CS & IT

ENGINERING



Discrete Mathematics
Mathematical logic

DPP 03 Discussion Notes

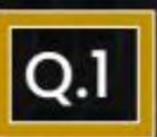




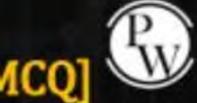
TOPICS TO BE COVERED

01 Question

02 Discussion

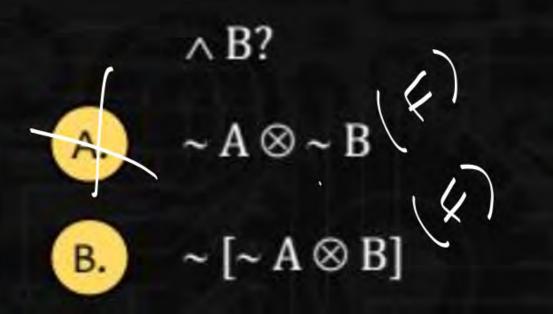


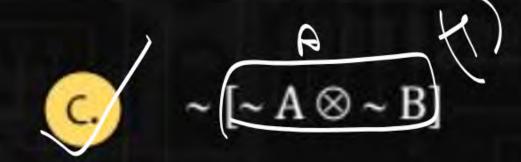
A logically binary relation⊗is defined as follows:



A	В	A⊗B
True	True	True
True	False	True
False	True	True
False	False	False

Let ~ be the unary negation (NOT) operator with higher precedence than ⊗, which one of the following is equivalent to A





D. None of these

Consider the following propositional logic statements which of

(a, c, d)

[MSQ]

A.
$$\neg (p) \land (p \rightarrow q)) \rightarrow (p) \land (p \rightarrow q)$$

B.
$$(q \land (p \rightarrow q)) \rightarrow \sim p$$

((p
$$\rightarrow$$
q) \land (q \rightarrow r)) \rightarrow (p \rightarrow r) \checkmark



Let p be "I will study discrete math".



Let q be "I will study English literature".

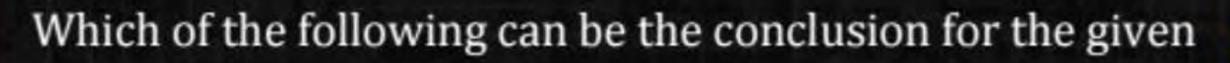
Now, consider the logical statement

"I will study discrete math or I will study English literature"

"I will not study discrete math" \

from the given premises, which of the following can be conclusion?

- A. Therefore, I will not study English literature
- B. Therefore, I will study English literature.
- C. Both A and B
- D. None of these.



hypothesis?

Hypothesis:
$$\sim p \land q, r \rightarrow p, \sim r \rightarrow s, s \rightarrow t$$

- A. $r \wedge p$
- B. t Ans
- C.
- D. $r \rightarrow s$



P₁: If it rains; the match will not be played



P₂: The match was played which of the following is valid inference?

- A. It rains
- B. It did not rain
- C. It either rain or did not rain
- D. None of these

Rains -> 7 played == play -> reg
played.

played.

1 Rain



