

LOGO DAN
NAMA
SEKOLAH

ENGLISH FOR SCIENCE AND TECHNOLOGY (EST)
6355/2

KERTAS 2
Satu jam

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

Arahan

1. Kertas soalan ini mengandungi **dua** bahagian dan 30 soalan.
2. Jawab **semua** soalan.
3. Hitamkan semua jawapan anda untuk **Bahagian A** dan **Bahagian B** di dalam kertas jawapan objektif yang disediakan.
4. Soalan-soalan yang dikemukakan dalam kertas soalan ini **mungkin** mempunyai **tiga** atau **empat** pilihan.

Instructions

1. The question paper consists of **two** sections and 30 questions.
 2. Answer all questions.
 3. Shade all your answers for **Section A** and **Section B** on the objective Answer sheet provided.
 4. Questions in this question paper **might** have **three** or **four** options.
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Kertas ini mengandungi 16 halaman bercetak dan 1 halaman tidak bercetak

[25 marks]

You are advised to spend 50 minutes on this section.

Questions 1 – 25

Each question is based on a given stimulus. Study the information carefully and choose the best answer. Then shade the answer in the answer sheet provided.

Question 1

Read the following text, and answer the question that follows.

The thermostat is a device which controls the temperature in a gadget by turning it on or off. The bimetallic strip is mostly used as a thermostat which is included in the electrical circuit. By adjusting the position of the spring contact with the help of a knob, the temperature can be set at a desired value.

1. How is the thermostat used in a gadget?
 - A To beautify the gadget
 - B To adjust the temperature
 - C To keep the temperature consistently high
 - D To cut off electrical supply in case of emergency

Question 2

Read the following text, and answer the question that follows.

Yeast is used to convert sugar to alcohol during fermentation process. Scientifically speaking, it involves the chemical conversion of carbohydrates into alcohol or acids. Fermentation is widely used in the making of beverages such as wine and beer and in the production of foods such as pickles, yogurt and vinegar which characteristically has a sour taste.

2. According to the text, during fermentation process, yeast can result in
 - A production of food with sour taste
 - B make beverages like yoghurt and wine
 - C convert carbohydrates into sugar and acids

Questions 3 and 4

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

NASA's rover *Spirit* marked its 1 000th day on 21 October 2006. In celebration of the hardy rover, which had been designed to last only 90 days on Mars, engineers assembled more than 2 000 pictures taken by *Spirit* over the past six months. *Spirit* is in the waning days of its second Martian winter and with little sunlight to charge its batteries, the rover has had a light work schedule. Meanwhile, on the other side of the planet, *Opportunity*, *Spirit's* twin, remains at the rim of a massive crater to assemble three-dimensional images.

3. Spirit is considered hardy because it has

- A A twin, *Opportunity*
- B Taken many pictures
- C Lived through winter
- D Outlived its space life

4. Which of the following is **not true**?

- A The two space rovers are solar-powered
- B *Spirit* and *Opportunity* are space explorers
- C *Spirit* and *Opportunity* are at different locations
- D *Spirit* takes three-dimensional images of craters

Question 5

Study the table below and answer the question that follows.

Characteristics of Graphite and Gold		
Mineral	gold	graphite
Colour	yellow	black to grey
Lustre	metallic	metallic
Hardness	1-2	2.5-3
Uses	jewellery, electronics	pencil lead

5. Based on the table above, gold and graphite share similar characteristics in

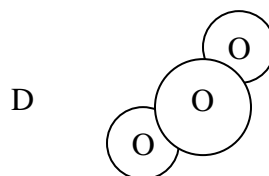
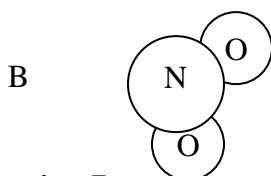
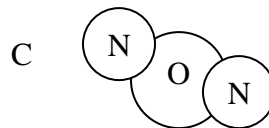
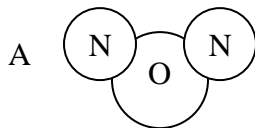
- A value
- B sheen
- C colour
- D hardness

Question 6

Read the following text, and answer the question that follows.

Nitrogen dioxide is the chemical compound NO_2 . It is one of several nitrogen oxides (NO_x). This orange/brown gas has a characteristic sharp, biting odor. NO_2 is one of the most prominent air pollutants and a poison by inhalation.

6. From the text, we can conclude that the nitrogen dioxide molecule is as follows:



Question 7

Read the text below and answer the question that follows.

Maggots in Medical Treatment

Maggots are used in the treatment of wounds through the Maggot Debridement Therapy (MDT). During the process, maggots are placed on the wound. They eat the dead tissues and encourage healing. They are able to find minute dead tissues and feed on them, thus cleaning the wound. The tissues can grow within a week.

The larvae of the local tropical species is used. Four-day-old maggots are inserted into the wound every four days, replacing the previous batch which would have grown too big. There is no pain, only a ticklish sensation as the maggots move around the wound.

