



JABATAN PELAJARAN TERENGGANU

**PEPERIKSAAN AKHIR TAHUN
TINGKATAN EMPAT 2008**

ENGLISH FOR SCIENCE AND TECHNOLOGY

Kertas 2

Satu jam

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. *Kertas soalan ini mengandungi 2 Bahagian dan 30 soalan*
2. *Jawab **semua** soalan.*
3. *Hitamkan semua jawapan anda untuk Bahagian A dan B di kertas jawapan yang disediakan*
4. *Setiap soalan akan mempunyai 3 atau 4 pilihan; A, B dan C ATAU A, B, C dan D*

Kertas soalan ini mengandungi 13 halaman bercetak

[Lihat sebelah]

SULIT

SECTION A (Question 1-25)**Question 1**

Read the text below carefully and answer the question that follows.

A Trojan horse is technically a normal computer programme. It cannot replicate and spread by itself, nor is it able to function on its own. It needs to deceive the computer user into allowing it to perform actions such as deleting the user's files or installing other harmful software. This may occur when the user opens an e-mail or e-mail attachment, or visit a malicious website.

1. Which of the following is true about a Trojan horse?

- A. It is able to function on its own.
- B. It is able to reproduce on its own.
- C. It could trick its user into running it
- D. It is only found in an e-mail attachment.

Question 2

Read the text below carefully and answer the question that follows.

Bacteria play a major role in recycling many chemical elements and chemical compounds in nature. Without such bacterial activities in the carbon cycle, life on Earth would be impossible. Plants use CO₂ to grow and in the process, they produce the oxygen that humans and animals need. Moreover, we would drown in garbage and wastes if bacteria did not speed the decomposition of dead plants and animal matter.

2. In what way do bacteria aid life on Earth?

- A They disrupt the carbon cycle.
- B They increase the amount of oxygen.
- C They accelerate the breakdown of animal matter.
- D They slow down the decomposition of dead plants.

Question 3

Read the text below carefully and answer the question that follows.

Scientists believe that the Moon formed when another planet about the size of Mars collided with the Earth. The collision splashed a huge mass of molten rock into space. This molten rock quickly formed into a sphere, and the Moon rapidly cooled into its solid form.

3. Which of the following statements is true about the Moon?

- A It consists of two planetary bodies.
- B It is the coldest place in space.
- C It is made of molten rock.
- D It is round in shape.

Question 4

Read the text below carefully and answer the question that follows.

On Earth, helium is a lightweight gas and chemical element and makes up only a minute fraction of the Earth's matter. But it is one of the most common elements in the universe. Divers sometimes breathe a mixture of helium and oxygen to avoid a painful illness called nitrogen narcosis. Helium is also used to fill scientific balloons. Although in air, helium has 92 percent of the lifting ability of hydrogen, it is safer as it will not burn, as hydrogen will.

4. How is hydrogen inferior to helium?

- A It is the commonest element.
- B It is inflammable.
- C It is lighter.
- D It is safer.

Question 5

Read the text below carefully and answer the question that follows.

Acceleration is related to the mass of the object. Mass, which is the quantity of matter in a body, also determines the amount of inertia an object has. A truck has a great deal of mass, a bicycle has much less. If you use an equal amount of force to push a bicycle and a truck, the bicycle will go much faster than the truck. The larger the mass, the lower the acceleration. In fact, the acceleration of a body is inversely proportional to its mass.

5. Which of the following is true about acceleration?

- A Acceleration of a truck is as fast as a bicycle.
- B Acceleration is lower when mass is larger.
- C Acceleration is proportion to the mass.
- D Acceleration is the same as speed.

Question 6

Read the text below carefully and answer the question that follows.

One characteristic that distinguishes the major groups of vertebrates from each other is the way in which they control body temperature. Most fishes, amphibians and reptiles have a body temperature that is close to the temperature of their environment. In contrast, birds and mammals have a stable body temperature that is much warmer than their environment. Fishes, amphibians and reptiles are ectotherms. Their body temperature changes depending on the temperature of their environment. Birds and mammals are endotherms. Their body temperature is controlled and regulated by controlling their internal heat.

