 19

A large number of candidates, including a significant proportion of the better candidates, thought that an aqueous solution of sodium chloride has a pH of 14.

Question 20

There was evidence of guesswork amongst the candidates. Candidates were expected to recognise that W and Y are in Group 7 of the Periodic Table and that the reactivities of the elements decrease as the Group is descended. As in question **16**, candidates should be reminded to use the Periodic Table supplied on the back of the examination paper.

Question 21

The properties of the alkali metals were not well known by the majority of candidates. The majority thought that the metals have a high melting point and chose options **A** and **B**.

Question 22

There was evidence of guesswork amongst the weaker candidates. A large proportion thought that iron is the most reactive of the four metals and chose option **D**.

Question 23

Another question where there was evidence of guesswork even amongst the better candidates.

Question 24

The uses of aluminium are well known by a majority of the candidates.

Question 25

The majority of the candidates recognised that process W is fractional distillation, but many of these thought that the product of fractional distillation is an alkene and chose option **D**.

Question 26

The use of aqueous bromine to identify compounds containing a carbon to carbon double bond is well known by the majority of the candidates.

Question 27

The structural formula of an alcohol was very well known, particularly by better candidates.

Comments on specific questions (Biology)

Question 28

Some candidates did not read the question here, and chose a plant/animal cell difference without relating this to the shapes of the cells.

Question 29

This question (on osmosis) proved difficult, with many candidates choosing the reverse of the correct answer.

Question 30

Many candidates found this question challenging.

Question 31

Candidates need to be aware of how the structure of a leaf is related to the different functions needed for photosynthesis.

Question 32

This was a straightforward question, and was answered well by most candidates.

Question 33

About half of the candidates confused ion uptake and water uptake.

Question 34

Many candidates appeared to be confused about the names of the different valves in the heart.

Question 35

A common error was the belief that anaerobic respiration in muscles produces carbon dioxide.

Question 36

Even some of the better candidates were confused about the mechanism of accommodation.

Question 37

It was pleasing to see that, compared to previous years, a higher proportion of candidates understand that alcohol is a depressant.

Question 38

This question proved difficult. Candidates did not take into account that it was a question about food chains, not food webs.

Question 39

This question about deforestation caused problems for many.

Question 40

Candidates need to be made aware of the classification of the different methods of birth control by the mechanism involved in that birth control.

