SAMPEL PERCUMA

Kertas Percubaan STPM Penggal 1 Kimia

Set penuh: Kertas Percubaan STPM

Sem 1 · Kimia

Sampel ini: 4 muka surat. Set penuh ada:

- 2 fail PDF
- Semester 1: kertas percubaan (trial) negeri, subjek yang dipilih + skema
- Blueprint 30 hari Semester 1 (setiap subjek)
- Semester 3: percubaan 2024, 10 subjek, banyak negeri, soalan + skema dalam satu fail

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Sampel bermula di muka surat sebelah

Name: ..... **Class: .....**

FIRST SEMESTER STPM 2024
TRIAL
(MUAR)

CHEMISTRY PAPER 1
One and a half hour

Instructions to candidates:
DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO.

Answer **all** *questions in Section A. Marks will not be deducted for wrong answers. For each question, four suggested answers are given. Circle the correct answer in the space provided below.*

Answer **all** *questions in Section B.*

Answer any **two** *questions in Section C.*

All essential working should be shown. For numerical answers, unit should be quoted wherever appropriate. Begin each answer on a fresh sheet of paper and arrange your answers in numerical order.

For examiner's use		
Section A		
Section B	16	
	17	
Section C	18	
	19	
	20	
Total		

Section A

1	A	B	C	D	6	A	B	C	D	11	A	B	C	D
2	A	B	C	D	7	A	B	C	D	12	A	B	C	D
3	A	B	C	D	8	A	B	C	D	13	A	B	C	D
4	A	B	C	D	9	A	B	C	D	14	A	B	C	D
5	A	B	C	D	10	A	B	C	D	15	A	B	C	D

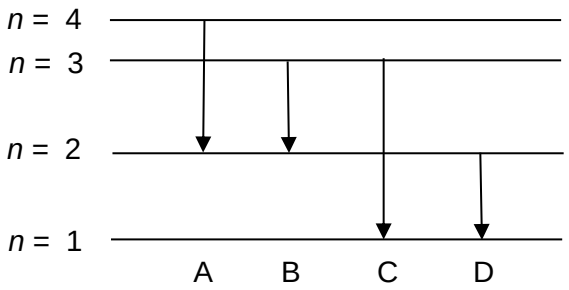
Section A [15 marks]

*Answer **all** questions in this section.*

1. Naturally occurring silicon is a mixture of three isotopes, ^{28}Si, ^{29}Si and ^{30}Si. The relative atomic mass of silicon is 28.11. If the relative abundance of isotope ^{29}Si is 1.5 times that of isotope ^{30}Si, what is the percentage abundance of ^{28}Si?

A. 92.1
B. 94.0
C. 96.7
D. 97.5

2. A Which of the following electronic transition will result with a line with the biggest frequency ?



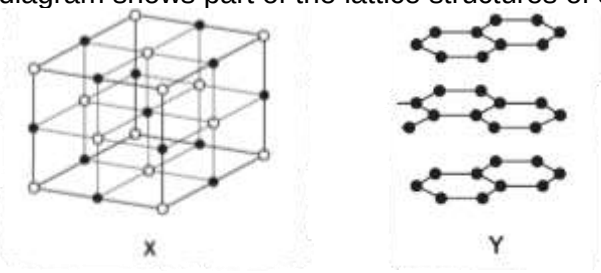
3. Among the electron configurations of the atoms below, which is isoelectronic with H_2S?

A. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^2$
B. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$
C. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$
D. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^2$

4. The bond angle in the H_2O molecule is larger than that present in H_2S because

A. oxygen is larger than Sulphur.
B. oxygen is more electronegative than Sulphur.
C. H_2O is a liquid at room conditions but H_2S is a gas.
D. H_2O can form intermolecular hydrogen bonding but H_2S cannot.

