DIRECTIONS TO CANDIDATES

- Board-approved calculators may be used.

Section I—Core

- Attempt ALL questions.
- **Part A** 15 multiple-choice questions, each worth 1 mark. Complete your answers in either blue or black pen on the Answer Sheet provided.
- **Part B** 10 questions, each worth 3 marks. Answer this Part in the Part B Answer Book.
- **Part C** 6 questions, each worth 5 marks. Answer this Part in the Part C Answer Book.

- Write your Student Number and Centre Number on each Answer Book.
- You may keep this Question Book. Anything written in the Question Book will NOT be marked.

Section II—Electives

- Attempt ONE question.
- Each question is worth 25 marks.
- Answer the question in a SEPARATE Elective Answer Book.
- Write your Student Number and Centre Number on the cover of each Elective Answer Book.
- Write the Course, Elective Name and Question Number on the cover of each Elective Answer Book.
- You may ask for extra Elective Answer Books if you need them.
SECTION I—CORE
(75 Marks)

Attempt ALL questions.

PART A
Questions 1–15 are worth 1 mark each.

Instructions for answering multiple-choice questions

- Complete your answers in either blue or black pen.
- Select the alternative A, B, C or D that best answers the question. Fill in the response oval completely.

Sample: \[2 + 4 = \text{(A) 2 (B) 6 (C) 8 (D) 9}\]

\[\begin{array}{cccc}
A & B & C & D \\
\bigcirc & \bigcirc & \bigcirc & \bigcirc \\
\end{array}\]

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

\[\begin{array}{cccc}
A & B & C & D \\
\bigcirc & \bigcirc & \bigcirc & \bigcirc \\
\end{array}\]

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word \text{correct} and drawing an arrow as follows.

\[\begin{array}{cccc}
A & B & C & D \\
\bigcirc & \bigcirc & \bigcirc & \bigcirc \\
\end{array}\]
1 In pea plants, green seed pods are dominant to yellow pods. A plant with yellow seed pods was crossed with a plant heterozygous for green seed pods. What is the chance of an offspring having green seed pods?

(A) 25%
(B) 50%
(C) 75%
(D) 100%

2 Using the information in the diagram, which property makes aluminium unsuitable for jewellery?

(A) Appearance
(B) Availability
(C) Corrosion
(D) Cost

3 The early Greeks proposed models of the solar system that are not accepted today. One such model was proposed by Ptolemy. Why is this model no longer accepted?

(A) It was based only on information known at the time.
(B) It placed Saturn farther from the Sun than Mars.
(C) Only optical telescopes were used to collect data.
(D) It placed the Earth in the wrong position in relation to the Sun.
USE THE DIAGRAM TO ANSWER QUESTIONS 4 AND 5.

This diagram shows the energy efficiency in electrical production at a coal-fired generation plant.

4. What is the efficiency of this method of electricity production?
   (A) 15%
   (B) 30%
   (C) 70%
   (D) 100%

5. In what form is most of the energy lost?
   (A) Light
   (B) Electrical
   (C) Kinetic
   (D) Heat

6. A star’s location in the sky can be stated in terms of its altitude and azimuth. In the diagrams, the star $\alpha$ has an altitude of 35° and an azimuth of 155° at 8.30 pm.

   Altitude
   Azimuth

   What are the altitude and azimuth of the star $\beta$ at 8.30 pm?
   (A) 55° and 205°
   (B) 55° and 215°
   (C) 65° and 205°
   (D) 65° and 215°
7 Why is an opposable thumb important for primates?

(A) They need to walk on their hands.
(B) It allows them to swing from branch to branch.
(C) It enables them to form a curved grasping limb.
(D) It enhances the sense of touch, making it easier to find food.

8 In 1991, the body of a prehistoric man was found in a glacier on the Italian/Austrian border. The body was clad in an animal skin, and a bronze axe was found. After climbing to the spot and being surrounded by a thick, freezing fog common in this area, one scientist claimed that the prehistoric man had died when caught in a similar fog.

Which of the following statements is NOT an observation?

(A) The area was surrounded by a thick freezing fog.
(B) The body was clad in an animal skin.
(C) One scientist claimed the man died when caught in a fog.
(D) A bronze axe was found with the body.

