STUDENT'S COPY

DIAGNOSTIC TEST

(UJIAN DIAGNOSTIK)

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SCIENCE

FORM 3

MODULE 6

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LAND AND ITS RESOURCES

MINISTRY OF EDUCATION MALAYSIA

SCIENCE FORM 3

MODULE 6: LAND AND ITS RESOURCES

Arahan:

1. *Modul ini mengandungi **empat puluh empat** soalan. Semua soalan adalah dalam bahasa Inggeris.*

2. *Modul merangkumi **enam** konstruk yang diuji*

   K1-Memahami soalan dalam Bahasa Inggeris
   K3-Memahami istilah sains dalam Bahasa Inggeris
   K5-Menguasai konstruk pengetahuan
   K6-Menguasai konstruk kefahaman
   K7-Menguasai konstruk kemahiran
   K10-Memahami pengajaran dan pembelajaran dalam Bahasa Inggeris

3. *Murid hendaklah menulis maklumat diri dalam kertas jawapan objektif disediakan. Murid juga perlu memastikan maklumat konstruk, nombor soalan dan jumlah soalan seperti yang dibaca oleh guru di dalam ruangan disediakan dalam kertas jawapan objektif sebelum ujian.*

4. *Bagi **soalan objektif**, anda perlu menandakan jawapan dengan **menghitamkan pilihan jawapan** pada pilihan jawapan **A , B , C** atau **D** pada kertas jawapan objektif.*

   Contoh:

   Antara berikut, yang manakah haiwan?

   A. Pokok B. Kambing C. Kereta D. Pen

5. *Untuk **soalan subjektif**, jawapan hendaklah **ditulis pada kertas berasingan** yang disediakan oleh guru.*

6. *Bagi **soalan 40 hingga 44**, murid hendaklah mendengar arahan daripada guru.*

7. *Jawab **semua** soalan.*

*Modul ini mengandungi **17** halaman bercetak*

1. Gold, quartz and limestone are examples of minerals.
Which of the following is a mineral?

A Quartz

B Nitrogen

C Oxygen

D Hydrogen

2. Minerals are solid elements or compounds found naturally in the Earth's crust.
Where can you find minerals?

A Outer space

B Atmosphere

C Deep ocean

D Earth's crust

3. Calcium carbonate releases carbon dioxide and forms calcium oxide when heated.
Name the product formed when calcium carbonate is heated.

A Iron oxide

B Iron sulphide

C Calcium oxide

D Calcium carbonate

4. Silicate is a compound made up of silicon, metal and oxygen. Asbestos, jade, clay, mica and feldspar are examples of silicate.
Which of the following is **not** a silicate?

A Jade

B Clay

C Quartz

D Asbestos

5. Magnesium reacts faster when heated in oxygen than zinc and iron.
Choose a metal which is most reactive.

A Magnesium

B Zinc

C Iron

6. Calcium carbonate is made up of different elements namely calcium, carbon and oxygen.
How many elements are present in calcium carbonate?

A One

B Two

C Three

7. Zinc oxide is formed when zinc is heated.
What is the product of heating zinc?

A Zinc oxide

B Zinc carbonate

C Zinc sulphide

D Zinc nitrate

8. Salt and sugar are soluble in water. Haematite and limestone are hard and insoluble in water.
Which of the following **does not** dissolve in water?

A Salt

B Sugar

C Limestone

9. Fossil fuels such as petroleum, natural gas and coal provide most of the energy needed by man.
Examples of the fossil fuels needed by man are _____

I coal

II soil

III water

IV petroleum

A I and II

B I and III

C I and IV

10. Hydrocarbon is made up of carbon and hydrogen. Hydrocarbon is classified as ____

A an atom

B an element

C a compound

11 Petroleum can be separated into fractions by heating at different temperatures. The method used is known as _____

A crystallisation

B condensation

C decomposition

D fractional distillation

12. A substance which is formed from the remains of organisms that were buried under layers of sediment millions of years ago is called _____