6. How do endotherms differ from ectotherms in maintaining their body temperature?

- A By controlling their internal heat
- B By adapting to their environment
- C By stabilising to their surrounding
- D By changing their body temperature

Question 7

Read the text below carefully and answer the question that follows.

A device called Magnetizer Fuel Energizer System can increase the fuel efficiency by up to 35% and reduce exhaust fumes at the same time. This device used in diesel or petrol engines uses magnetic principles to ionize the fuel's hydrocarbon positively. A magnetic current is applied to the fuel composition to create a hydrocarbon with its own oxygen supply, allowing it complete combustion when combined with oxygen. This gives better efficiency as the fuel is completely burnt. Thus, greatly reducing exhaust fumes.

7. How does Magnetizer Fuel Energizer System help to reduce exhaust fumes?

- A When hydrocarbon is produced
- B When diesel or petrol engine is used
- C When the engine uses the magnetic principles
- D When complete combustion with oxygen takes place

Question 8

Read the text below carefully and answer the question that follows.

Biodegradable waste can be recycled into useful material by biological decomposition. There are two mechanisms by which this can occur. The most common mechanism of recycling of household organic waste is home composting or municipal curbside collection of green wastes sent to large scale composting plants. Alternatively organic waste can be converted into biogas and soil improver using anaerobic digestion. Here organic wastes are broken down by anaerobic micro-organisms in biogas plants. The biogas can be converted into renewable electricity or burnt for environmentally friendly heating. Advanced technologies such as mechanical biological treatment are able to sort the recyclable elements of the waste out before biological treatment by composting, anaerobic digestion or bio-drying.

8. Which of the following statements is true?

- A Organic waste improves soil.
- B Biogas can be converted into renewable energy.
- C The biological treatment sorts out recyclable elements.
- D Biodegradable waste can only be recycled at composting plants.

Question 9

Read the text below carefully and answer the question that follows.

Large quantities of nitric acid are produced naturally during thunderstorms and fall to the earth in rain. The rain falls as a very weak solution of nitric acid. The production of nitric acid during thunderstorms allows nitrogen from the air to become part of the soil in a form that plants can use. It is also a strong inorganic acid that has many industrial uses. Its principal use is for the production of fertilizers and explosives.

9. What can we conclude about nitric acid?

- A It is hazardous
- B It is used in all industries
- C It is important to cultivation
- D It is only used for explosives

Question 10

Read the text below carefully and answer the question that follows.

Seesaws, wheelbarrows, can openers; brooms and staplers are machines that are also called levers because they use the turning effect of a force. The turning point of a lever is its fulcrum. The load is the resistance to motion that a lever works against and the force used to cause movement is called the effort. There are first class, second class and third class levers.

10. What can we conclude about levers from the text above?

- A There are three levels of levers
- B The effort is a third-class lever
- C Levers can also be called as fulcrums
- D A lever is the turning effect of a force

Questions 11-12

Read the text below carefully and answer the questions that follow.

As water flows in rivers, it picks up small amounts of mineral salts from the rocks and soil of the riverbeds. This very-slightly salty water flows into the oceans and seas. The water in the oceans only leaves by evaporating (and the freezing of polar ice), but the salt remains dissolved in the ocean – it does not evaporate. So the remaining water gets saltier and saltier as time passes.

11. From the rocks of the rivers, we get

- A salt
- B rain
- C water
- D minerals

12. The sea gets saltier because

- A the sea produces the salt
- B there is less rain over the seas
- C as time passes salt gets evaporated
- D salt is continuously added into the sea

Question 13

Read the text below carefully and answer the question that follows.

Natural gas is lighter than air. Natural gas is mostly made up of a gas called methane. Methane is a simple chemical compound that is made up of carbon and hydrogen atoms. This gas is highly flammable. Natural gas is usually found underground near petroleum. It is pumped from below ground and travels in pipelines to storage areas. Natural gas usually has no odour and you cannot see it. Before it is sent to the pipelines and storage tanks, it is mixed with a chemical that gives a strong odour. The odour smells almost like rotten eggs. The odour makes it easy to smell if there is a leak.

