Subject 01   # LOGIC

Please do not write on this exam paper and give it back at the end of the test

LOGIC: CONSISTENCY

1 : The subject matter of Logic

The Logic we are dealing with is concerned with the sorts of things which can be true or false, such as beliefs and declarative sentences. Truth and falsehood are *truth-values*.
Logic is not, however, concerned much with the *actual* truth-values of beliefs and sentences, but rather with such questions as:

      Is such and such set of beliefs or sentences consistent*?

      Is such and such argument valid?

2 : Consistency/Inconsistency

A set of sentences (or beliefs) is consistent only if is possible for the sentences *such as being used*, to be true. That is, the set of sentences is consistent if it's possible for all of them to be true together. That is, if they are either in fact all true, or could have been true.
A set of sentences is inconsistent only if is impossible for the sentences *such as being used*, to be true.
A single sentence may also be inconsistent; in which case it is said to be *self-contradictory*, or a *contradiction*.
A single sentence which could not be false is said to be a *necessary truth*.
A single sentence which is neither inconsistent not a necessary truth is said to be *contingent*.

1) Peter believes that David has exactly four children, that his (David's) sister is Mary and that her only brother has only three children. Is what Peter believes consistent?

2) Peter believes that David has three daughters and four sons, and he (David) has six children in all. Is what Peter believes consistent?

3) Peter believes that Mary is a woman and that she has three hundred children. Is what he believes consistent?

4) Peter believes that 2+2=5. Is what he believes consistent?

5) John says, "Mary is coming to dinner tonight." David says, "Mary is not coming to dinner tonight."
Is what they say consistent?

6) John says, "I have four children." Mary says, "You have only three children."
Is what they say consistent?

[Introduction to logic, University of Oxford]

Vocabulary: "Consistent": cohérent.