A an element

B a mixture

C a compound

D fossil fuel

13. The compound that is made up of silicon, metal and oxygen is known as _____

A silica

B silicate

C element

14. Calcium oxide reacts with water to form calcium hydroxide which is also known as _____

A quicklime

B slaked lime

C limewater

15. Silver is a metal. It is shiny, hard and can be knocked into various shapes. Name another example of metal.

A Oxygen

B Chlorine

C Helium

D Aluminium

16. Silicon is a substance that _____

A reacts with acid

B dissolves in water

C withstands heat

17. Name the method used in getting petroleum fractions from crude oil

A Sea water distillation

B Fractional distillation

C Soil sedimentation

D Salt evaporation

18. Name the petroleum fraction used as a fuel for aeroplanes

A Petrol
B Diesel
C Bitumen
D Kerosene

19. Which of the following is a silicon compound?

A Glass
B Shell
C Marble
D Coral

20. Calcium carbonates which exist in their natural states are\

I sand
II marble
III coral
IV jade

A I and II
B I and III
C II and III
D III and IV

21. What are the elements that are present in silica?

A Silicon and nitrogen
B Silicon and hydrogen
C Silicon and oxygen

22. Natural elements or compounds that exist in the Earth's crust are called ____

A atoms.

B mixtures.

C minerals.

D substances.

23. Haematite is made up of _____

A iron and sulphur

B iron and oxygen

C tin and sulphur

D tin and oxygen

24. The table shows the composition of calcium silicate.

Mineral	Element composition		
Calcium silicate	Calcium	X	Oxygen

What is element X?

A Silica

B Silicon

C Silicate

25. Which of the following is a calcium compound?

A Mica

B Marble

C Malachite

D Haematite

26. Which of the following is a metal?

A Carbon
B Gold
C Cloth
D Glass

27. Which is a non-metal?

A Iron
B Gold
C Silver
D Plastic

28. Which of the following compounds cannot be broken down when heated?

A Oxides
B Sulphides
C Carbonates

29. Silicon compounds are used in the making of _____

I Floor marble
II Ceramic flower vase
III Fibre optic cable

A I and II
B I and III
C II and III
D I, II and III

30. The word equation shows the reaction between metal and oxygen.

Metal + oxygen $\xrightarrow{heat}$ X

Which of the following is the possible answer for X?

A Tin oxide

B Nitrous oxide

C Carbon dioxide

D Sulphur dioxide

31. The table shows the boiling point of fractional distillation product.

Fractional distillation product	Boiling point
A	$30^0C - 80^0C$
B	$80^0C - 120^0C$
C	$120^0C - 160^0C$
D	$160^0C - 200^0C$

Based on the information given, which fraction distills out first?

32. The word equations show the reactions of elements with sulphur

I Magnesium + sulphur $\longrightarrow$ Magnesium sulphide

II Oxygen + sulphur $\longrightarrow$ Sulphur dioxide

III Aluminium + sulphur $\longrightarrow$ Aluminium sulphide

Choose the correct equations that show reaction of metal with sulphur

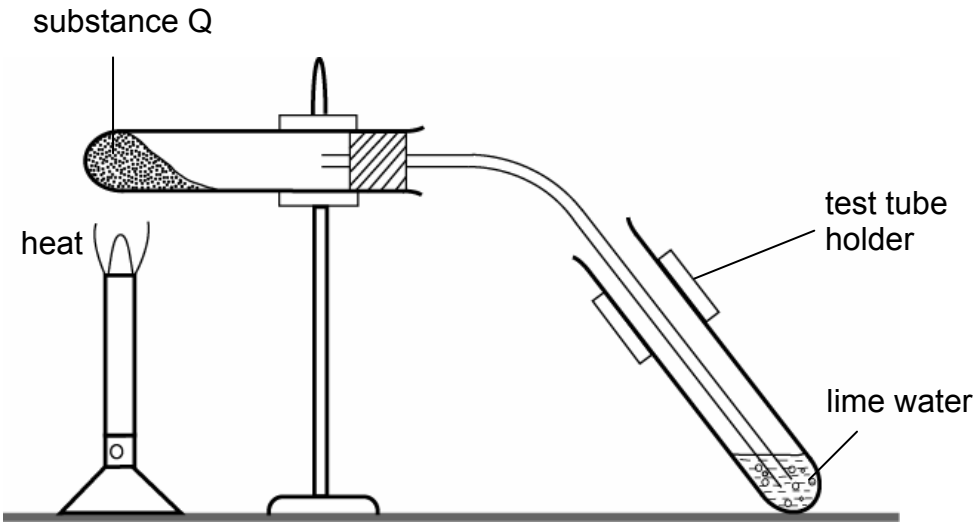
A I and II

B I and III

C II and III

D I, II and III

33. The figure shows substance Q being heated. After a few minutes the lime water turns chalky.



What is substance Q ?

