

15 (a) Parachutes are used to slow down a spacecraft as it falls through the atmosphere.

Photograph **G** shows an Apollo spacecraft with three parachutes attached.



Photograph **G**

This spacecraft falls at a constant velocity.

(i) State the name of this constant velocity.

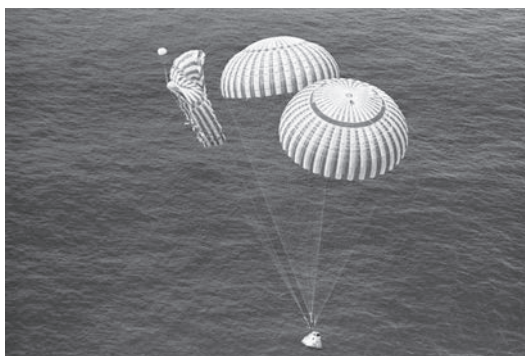
(1)

(ii) Explain why this velocity stays at a constant value.

(3)



- (iii) Photograph **H** shows an identical Apollo spacecraft. Only two of its parachutes are working.



Photograph **H**

Explain how the constant velocity reached by this spacecraft compares with the constant velocity of the spacecraft shown in photograph **G**.

(2)

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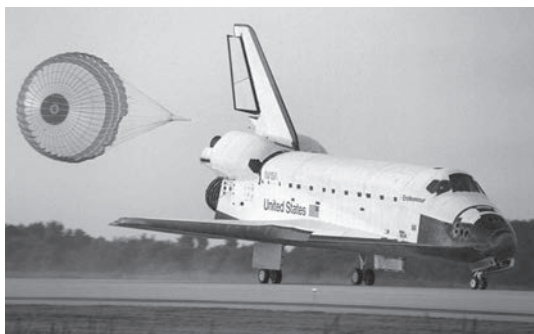
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- (b) Photograph **I** shows a Space Shuttle using a parachute when it lands on a runway.



Photograph **I**

Explain what would happen to the stopping distance of the Shuttle if this parachute did not open.

(2)

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(Total for Question 15 = 8 marks)