5. The diagram shows part of the lattice structures of solids X and Y.



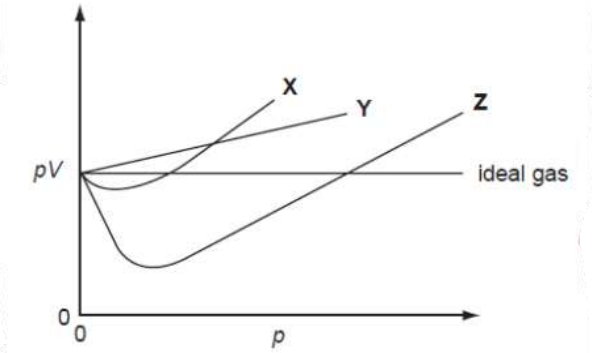
What are the types of bonding present in **X** and **Y** ?

	X	**Y**
A	covalent	metallic
B	ionic	covalent
C	ionic	metallic
D	metallic	ionic

6. Hydrogen bonding can occur between molecules of methanal, HCHO, and molecules of liquid Z. What could liquid Z be?

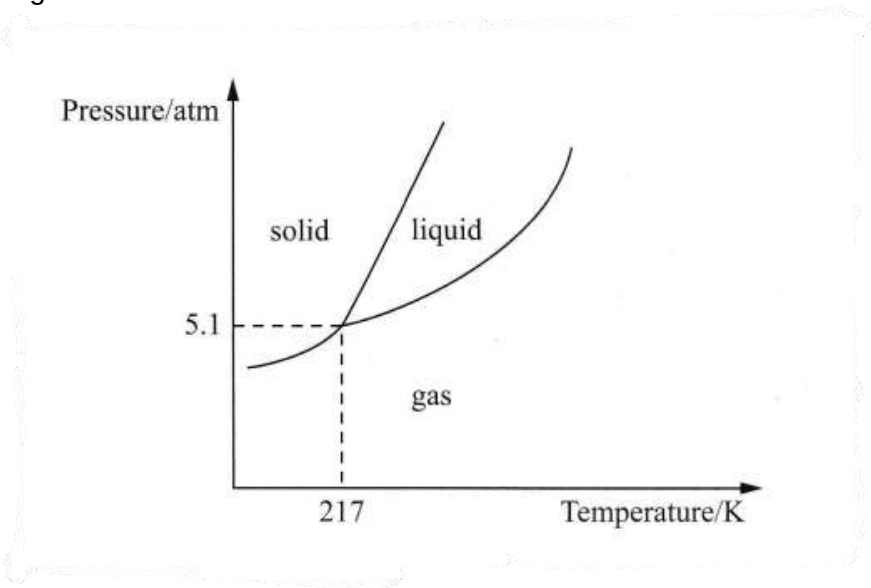
A CH_3OH B CH_3CHO C CH_3COCH_3 D $CH_3CO_2CH_3$

7. For an ideal gas, the plot of **pV** against **p** is a straight line. For a real gas, such a plot shows a deviation from ideal behaviour. The plots of **pV** against **p** for three real gases are shown below. The gases represented are ammonia, hydrogen and nitrogen. What are the identities of the gases X, Y and Z?



	X	**Y**	**Z**
A	ammonia	nitrogen	hidrogen
B	hidrogen	nitrogen	ammonia
C	nitrogen	ammonia	hidrogen
D	nitrogen	hidrogen	ammonia

8. The phase diagram for carbon dioxide is shown below.



Which statement explains the use of solid carbon dioxide to produce fog for special effects in concerts?

A Carbon dioxide is a white gas.
B Solid carbon dioxide is denser than liquid carbon dioxide.
C Solid carbon dioxide sublimes under ambient conditions.
D Liquid carbon dioxide and carbon dioxide gas are in equilibrium at room temperature.

9. A reaction is represented by the following equations:

$$aA(g) + bB(g) \rightarrow cC(g) + dD(g) \qquad \Delta H = \text{positive}$$

The rate of reaction with respect to A is $-d[A]/dt = x$ mol dm^{-3} s^{-1}. Which statement is **not** true of the reaction?

A. The rate of reaction is independent of ΔH.
B. The products are more stable than the reactants.
C. The reverse reaction has lower activation energy.
D. The rate of reaction with respect to C is cx/a mol dm^{-3} s^{-1}.

TAMAT SAMPEL

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