A Aluminium oxide

B Aluminium silicate

C Calcium sulphide

D Calcium carbonate

34. Which of the following word equations is correct when metal sulphide is heated?

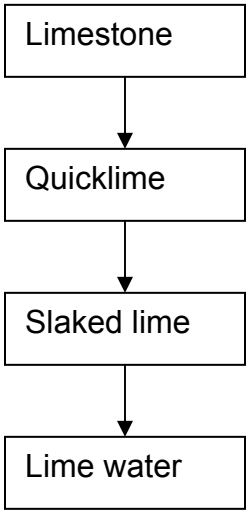
A Lead sulphide $\xrightarrow{heat}$ Lead oxide + sulphur

B Copper sulphide $\xrightarrow{heat}$ copper oxide + carbon dioxide

C Iron sulphide $\xrightarrow{heat}$ iron oxide + sulphur dioxide

D Aluminium sulphide $\xrightarrow{heat}$ aluminium oxide + oxygen

35. The figure shows the sequence of formation of lime water.



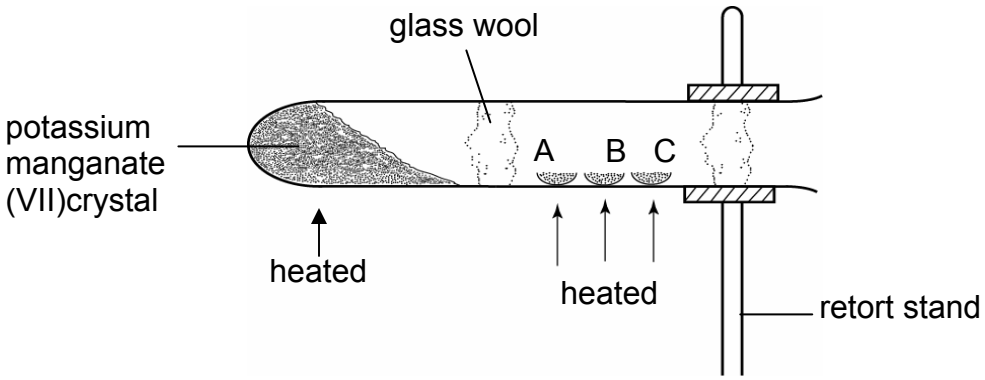
Choose the correct statement.

A Limestone reacts with water to form quick lime.

B Quicklime reacts with water to form slaked lime.

C Slaked lime when heated strongly decomposes into lime water.

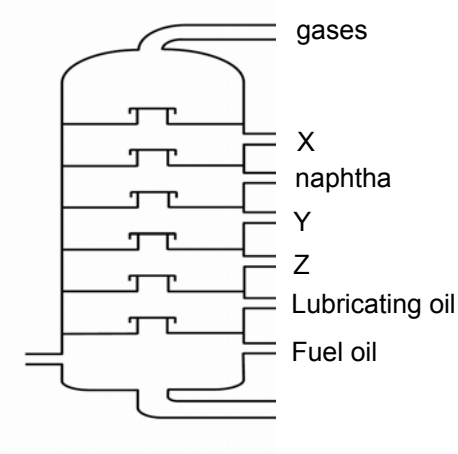
36. The figure shows the apparatus set up to study the reaction of metals with oxygen. 3 asbestos papers are filled with metal powders A, B and C respectively.



From the observation, choose the most reactive metal .