13. Which of the following statements about natural gas is **true**?

- A It is invisible.
- B It is made of methane.
- C It is found in petroleum.
- D It smells like rotten eggs.

Question 14

Read the text below carefully and answer the question that follows.

Most radio telescopes use a concave dish to collect radio waves from waves. The radio waves are reflected onto an antenna, which sends the signal to an amplifier to be strengthened. The signal will be processed by a computer which can turn it into images. Radio waves have less energy than light waves, so radio telescopes must have a large dish to detect faint objects.

14. Choose the correct sequence that shows how radio waves are turned into images.

- A Radio waves → antenna → amplifier → computer → images
- B Radio waves → amplifier → antenna → computer → images
- C Radio waves → computer → antenna → amplifier → images

Question 15

Read the text below and then answer the given question.

A recent study into Internet addiction shows that the number of so-called **webaholics** is growing appreciably. The study showed that the Internet is as addictive as alcohol or gambling. The characteristic Net addict uses the Internet not for seeking information, but for social support, and the opportunity to re-invent themselves as someone else. "In cyberspace, a shy, unassertive person can become outgoing and forceful," said Dr Jenny Allbright, a psychologist at Abel Tasman University.

15. What is a "webaholic"?

- A. Someone who studies all about spider webs.
- B. Someone who plays on the web.
- C. Someone who surfs the internet at anytime.
- D. Someone who is addicted to surfing the internet.

Questions 16

Read the given text and then answer the questions that follow.

For many Malaysians, herbs are a part of life. We capture their aromatic goodness in bottles, add them as flavours to food, and seek them out for treatment. We trust them because their known benefits to health, date back thousands of years. Yet when herbal medicines cross paths with conventional ones, a real confrontation ensues. Modern doctors feel that herbal medicines are not safe as they have not been researched properly.

16. Which of the following is *not* the usage of herbs?

- A. As perfumes for men and women.
- B. As medicines for treating the sick.
- C. As flavourings in our cooking.
- D. As bottles for decorative purposes.

Questions 17

Read the given text. Then answer the questions.

Nuclear Tests Cause Diseases

There is a group of 29 coral islands in the Pacific Ocean known as the Marshall islands. Between 1946 and 1958, the United States carried out nuclear tests on some of these islands. About 66 nuclear tests were carried out at Bikini, Enewetek, Rongelap, and Utirik islands. What are nuclear tests? These are, in fact, bombs which are dropped from an aeroplane. Sometimes these bombs are exploded underground. When the bombs explode, a kind of smoke is released. This 'smoke' is called radioactive fallout. radioactive fallout causes many kinds of diseases such as cancer and birth deformities.

17. What is radioactive fallout?

- A. Diseases
- B. Nuclear blasts
- C. Cancer germs
- D. Smoke from nuclear

Questions 18 – 19

Study the table carefully and then answer the questions that follow

WAYS OF PRESERVING FOOD			
CANNING	PICKLING	FREEZING	DRYING
Foods are placed in jars or cans and heated to a temperature that destroys microorganisms.	Another form of canning. It has an increased acidity that makes it difficult for most bacteria to grow.	Reduces the temperature of the food so that microorganisms cannot grow, Although they may still be alive.	Removes most of the moisture from foods. Microorganisms cannot grow. Dried foods should be stored in airtight containers.

18. Of the four methods of preserving food listed above, which method does **not** ensure that all microorganisms are completely destroyed?