9 Which of the following terms is defined as ‘a proposed explanation based on experimental observation’?

(A) A prediction
(B) An hypothesis
(C) A theory
(D) A conclusion

10 Which of the following is the best description of a nebula?

(A) A very dense star
(B) A massive grouping of stars
(C) A region in space with intense gravitation
(D) A cloud of gas and dust in space
The implement depicted in the diagram was an important discovery at an archaeological site. What significance does this tool have?

(A) It is evidence for early man having a culture.
(B) It demonstrates how culture is passed from one generation to the next.
(C) It is conclusive evidence that early man was a hunter.
(D) It provides evidence for the existence of races of humans.

12 The cloning of humans has been outlawed by many governments.

Which of these statements best describes this action?

(A) This sensible response makes scientists responsible for the improper use of cloning.
(B) Scientific progress is slowed by unwarranted political interference.
(C) It is a cautious response, recognising the basic ethical problem of scientific accountability.
(D) It is an hysterical response, reflecting the unwarranted fears of uneducated people.

13 The discovery of antibiotics provided a remarkable step forward in medicine. What type of organism can be controlled with antibiotics?

(A) Bacteria
(B) Worms
(C) Viruses
(D) Fungi
14 Which of the following best distinguishes a New-world monkey from an Old-world monkey?

(A) Steroscopic vision  
(B) Prehensile tail  
(C) Lives in groups  
(D) Tree dweller

15 What happens during a solar eclipse?

(A) The Sun casts a shadow on the Earth.  
(B) The Sun casts a shadow on the Moon.  
(C) The Moon casts a shadow on the Earth.  
(D) The Moon casts a shadow on the Sun.
PART B

Questions 16–25 are worth 3 marks each.

Answer this Part in the Part B Answer Book.

16  A stick placed upright in the ground will produce a shadow. The shadow will vary in size and position throughout the day.

(a) At what time of the day would the shortest shadow be produced?

(b) Explain why the size of the shadow varies throughout the day.

(c) Complete the diagrams in your Part B Answer Book to show the shadow cast at 10.00 am in summer and 10.00 am in winter.

17  Sir Isaac Newton (1642–1726) made two significant contributions to the understanding of our solar system.

(a) Briefly outline these TWO contributions.

(b) What was the significance of these contributions to the model that existed at the time?

18  (a) Name TWO groups of animals, other than monkeys, that belong to the Primate order.

(b) State TWO features of these animals that are used to classify them as primates.

(c) How can *Homo sapiens* be distinguished from all other animals?

19  The table shows information about A-B-O blood grouping in humans.

<table>
<thead>
<tr>
<th>Blood type</th>
<th>Possible allele pairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>i i</td>
</tr>
<tr>
<td>A</td>
<td>I^A I^A or I^A i</td>
</tr>
<tr>
<td>B</td>
<td>I^B I^B or I^B i</td>
</tr>
<tr>
<td>AB</td>
<td>I^A I^B</td>
</tr>
</tbody>
</table>

(a) Explain why a person with an allele pair I^B i will have type B blood.

(b) Why is AB an uncommon blood type? Explain your answer.

(c) If the parents of a child have allele pairs I^A i and I^B i, what are the possible blood types of the child? Show all your working.
20  Explain the difference in appearance of a full moon and a new moon, in terms of the relative positions of the Earth, Sun and Moon. Include one or more diagrams in your answer.

21  Cotton occurs naturally, but it has become possible to produce similar materials synthetically.
   (a) Name ONE synthetic substitute for cotton.
   (b) State ONE advantage and ONE disadvantage of cotton compared with its synthetic substitute.

22  Not all metals occur naturally in their pure form in the Earth’s crust.
   (a) Name ONE metal that occurs in its pure form.
   (b) Name ONE metal that requires extraction, and describe the method used to extract it from its ore.

23  Antibiotics have had a profound effect on our society.
   (a) Name ONE example of an antibiotic.
   (b) State ONE significant contribution that antibiotics have made to modern society.
   (c) Describe ONE problem associated with the use of antibiotics.

24  The fossil record shows gradual lengthening of the giraffe neck over time.
   (a) How would Jean-Pierre Lamarck have explained this?
   (b) Why is Lamarck’s explanation of the mechanism of evolution not the scientifically accepted explanation?
The diagram shows a block and tackle before and after a load is lifted.

(a) Calculate the efficiency of this block and tackle. Show all working.

(b) Why is the efficiency of this block and tackle not 100%?
PART C

Questions 26–31 are worth 5 marks each.
Answer this Part in the Part C Answer Book.

26 Use the diagrams to answer this question.

(a) Explain the type of information that is depicted in the diagrams.

