**S2 First term (04-05) Test Cycle II Integrated Science Test**

Time allowed: 35 minutes  
Total marks: 35  
Total number of pages: 4  

**ANSWER ALL QUESTIONS** in the space provided.

**SECTION A: Multiple choice questions (15 marks)**

Answer the multiple choice questions as shown below. This question is an example to show how to write the ANSWER. It has been done for you. Write BLOCK CAPITAL LETTER.

<table>
<thead>
<tr>
<th>Question</th>
<th>Space for answer</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Which of the following animals is an <strong>invertebrate</strong>?</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. sea anemone</td>
<td>B. pigeon</td>
</tr>
</tbody>
</table>

1. Which of the following tests is the best for oxygen?  
   A. lime water  
   B. line water  
   C. growing splint  
   D. glowing splint  

2. Which of the following statements is **incorrect** (= wrong)?  
   A. In 100 ml of air, there is about 21 ml of oxygen.  
   B. Neon is found in air.  
   C. The amount of water vapour in air changes everyday.  
   D. The % of carbon dioxide in normal (正常) clean air is about 78%.  

3. The "**fire triangle**" is made up of  
   A. fuel, oxygen and heat  
   B. fuel, smoke and heat  
   C. nitrogen, oxygen and carbon dioxide  
   D. heat, smoke and oxygen  

4. **After** burning food, a dark substance is left behind (剩下来). It is  
   A. carbon  
   B. nitrogen  
   C. ink  
   D. tar  

5. In testing a leaf for starch, which of the following **precautions** (安全措施) must be taken?  
   I. Turn off the Bunsen burner when the alcohol (ethanol) boils.  
   II. Do not heat the alcohol directly over a flame.  
   III. Wear goggles.  
   A. I and II  
   B. II and III  
   C. I and III  
   D. I, II and III  

6. A **water plant** can  
   A. neither photosynthesize nor respire.  
   B. photosynthesize but cannot respire.  
   C. respire but cannot photosynthesize.  
   D. both photosynthesize and respire.  

7. Air enters our lungs through the following parts in order (顺序)  
   A. bronchus - trachea - nasal cavity  
   B. nasal cavity - bronchus - trachea  
   C. nasal cavity - trachea - bronchus  
   D. trachea - bronchus - nasal cavity  

8. When we **breathe in**, our  
   A. ribs move up, diaphragm moves up  
   B. ribs move down, diaphragm moves down  
   C. ribs move up, diaphragm moves down  
   D. ribs move down, diaphragm moves up
9. One factor that produces the greenhouse effect is
   A. rainfall  B. polar ice  C. carbon dioxide  D. nitrogen  C

10. Which air pollutant can decrease the amount of oxygen in blood?
    A. Lead  B. Carbon monoxide  C. Sulphur dioxide  D. Nitrogen dioxide  B

11. Refer to the following diagram. Hydrilla is a water plant. When the set-up is exposed to sunlight for a few hours, a gas X can be collected.
   Gas X can
   A. change lime water from colourless to milky.  B. change universal indicator solution from green to red.  C. extinguish (熄滅) a fire.  D. relight a glowing splint.  D

12. The table below shows the energy content of some foods.

<table>
<thead>
<tr>
<th>Food</th>
<th>Weight / g</th>
<th>Energy / KJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td>250</td>
<td>7800</td>
</tr>
<tr>
<td>Cabbage</td>
<td>600</td>
<td>204</td>
</tr>
<tr>
<td>Apple pie</td>
<td>500</td>
<td>5250</td>
</tr>
</tbody>
</table>

Which of the foods contains the highest energy content per 100 g?
   A. Butter  B. Cabbage  C. Apple pie  D. It cannot be calculated.  B

13. Which substance has a pH value of more than 7?
    A. Sulphuric acid  B. Lemon juice  C. toothpaste  B  B. vinegar  C

14. Ammonia solution can change
    A. red litmus paper to blue  B. blue litmus paper to red  C. red litmus paper to yellow  D. blue litmus paper to green  A

15. Many cleaning agents (e.g. detergent, soap, shampoo) are
    A. acidic  B. neutral  C. alkaline  D. none of the above  C

Section B: Short questions

1. State TWO scientific / medical reasons why smoking cigarette is harmful to our health. (2 marks)
   1. Cigarette tar sticks to the wall and damages the lungs.
   2. Nicotine causes heart disease & it is addictive. (either one effect)
(a) In your opinion, what is the best way to stop people from smoking? (1 mark)

- Persuasion
- Promotion
- Law
- Education
- Social

Any 1 point

2. What changes can a tree do to the composition of its surrounding air? (2 marks)

- It decreases the amount of carbon dioxide
- It increases oxygen

3. The diagrams below show that of the human respiratory system and a working model of the lungs.

(a) What are B, E, F and G? (0.5 x 4 marks)

B = trachea
E = air sac
F = rib
G = lung

(b) What is the function of part E? (1 mark)

For gaseous exchange or oxygen in it diffuses into blood and carbon dioxide in blood diffuses into E

(c) By the use of letter from diagram I (on the left), state which parts match (配对) that of the model in diagram II (on the right)? (Fill in the blanks.)

(i) The Y-piece corresponds to parts B and C of the respiratory system. (1 mark)

(ii) The Rubber sheet corresponds to part H of the respiratory system. (1 mark)

(d) What will happen to the size of the balloon when the rubber sheet is pulled down? (1 mark)

It increases in size or it expands/inflates

4. The following diagrams show the steps in the testing of starch in green leaf.
(a) What is the purpose (目的) of putting the softened leaf into hot alcohol? (1 mark)

1. To remove (or dissolve away) the green chlorophyll (or pigment) in leaf & any one

(b) For a green leaf that has been put under sunlight for a few hours before the test, what will be the colour change in the iodine solution test? (1 mark)

2. From brown to dark/dark blue
don't	
colour

colour

(c) PHOTOSYNTHESIS is a process that needs raw materials (原料) and energy. The process produces a product. What are these items? (0.5 x 4 marks)

<table>
<thead>
<tr>
<th>Two raw materials</th>
<th>water + carbon dioxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kind of Energy</td>
<td>light energy</td>
</tr>
<tr>
<td>The product</td>
<td>sugar starch carbohydrate</td>
</tr>
</tbody>
</table>

5. The following diagram shows an experiment related to respiration.

(a) What is the use of soda lime? (1 mark)

1. To absorb carbon dioxide given out by the worms

(b) If double (雙倍) the number of worms are put into the boiling tube, what will happen to the colored liquid drop during the experiment? (1 mark)

1. The colored liquid drop will move to the left at a faster rate

6. Fill in the blanks. (2 marks)

(a) An indicator (a noun) is a substance that produces different colours in acids and alkalis.

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(b) When a can of soft drink is taken out from the refrigerator and left on the table, some liquid droplets will appear on the surface. It is because water vapour in air condenses (a verb) on the cold surface to form liquid drops.

[ END ]