Types of metal	Observation
A	Burns quickly with white flame
B	Burns with a bright flame and spreads slowly
C	Glows and spreads slowly

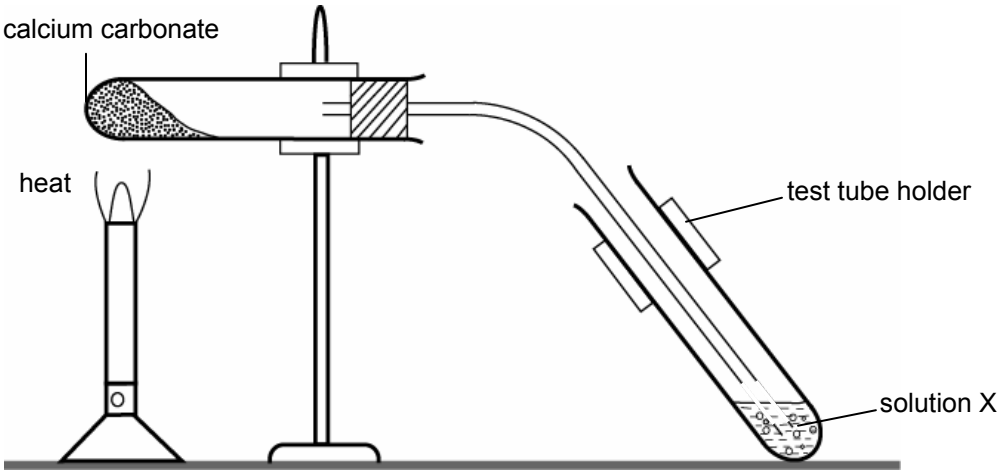
37. The figure shows the fractional distillation of petroleum.



What are the products represented by X, Y and Z?

	X	Y	Z
A	diesel	petrol	kerosene
B	petrol	kerosene	diesel
C	petrol	kerosene	bitumen
D	kerosene	diesel	bitumen

38. The figure shows a set-up of an experiment to show the action of heat on calcium carbonate. Gas Y is produced and tested using solution X .



Predict what happens to solution X.

A Clear changes to chalky

B Remains the same

C Chalky changes to clear

39. The table shows the characteristics of petroleum fractions obtained from fractional distillation.

Petroleum fraction	Range of boiling point (^{0}C)	Viscosity	Colour of distillate	Presence of soot
P	70 – 100	Not viscous	Colourless	No soot
Q	100 – 150	Slightly viscous	Pale yellow	Little soot
R	150 – 200	Viscous	Yellow	Some soot
S	200 – 250	Very viscous	Dark yellow	A lot of soot

Which of the following statements are true?

I The higher the boiling point, the darker the colour of the distillate

II The higher the boiling point, the lower the viscosity of the distillate

III The higher the boiling point, the higher the quantity of soot produced

A I and II

B I and III

C II and III

D I, II and III

Question 40 to 44.
Listen carefully to the text read by the teacher. Then, answer the questions.

40. Examples of natural fuel resources are _____

I Petroleum

II Coal

III Water

A I and II

B I and III

C II and III

D I, II and III

41. What is hydrocarbon made up of?

A Hydrogen and carbon
B Hydrogen and oxygen
C Oxygen and carbon

42. Name two factors involved in the formation of natural fuel resources.

I pressure
II moisture
III heat

A I and II
B I and III
C II and III

43. Which is **not** a product of fractional distillation of petroleum?

A Kerosene
B Mercury
C Bitumen
D Diesel

44. Name two examples of minerals found in the Earth's crust.

A Gold and oxygen
B Gold and quartz
C Quartz and hydrogen

KEMENTERIAN PELAJARAN MALAYSIA

KERTAS JAWAPAN OBJEKTIF

Ujian Diagnostik

Nama Pelajar: .....

Tahun/ Tingkatan : 3 **Mata Pelajaran:** SAINS

Nama Sekolah: ..... **Modul:** 6

GUNAKAN PENSIL 2B ATAU BB SAHAJA.
TENTUKAN TIAP-TIAP TANDA ITU HITAM DAN MEMENUHI KESELURUHAN RUANG.
PADAMKAN HINGGA HABIS MANA-MANA TANDA YANG ANDA UBAH
SILA HITAMKAN JAWAPAN DI BAWAH MENGIKUT HURUF JAWAPAN YANG ANDA PILIH

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
2	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
5	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
6	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
7	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
8	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
9	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
10	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
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58	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
59	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
60	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

	Konstruk	No. Soalan	Jumlah Soalan	Bilangan Soalan Gagal Dijawab	Kegunaan Guru
1	K1	1-9	9		
2	K3	10-13	4		
3	K5	14-29	16		
4	K6	30-34	5		
5	K7	35-39	5		
6					
7	K10	40-44	5		
8					
9					
10					