



Asynchronous Task 2:

A. Identify which of the following statements are propositions.

- 1. France is a country. (Proposition)
- 2. It will rain tomorrow. (Proposition)
- 3. Mumbai is in India. (Proposition)
- 4. Do not go there.
- 5. $P(x): x + 6 = 7$
- 6. $P(5): 5 + 6 = 2$ (Proposition)
- 7. Apples are oranges. (Proposition)
- 8. This sentence is true.
- 9. This sentence is false.
- 10. Two and two makes 4. (Proposition)
- 11. $x > 10$
- 12. Open the door.
- 13. Are you tired?
- 14. Fan is rotating. (Proposition)
- 15. What a bright sunny day!

B. Covert the following logical connectives to English statements.

If p : “I will stay home today.”

a. Then, negation of p is- "I will not stay home today."

If p and q are two propositions where-

p : “Maria learns Discrete Mathematics.”

q : “Maria will find a good job.”

- b. Then, conjunction of p and q is- Maria learns Discrete Mathematics and Maria will find a good job."
- c. Then, disjunction of p and q is- Maria learns Discrete Mathematics or Maria will find a good job."
- d. Then, implication of p and q is- If Maria learns Discrete Mathematics then Maria will find a good job."
- e. Then, bi-implication of p and q is- Maria learns Discrete Mathematics if and only if Maria will find a good job."

C. Construct the truth table for the following.

p	q	$\sim p$	$p \wedge q$	$p \vee q$	$p \rightarrow q$	$p \leftrightarrow q$
F	T	T	F	T	T	F
F	F	T	F	F	T	T
T	F	F	F	T	F	F
F	T	T	F	T	T	F



T	T	F	T	T	T	T
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Note: Use this template to answer and submit it in PDF file (LASTNAME_FIRSTNAME).