

## Chemistry

## Section I (continued)

## Part B – 60 marks

## Attempt Questions 16–27

Allow about 1 hour and 45 minutes for this part

Answer the questions in the spaces provided.

Show all relevant working in questions involving calculations.

Marks

## Question 16 (6 marks)

You have carried out a first-hand investigation to compare the reactivity of an alkene with its corresponding alkane.

- (a) State the name of the alkene. 1

*cyclohexene*

- (b) Outline a procedure to compare the reactivity of this alkene with its corresponding alkane. 2

- ① Add 10 drops of <sup>(yellow)</sup> bromine water to a test tube
- ② Add 10 drops of ~~the alkene~~ cyclohexene
- ③ Shake the test tube
- ④ Observe ~~for~~ <sup>for</sup> any colour changes

- (c) Describe the results obtained from this first-hand investigation and include relevant chemical equations. 3

Before the test tube <sup>was</sup> shaken, two separate layers were noticed. They were <sup>the</sup> yellow layer of bromine water on the bottom of the test tube and the cyclohexene solution floating on top. After it was shaken, the yellow colour from  $\text{Br}_2$  (aq) disappeared. The <sup>addition</sup> rxn that is occurring is

