

SECTION C [30 marks]

5. Suppose the following sentences are both true: *Some apples are large. Some apples are red.*
The following sentence may or may not be true too: *Some apples are large and red.*

Suppose now that the following sentences are both true: *No apples are large. No apples are red.*
The following sentence will necessarily be true too: *No apples are large and red.*

Consider the following groups of three sentences. In each group suppose that the first two sentences are true. Say whether the third sentence is necessarily true or not necessarily true.

Example:

All apples are large. All apples are green.

All apples are large and green. _____ Necessarily true.

(a) *At least two apples are large. At least two apples are green.*

At least two apples are large and green. _____

(b) *Few, if any, apples are large. Few, if any, apples are green.*

Few, if any, apples are large and green. _____

(c) *No fruits except apples can be large. No fruits except apples can be red.*

No fruits except apples can be large and red. _____

(d) *Apples can be large. Apples can be green.*

Apples can be large and green. _____

(e) *Exactly one apple is large. Exactly one apple is green.*

Exactly one apple is large and green. _____

Below are the same groups of sentences, but in each group the longer sentence is now printed first. Suppose this longer sentence is true, and say whether the two shorter sentences are necessarily both true or not necessarily both true:

(f) *At least two apples are large and green.*

At least two apples are large. At least two apples are green. _____

(g) *Few, if any, apples are large and green.*

Few, if any, apples are large. Few, if any, apples are green. _____

(h) *No fruits except apples can be large and red.*

No fruits except apples can be large. No fruits except apples can be red. _____

(i) *Apples can be large and green.*

Apples can be large. Apples can be green. _____

(j) *Exactly one apple is large and green.*

Exactly one apple is large. Exactly one apple is green. _____

TURN OVER