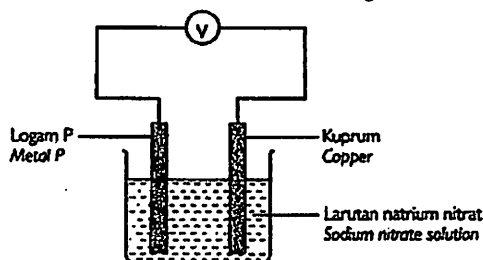


[50 marks]

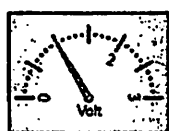
Answer All Questions

1. Diagram 1.1 shows the apparatus set up for the experiment, using metal P and copper. Given that copper is placed at the positive terminal. The reading of the voltmeter is recorded as shown in Diagram 1.2.

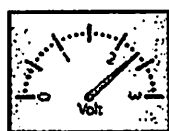


RAJAH 1.1 / DIAGRAM 1.1

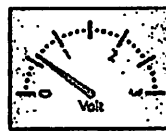
The experiment is repeated using metal Q, R, and S (one at a time) and copper. Voltmeter readings are shown below.



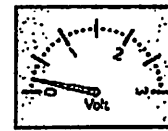
Logam P dan kuprum
Metal P and copper



Logam Q dan kuprum
Metal Q and copper



Logam R dan kuprum
Metal R and copper



Logam S dan kuprum
Metal S and copper

RAJAH 1.2 / DIAGRAM 1.2

Based on the Diagram 1.2, construct a table to record the reading of the voltages.

[3 marks]

- (b) Complete the Table 1 based on the experiment.

Name of variable	Action to be taken
i. manipulate variable: _____	i. The way to manipulate the variable: _____
ii. Responding variable: _____	ii. What to observe in the responding variable: _____
iii. Controlled variable: _____	iii. The way to maintain the controlled variable: _____

Table 1

[6 marks]

- (c) State one hypothesis for the experiment.

[3 marks]

- (d) Based on the observation shown in the above diagram, arrange metal P, Q, R, S, and copper in descending order of reactivity.

[3 marks]

- (e) If another metal, T, which is a higher position than Q is used, predict the voltage which will be produced.

[3 marks]

2. Diagram 2.1 shows the set up of apparatus to study the reaction of metal oxides with carbon.

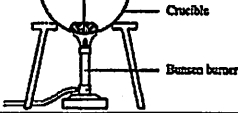
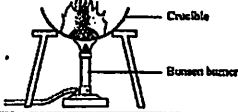
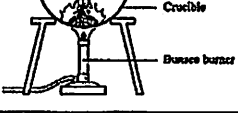

Set-up of apparatus		Observation on the mixture
1	Mixture of M oxide and carbon powder 	No visible changes
2	Mixture of S oxide and carbon powder 	
3	Mixture of Z oxide and carbon powder 	
4	Mixture of C oxide and carbon powder 	

Diagram 2.1

(a) Complete Diagram 2.1 by stating the observations for the reaction of metal oxides with carbon powder. [3 marks]

(b) State all the variables in this experiment:

Manipulated variable: _____

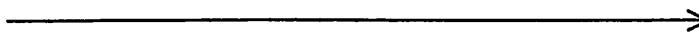
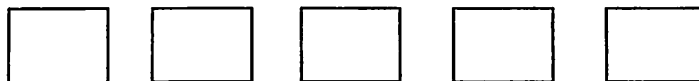
Responding variable : _____

Controlled variable : _____ [3 marks]

(c) State the inference that can be made for this experiment.

_____ [3 marks]

(d) Based on the observations in Diagram 2.1, arrange metals M, Z, C, S and carbon in ascending order of reactivity.



Ascending order of reactivity

[3 marks]

(e) The experiment is repeated by using the oxides of N with carbon powder. The result of the experiment is shown in

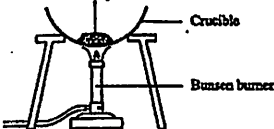
Set-up of apparatus		Observation on the mixture
Mixture of N oxide and carbon powder 		No visible changes

Diagram 2.2

How would you determine whether metal M or metal N is higher in the reactivity series?

[3 marks]

3. Diagram 3 shows the conversation between a teacher and her students.

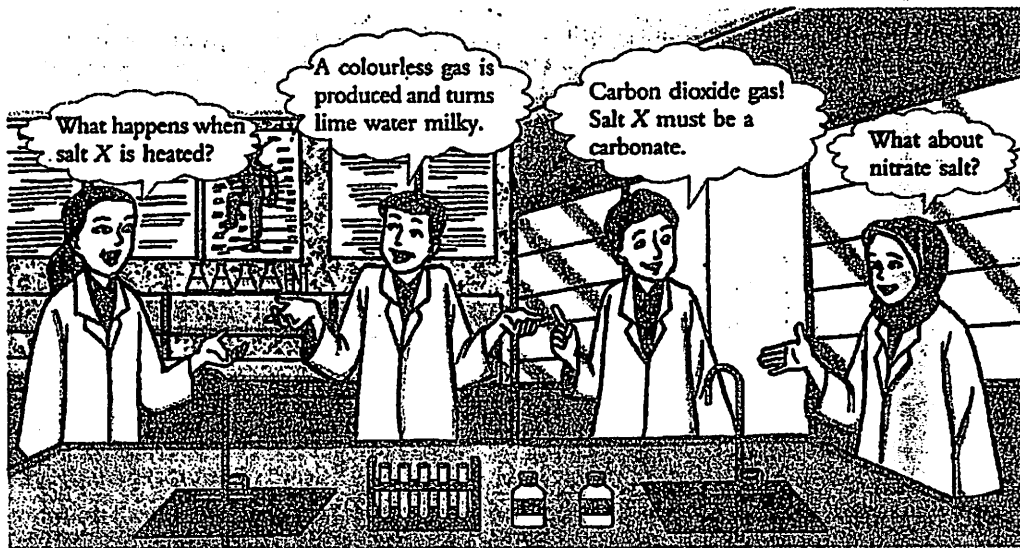


Diagram 2

Based on the situation, plan a laboratory experiment to study the action of heat on nitrate salts. Your planning should include the following aspects:

- Problem statement
- All the variables
- Statement of the hypothesis
- List of materials and apparatus
- Procedure for the experiment
- Tabulation of data

[17 marks]

END OF QUESTIONS PAPER

Jawapan

Chemistry

Chemistry Paper 1

1	C	26	C
2	D	27	C
3	A	28	D
4	B	29	A
5	B	30	C
6	B	31	A
7	B	32	B
8	D	33	C
9	C	34	D
10	A	35	A
11	D	36	C
12	A	37	C
13	D	38	B
14	C	39	A
15	C	40	C
16	A	41	C
17	A	42	C
18	D	43	C
19	A	44	A
20	B	45	B
21	B	46	D
22	C	47	B
23	D	48	C
24	D	49	B
25	C	50	B