7. Which statement best describes the Maggot Debridement Therapy?
- A Maggots eat dead tissues and clean wounds.
 - B Maggots placed on wounds are changed every four days.
 - C Wounds are healed when dead tissues are eaten up by maggots.
 - D Maggots help the growth of new tissues in wounds by eating the dead tissues.

Questions 8 and 9

Read the following text, and answer the questions that follow.

Jojoba is a desert shrub that can reach up to 4.5 metres high. It produces nuts that yield half their volume in oil. The non-toxic oil is widely used as non-greasy skin smoothing ingredient in cosmetics and as a base for shampoos and make-up.

8. Jojoba oil is used in cosmetics and shampoos. Why is this oil used as an ingredient in these products?
- A Because it is non-toxic
 - B Because it is a skin-smoothing agent
 - C Because it yields half its volume in oil
 - D Because it is grown widely and is easily available.
9. Jojoba shrub is a desert shrub. What does this imply?
- I It requires irrigation
 - II It requires porous soil
 - III It requires little moisture
 - IV It requires high temperatures
- A I, II and III
 - B I, III and IV
 - C II, III and IV
 - D All of the above

Question 10

Read the following text, and answer the question that follows.

- A The corona
- B The atmosphere
- C The photosphere
- D The chromosphere

Question 13

Read the text below and answer the question that follows.

In nanotechnology, engineered nanoparticles and nano-scale constructions will eventually revolutionalise many industries. For instance, particles of silver and silica have been reduced to nano scale to assume novel properties. Precisely shaped nano constructions singly or in combination will enhance products or create new properties. Carbon nanotubes, fullerenes and polymers are such nanotechnology enabled materials.

13. Which of the following are nanostructures?

- I Polymers
 - II Fullerenes
 - III Silica articles
 - IV Carbon nanotubes
-
- A I, II
 - B III, IV
 - C I, II, III
 - D I, II, IV

Question 14

Read the text below and answer the question that follows.

The smallest fish in the world was found in the peat swamps in Jambi, Sumatra. The fish, known as Jambi, was 7.9 mm long at maturity and was found in pools of dark tea-coloured water with an acidity of pH3, which is at least 100 times more acidic than rain water. The tiny, see-through Jambi fish had the appearance of a larva and had a reduced head skeleton, which leaves the brain unprotected by bone.

14. Based on the text, which of the following statement is not true about the Jambi fish?
- A Its brains can be seen from the outside.
 - B It is the smallest fish in the world.
 - C It cannot survive in acidic water.
 - D It looks like a larva.

Question 15

Read the text below and answer the question that follows.

Diagnostic ultrasound is used to diagnose problems in pregnancy. Unlike X-ray which requires ionising radiation, a potential cancer-causing wave, diagnostic ultrasound uses low intensity wave to generate images. However, ultrasound energy delivered to the foetus cannot be regarded as completely harmless.

15. We can infer that diagnostic ultrasound

- A cause cancer
- B require skills
- C helps in deliveries
- D poses some danger

Question 16

Read the text below and answer the question that follows.

All rain is slightly acidic but acid rain forms when sunlight makes sulphur dioxide and nitrogen oxide combine with oxygen and moisture in the air. Sulphur dioxide and nitrogen oxides come from burning fossil fuels such as coal, oil and natural gas. Acidity is measured in terms of pH. The lower the pH, the more acid the rain is. Normal rain has a pH of 6.5. Acid rain has a pH of 5.7 or less. Acid fog is ten times more acidic than acid rain. Acid rain washes aluminium from soil into lakes and streams, and so poisons fish. Acid rain damages plants by removing nutrients from leaves and blocking the plants' uptake of nitrogen.

16. From the text above, we can conclude that

- A all rain is acid rain
- B the higher the pH, the less acid the rain is
- C acid rain is more dangerous than acid fog

Question 17

Read the text below and answer the question that follows.

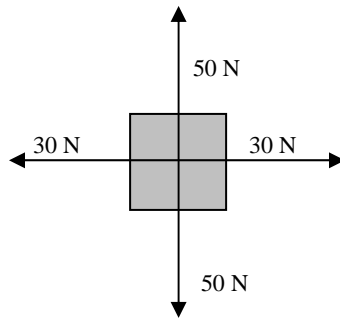
The otter is perfectly at home in water. It has webbed feet, short thick fur and small ears that are the characteristics of aquatic mammals. Its legs are short. Its rudder-like tail is fairly long.

17. Which of the following features enables the otter to move easily in water?

- A Its long tail.
- B Its small ears.
- C Its webbed feet.
- D Its short thick fur.

Question 18

Study the information below and answer the question that follows.



18. From the diagram above, taking Newton's First Law of Motion into consideration, what conclusion can we make?
- A The object is at a state of equilibrium.
 - B The net force on the object is 160 N.
 - C The object is at rest or staying at rest.
 - D The object is in motion and continuing motion at the same speed and direction.

Question 19

Read the text below and answer the question that follows.

Some of the most dangerous effects of pollution are on our bodies and minds. Chemicals in air, water, foods and drinks may get into the body and cause damage – sometimes permanent. Some effects of pollution on health are common such as sickness and diarrhoea. Other pollutants may cause only a few minor problems at first, like dizziness or weakness. In time, the pollutants accumulate to high levels and can lead to serious problems. Airways and lungs are vulnerable to airborne fumes and particles, and the digestive system to chemical in foods and drinks. Damage to the brain and nerves tends to happen more slowly.