- A. Canning
- B. Pickling
- C. Freezing
- D. Drying

19. How many of the methods discussed above require food to be placed in cans?

- A. 1
- B. 2
- C. 3
- D. 4

Questions 20 and 21

Different types of acids and their uses are shown in the table below.
Study the table and then answer the questions that follow.

formic acid	coagulates latex
acetic acid (vinegar)	<ul style="list-style-type: none"> • preserves food like pickles • used in food
sulphuric acid	<ul style="list-style-type: none"> • used in car battery • to make detergents and fertilisers
tartaric acid	<ul style="list-style-type: none"> • to make soft drinks
nitric acid	<ul style="list-style-type: none"> • to make chemical substances such as fertilisers, plastic, and explosives
hydrochloric acid	<ul style="list-style-type: none"> • to make disinfectants and liquid washing agents
citric acid	<ul style="list-style-type: none"> • used in fruit juices

20. Which group of acids will be of help in the food industries?

- A. acetic acid, sulphuric acid, and hydrochloric acid.
- B. formic acid, tartaric acid, and nitric acid.
- C. tartaric acid, citric acid and acetic acid.
- D. hydrochloric acid, sulphuric acid and nitric acid.

21. A small explosion had taken place in the school laboratory recently. The teachers found traces of _____ in the laboratory.

- A. citric acid
- B. nitric acid
- C. formic acid

Question 22

Read the text carefully and then answer the question.

In the German language, the word for bats is *fledermause*, which translates as 'flying mice'. However, bats are more closely related to humans than they are to mice and rats. The resemblance lies in the bone structure of the bat's wings. Most species of bats are only active at night, dusk and dawn. During the day, they can be found in dark caves.

22. In which aspect do bats and humans resemble each other?

- A. in their bone structure.
- B. both are active at night.
- C. in the way they fly.
- D. both live in dark caves.

Questions 23

Read the text below carefully and answer the question that follows.

Eridanus, which is the brightest star in the constellation, is also the most squashed star. Astronomers measured the star, Achernar, using the 'Very Large Telescope' in Chile. They discovered that it was flattened. The diameter at the equator was at least 50% greater than the distance from pole to pole.

23 What is Eridanus?

- A A constellation.
- B A planet.
- C A star.

Question 24

Read the text below carefully and answer the question that follows.

Although blood appears to be red liquid it is actually composed of a yellowish liquid called plasma and billions of cells. All of the cells in the blood are made up of:

- * red blood cells
- * all types of white blood cells
- * platelets

All the cells in the blood are made in the bone marrow. This happens primarily in the flat bones in your body such as the skull, the sternum, and the pelvis.

24. Based on the text above, which of the following statements is **true**?

- A. Platelets are made in the bone marrow.
- B. Blood is actually a yellowish liquid.
- C. Blood is made in the bone marrow.
- D. Only flat bones make blood.

Question 25

Read the text below and then answer the question.

Applying reflective spectroscopy, a medical unit will find out if the colour of the blood is dark red or light red. Medical officers will then know if the blood is oxygen rich. If it is, then it means that the blood is coming straight from the heart and the soldier is therefore, in need of immediate attention.

25. According to the text, what is oxygen rich blood?

- A. Blood that is reflective.
- B. Blood that is black in colour.
- C. Blood that goes straight to the heart.
- D. Blood that comes straight from the heart

SECTION B (Question 26-30)

Questions 26-30 are based on the following passage.

Conventional methods of sewage sludge disposal – land filling, ocean dumping, compost and incineration, are causing irrevocable environmental damage. This is seen in the ____ (26) ____ of underground water reservoirs and fertile land, the pollution of oceans and the ____ (27) ____ of hazardous gases into the air. Sludge fertilizer is already banned in some European countries, such as Holland and Switzerland in 2005. The move is in response to growing concerns about ____ (28) ____ in the sludge, particularly synthetic hormones and some pharmaceutical compounds.

Changing regulations are the ____ (29) ____ driving the wastewater and sludge treatment market. These regulations are driving the end-users to search for final treatment methods other than incineration, agricultural use, landfills and ocean dumping due to a decrease in the disposal ____ (30) ____ for industrial and municipal sludge. In addition to national and international regulations, it will soon be more common to reuse primary and secondary sludge as a sustainable energy source.

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|-----|---|-----|---|
| 26. | A contamination
B composition
C poisoning
D spillage | 29. | A catalysts
B factors
C targets
D agents |
| 27. | A transmission
B discharge
C emission
D ejection | 30. | A locations
B grounds
C places
D sites |
| 28. | A remnants
B residue
C surplus
D debris | | |