

## FACTOR AFFECTED RATE OF REACTION

Answer the following question by choosing one correct answer

### QUESTION 1

Decomposition of hydrogen peroxide solution was carried out in 2 sets of experiments under different conditions

Set 1: decomposition of hydrogen peroxide

Set 2: decomposition of hydrogen peroxide in the presence of manganese (IV) oxide

a) What is the factor effect the rate of reaction for set 1 and 2?

- A. Temperature
- B. Size of particle
- C. Concentration
- D. Catalyst

b) Determine which reaction have higher rate of reaction? ]

- A. set 1
- B. set 2

### QUESTION 2

set P: Reaction between magnesium powder with 0.5 M nitric acid

set Q: Reaction between magnesium coil with 0.5 M nitric acid

a) What is the factor effect the rate of reaction for set P and Q?

- A. Temperature
- B. Size of particle
- C. Concentration
- D. catalyst

b) Determine which reaction have higher rate of reaction?

- A. set P
- B. set Q

Complete the table below:

| Reaction                                                                                                                                                                                                                                 | Factor | Which one have higher rate of reaction? | Why? |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------|------|
| <p>Q1.</p> <p>Set A</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl</p> <p>Set B</p> <p>1 gram of excess zinc powder + 150cm<sup>3</sup> of 0.05 moldm<sup>-3</sup> HCl</p>                           |        |                                         |      |
| <p>Q2.</p> <p>Set A</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl</p> <p>Set D</p> <p>1 gram excess zinc lump + 25 cm<sup>3</sup> of 0.1 moldm<sup>-3</sup> HCl</p>                                 |        |                                         |      |
| <p>Q3.</p> <p>Set F</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl pada suhu 45°C</p> <p>Set G</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl pada suhu 55°C</p> |        |                                         |      |
| <p>Q4.</p> <p>Set A</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl</p> <p>Set D</p> <p>1 gram excess zinc powder + 50cm<sup>3</sup> of 0.10 moldm<sup>-3</sup> HCl + copper metal</p>                |        |                                         |      |