19. Which one of the following is a severe effect of pollution on human body?
- A Loss of memory
 - B Shortness of breath
 - C Less ability to deal with harmful drugs

Question 20

Read the following text, and answer the question that follows.

When the stomach is bloated as a result of gas being present in it, it can press on the diaphragm and irritate it. The diaphragm is a large muscle just below the lungs. When the diaphragm starts to twitch, air in the lungs is sucked in past the vocal cords. The noise that results is called a hiccup.

20. What causes a hiccup?
- A The twitching of the diaphragm
 - B The noise made by the vocal cords
 - C The presence of gas in the stomach
 - D The stomach being below the diaphragm

Question 21

Read the following text, and answer the question that follows.

A reactor produces 20 tones of spent fuel every year, which remains dangerously active for the next 10,000 years. Currently, 50 years' worth of this level waste is stored "temporarily" in water filling cooling ponds. A permanent home for the waste is basically impossible. The only long term hope for waste free nuclear power is fussion.

21. The nuclear power is becoming cheaper to produce but the only drawback is
- A difficulty in getting a safe home
 - B there is no waste free nuclear energy
 - C about 20 tonnes of spent fuel are produced annually
 - D radioactive is permanently dangerous for the next 10,000 years

Question 22

Read the text below and answer the question that follows.

Fungal skin infections are the most common cause of skin diseases in tropical countries like Malaysia. The hot and humid climate practically invites fungi to make a home in our bodies. These micro-organisms usually invade the stratum corneum (outermost layer of the skin) of our scalp, nails or feet and then burrow past the layer of dead cells to cause infection in the epidermis. One of the most common types of fungal skin infection is ringworm, which is caused by a group of fungi called dermatophytes.

22. Which of the following statement is true?
- A Fungi thrive in hot and humid climates.
 - B The human body is a suitable habitat for fungi
 - C Skin diseases are caused by climate conditions
 - D All Malaysians are affected by fungal skin infections

Question 23

Read the text below and answer the question that follows.

When storms rage, winds blow hard and rains pour down from thick grey clouds. Some storms, such as summer thunderstorms, are over in a few minutes, while tropical hurricanes can blow for over a day. But all storms share the same cause – a powerful combination of heat and lots of moisture. Summer thunderstorms happen when the hot morning sun steams water off the ground to pile up into towering thunderclouds that unleash torrents of rain. Hurricanes occur when these huge thunderclouds mushroom over warm oceans and join together into one giant, spiralling storm system.

23. Based on the text above, which of the following is true about hurricanes?
- A Hurricanes last in a day
 - B Hurricanes share the same feature of summer thunderstorms
 - C Hurricanes are made up of a vast amount of heat and moisture

Question 24

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

Most meteors disintegrate when they enter the Earth's atmosphere. Therefore, they are not likely to make an impact on the Earth's surface. When a meteor enters the atmosphere, friction and drag cause it to heat up and burn, emitting light. Thus, we see it as a fireball or shooting star in the sky.

24. What happens when a meteor enters the atmosphere?
- A It creates a fireball
 - B It heats up and burns
 - C It gives impact on the Earth's surface
 - D It disintegrates the Earth's atmosphere

Question 25

Read the text below and answer the question that follows.

Deep in the tidal marshes of the Chesapeake Bay, demand for a 12cm reptile is helping to narrow down the United State's trade deficit with China. The diamondback terrapin is under siege from global turtle traders in East Asia, who are feeding South China's new-found appetite for expensive turtle soup. A recent study by terrapin expert Willem Roosenburg of Ohio University showed a 75% decline in reproductive-age females in the Patuxent River in the past decade.

25. Willem's finding shows that
- A diamondback terrapin is under siege from global turtle traders in East Asia
 - B diamondback terrapin is killed for food
 - C diamondback terrapin is endangered

SECTION B

[5 marks]

You are advised to spend 10 minutes on this section.

Questions 26 – 30

Read the following passage and then shade the best answer in the answer sheet provided.

A tsunami is an enormous wave or a series of waves that begins when the seafloor is violently (26) _____ by an earthquake, a landslide or a volcanic eruption. The vast volume of sea water and (27) _____ amount of energy create waves that can travel along the sea-bed as fast as a jet plane, at 700 km/hour or more.

In deep water, a tsunami travels almost unnoticeably below the surface because only the crest of the wave is visible, while the bulk is (28) _____ hundreds of metres below. However, once it reaches shallow coastal water, it heaves up from the sea-bed and (29) _____ itself, often arriving as a dark wall of water. Sometimes the sea can be sucked right out of the coast, leaving fish flapping on the (30) _____ sea floor, followed by the arrival of the tsunami. The wave then bulldozes away everything in its path.

- 26 A shakes
 B shaken
 C shaking
- 27 A large
 B exorbitant
 C tremendous
- 28 A covered
 B concealed
 C submerged
- 29 A reveals
 B exhibits
 C displays
- 30 A barren
 B exposed
 C deserted