(b) On what type of evidence are these diagrams based?

(c) Place an X on the diagram in your Answer Book to indicate where you would expect to find *Homo sapiens sapiens*.

(d) The genus *Homo* is made up of three groups:
   • *H. habilis*
   • *H. erectus*
   • *H. sapiens*

   (i) Why are these groups classified as the genus *Homo*?

   (ii) State ONE of the main differences between *H. erectus* and Modern man.
27 One of the greatest problems for future space travel is distance. If it were possible to travel at the speed of light, it would take 900 years to reach the star Rigel.

(a) Describe how scientists have solved THREE life-support problems for long-term space travel.

(b) Give TWO reasons why we should continue with our efforts to further space travel.

28 A dog breeder bred a homozygous white female dog with a heterozygous brown male dog. Six offspring were produced, four with brown fur (two males and two females) and two with white fur (one male and one female).

Construct a genetic family tree for the parents and six offspring. Show BOTH the phenotype and the genotype for fur colour for each member of this family.

29 Use the table to answer this question.

<table>
<thead>
<tr>
<th>Metal</th>
<th>Symbol</th>
<th>Melting point (°C)</th>
<th>Density (g/cm³)</th>
<th>Strength (× 10⁶ N/m²)</th>
<th>Abundance in Earth’s crust (%)</th>
<th>Approximate cost ($/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>Cu</td>
<td>1083</td>
<td>8.9</td>
<td>150</td>
<td>0.007</td>
<td>4</td>
</tr>
<tr>
<td>Aluminium</td>
<td>Al</td>
<td>660</td>
<td>2.7</td>
<td>80</td>
<td>8.1</td>
<td>2</td>
</tr>
<tr>
<td>Titanium</td>
<td>Ti</td>
<td>1668</td>
<td>4.5</td>
<td>620</td>
<td>0.6</td>
<td>10</td>
</tr>
<tr>
<td>Gold</td>
<td>Au</td>
<td>1063</td>
<td>19.3</td>
<td>120</td>
<td>0.000 0005</td>
<td>17 000</td>
</tr>
</tbody>
</table>

(a) What advantage does the use of titanium have, compared with the use of aluminium, for the manufacture of mountain bicycles?

(b) The surface temperature of Venus varies from 450°C to 1000°C. State which metal you would use to make a spacecraft to explore the surface of Venus. Justify your answer.

(c) What is the main characteristic of a metal that governs its cost? Is this a direct relationship? Explain your answer.
30 Natural rubber is obtained from the rubber tree. Synthetic rubber is commonly made from the chemicals butadiene and styrene.

(a) What are the advantages of using natural rubber instead of synthetic rubber?

(b) To make rubber stronger and more durable, it is heated with sulfur. State ONE disadvantage of producing this more durable product.

(c) Should scientists be held accountable for the consequences of producing a more durable rubber? Explain your answer.

31 During your studies, you planned an experimental investigation that would provide evidence for the Darwinian Theory of Evolution.

(a) Outline your planned investigation under the headings: Hypothesis, Aim and Method.

(b) (i) Outline ONE result that you would expect to obtain if you actually carried out this investigation.

(ii) Explain how this result would give support to the theory of evolution.

Please turn over
SECTION II—ELECTIVES

(25 Marks)

Attempt ONE question.

Answer the question in a SEPARATE Elective Answer Book.

Write your Student Number and Centre Number on the cover of each Elective Answer Book.

Write the Course, Elective Name and Question Number on the cover of each Elective Answer Book.

<table>
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<tr>
<th>QUESTION</th>
<th>Title</th>
<th>Page</th>
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<tbody>
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<td>Colour</td>
<td>15</td>
</tr>
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<td>33</td>
<td>Metals in the Service of People</td>
<td>16</td>
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<tr>
<td>34</td>
<td>Optics</td>
<td>17</td>
</tr>
<tr>
<td>35</td>
<td>Petroleum and its Compounds</td>
<td>18</td>
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<td>36</td>
<td>Physiology of the Senses</td>
<td>19</td>
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<td>37</td>
<td>Reproduction in Animals and Plants</td>
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<td>The Insects</td>
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<td>39</td>
<td>The Science of Food Technology</td>
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<td>41</td>
<td>Water</td>
<td>24</td>
</tr>
</tbody>
</table>
QUESTION 32  Colour

(a) Your study of Colour has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment

(ii) The variables involved

(iii) The control you used, and why using this control was important

(iv) Your method

(v) Your results

(vi) Your conclusion

(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment

(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: *behavioural reactions to colour.*

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.

(ii) For EACH heading, describe TWO scientific points you would include.

(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.

(iv) Explain why this topic is relevant to society.

(c) In your study of Colour, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

   1 Spectra

   2 Refraction

(ii) List TWO other terms used in your study of Colour, and explain what each term means.
QUESTION 33 Metals in the Service of People

(a) Your study of Metals in the Service of People has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment
(ii) The variables involved
(iii) The control you used, and why using this control was important
(iv) Your method
(v) Your results
(vi) Your conclusion
(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment
(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: the uses of metals related to their particular properties, and methods of overcoming any difficulties associated with their use.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.
(ii) For EACH heading, describe TWO scientific points you would include.
(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.
(iv) Explain why this topic is relevant to society.

(c) In your study of Metals in the Service of People, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

1. Conductivity
2. Smelting

(ii) List TWO other terms used in your study of Metals in the Service of People, and explain what each term means.
QUESTION 34  Optics

(a) Your study of Optics has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment
(ii) The variables involved
(iii) The control you used, and why using this control was important
(iv) Your method
(v) Your results
(vi) Your conclusion
(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment
(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: multi-component optical systems, including microscopes, telescopes, and binoculars.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.
(ii) For EACH heading, describe TWO scientific points you would include.
(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.
(iv) Explain why this topic is relevant to society.

(c) In your study of Optics, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:
   1 Hologram
   2 Focus

(ii) List TWO other terms used in your study of Optics, and explain what each term means.
### QUESTION 35 Petroleum and its Compounds

(a) Your study of Petroleum and its Compounds has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

| (i) | The aim of your experiment |
| (ii) | The variables involved |
| (iii) | The control you used, and why using this control was important |
| (iv) | Your method |
| (v) | Your results |
| (vi) | Your conclusion |
| (vii) | Any problems or safety issues you had, or allowed for, when carrying out your experiment |
| (viii) | How this experiment added to your understanding of the topic |

(b) You have been asked by the editor of the local newspaper to write an article on the topic: *the production of other chemicals from petroleum and their use in making new substances*.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

| (i) | List the THREE main headings under which you would arrange your article. |
| (ii) | For EACH heading, describe TWO scientific points you would include. |
| (iii) | Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article. |
| (iv) | Explain why this topic is relevant to society. |

(c) In your study of Petroleum and its Compounds, you have used a number of scientific terms.

| (i) | Explain the meaning of the following TWO terms: |
| 1 | Cracking |
| 2 | Hydrocarbon |

| (ii) | List TWO other terms used in your study of Petroleum and its Compounds, and explain what each term means. |
QUESTION 36  Physiology of the Senses

(a) Your study of Physiology of the Senses has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment
(ii) The variables involved
(iii) The control you used, and why using this control was important
(iv) Your method
(v) Your results
(vi) Your conclusion
(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment
(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: the transmission of impulses and their reception in particular regions of the brain.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.
(ii) For EACH heading, describe TWO scientific points you would include.
(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.
(iv) Explain why this topic is relevant to society.

(c) In your study of Physiology of the Senses, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

1 Cochlea
2 Reflex arc

(ii) List TWO other terms used in your study of Physiology of the Senses, and explain what each term means.
QUESTION 37  Reproduction in Animals and Plants

(a) Your study of Reproduction in Animals and Plants has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

   (i) The aim of your experiment
   (ii) The variables involved
   (iii) The control you used, and why using this control was important
   (iv) Your method
   (v) Your results
   (vi) Your conclusion
   (vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment
   (viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: reproduction in the main animal and plant groups.

   The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

   (i) List the THREE main headings under which you would arrange your article.
   (ii) For EACH heading, describe TWO scientific points you would include.
   (iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.
   (iv) Explain why this topic is relevant to society.

(c) In your study of Reproduction in Animals and Plants, you have used a number of scientific terms.

   (i) Explain the meaning of the following TWO terms:

       1  Gamete
       2  Pollination

   (ii) List TWO other terms used in your study of Reproduction in Animals and Plants, and explain what each term means.
QUESTION 38  The Insects

(a) Your study of The Insects has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment

(ii) The variables involved

(iii) The control you used, and why using this control was important

(iv) Your method

(v) Your results

(vi) Your conclusion

(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment

(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: *the behaviour and communication of insects that live in communities*.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.

(ii) For EACH heading, describe TWO scientific points you would include.

(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.

(iv) Explain why this topic is relevant to society.

(c) In your study of The Insects, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

1  Metamorphosis

2  Arthropod

(ii) List TWO other terms used in your study of The Insects, and explain what each term means.
QUESTION 39  The Science of Food Technology

(a) Your study of The Science of Food Technology has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

   (i) The aim of your experiment

   (ii) The variables involved

   (iii) The control you used, and why using this control was important

   (iv) Your method

   (v) Your results

   (vi) Your conclusion

   (vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment

   (viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: *methods of food preservation and their scientific basis*.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

   (i) List the THREE main headings under which you would arrange your article.

   (ii) For EACH heading, describe TWO scientific points you would include.

   (iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.

   (iv) Explain why this topic is relevant to society.

(c) In your study of The Science of Food Technology, you have used a number of scientific terms.

   (i) Explain the meaning of the following TWO terms:

      1  Fermentation

      2  Pasteurisation

   (ii) List TWO other terms used in your study of The Science of Food Technology, and explain what each term means.
QUESTION 40  The Scientific Basis of Photography

(a) Your study of The Scientific Basis of Photography has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment
(ii) The variables involved
(iii) The control you used, and why using this control was important
(iv) Your method
(v) Your results
(vi) Your conclusion
(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment
(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: the techniques of developing and printing photographic film.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.
(ii) For EACH heading, describe TWO scientific points you would include.
(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.
(iv) Explain why this topic is relevant to society.

(c) In your study of The Scientific Basis of Photography, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

1  Aperture
2  Negative

(ii) List TWO other terms used in your study of The Scientific Basis of Photography, and explain what each term means.
QUESTION 41  Water

(a) Your study of Water has involved laboratory work. Using the following points, describe ONE experiment you have carried out.

(i) The aim of your experiment

(ii) The variables involved

(iii) The control you used, and why using this control was important

(iv) Your method

(v) Your results

(vi) Your conclusion

(vii) Any problems or safety issues you had, or allowed for, when carrying out your experiment

(viii) How this experiment added to your understanding of the topic

(b) You have been asked by the editor of the local newspaper to write an article on the topic: the importance of water in living systems.

The editor wants you to provide an OUTLINE of the article. The outline must be in the following format:

(i) List the THREE main headings under which you would arrange your article.

(ii) For EACH heading, describe TWO scientific points you would include.

(iii) Include ONE relevant diagram, graph, table, or flowchart for EACH section of the article.

(iv) Explain why this topic is relevant to society.

(c) In your study of Water, you have used a number of scientific terms.

(i) Explain the meaning of the following TWO terms:

1  Osmosis

2  Solvent

(ii) List TWO other terms used in your study of Water, and explain what each term means.

End of paper
DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page.
- You should receive this Answer Book with a Part A Answer Sheet, a Part C Answer Book and an Elective Answer Book.
- Answer Questions 16 to 25 in this Answer Book.
- Each question is worth 3 marks.

<table>
<thead>
<tr>
<th>PART</th>
<th>Mark</th>
<th>Marker</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
PART B

Each question is worth 3 marks.

Answer the questions in the spaces provided.

16. (a) ......................................................................................................................
    (b) ......................................................................................................................
    ......................................................................................................................
    ......................................................................................................................
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   (c) ......................................................................................................................

  10.00 am Summer   10.00 am Winter
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18  (a) ......................................................................................................................
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  (b) Feature 1 ........................................................................................................
    Feature 2 ........................................................................................................

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21 (a) ....................................................................................................................................... 

(b) Advantage ................................................................................................................................
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DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page.
- You should receive this Answer Book with a Part A Answer Sheet, a Part B Answer Book and an Elective Answer Book.
- Answer Questions 26 to 31 in this Answer Book.
- Each question is worth 5 marks.
PART C

Each question is worth 5 marks.

Answer the questions in the spaces provided.

26   (a) ......................................................................................................................

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(b) ......................................................................................................................

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(c) ......................................................................................................................

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(d)   (i) ..........................................................................................................

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(ii) ......................................................................................................................
(a) Life-support problem 1 .................................................................
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Life-support problem 2 .................................................................
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Life-support problem 3 .................................................................
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(b) Reason 1 ......................................................................................
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Reason 2 ......................................................................................
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28 .................................................................................................