Assignment 5

Assignment Due on 2019-09-04, 22:59 IST.

4.1 Consider the proposition logic formula \( p \land q \rightarrow r \). Assume that exactly one of the statements is true. Consider the following question statements:

(a) If the assignment \( p = \text{true}, q = \text{false}, r = \text{true} \), is the statement correct?

(b) If the assignment \( p = \text{false}, q = \text{true}, r = \text{false} \), is the statement correct?

Answers:

- True
- False

5.1 Which of the following formulas has the same truth table as \( p \land q \land r \)?

(a) \( p \lor q \lor r \)
(b) \( p \land q \land r \)
(c) \( p \lor q \land r \)
(d) \( p \land q \lor r \)

Answers:

- (b) \( p \land q \land r \)
- (d) \( p \land q \lor r \)

5.2 Consider the proposition logic formula \( p \lor q \rightarrow r \). Assume that exactly one of the statements is true. Consider the following question statements:

(a) If the assignment \( p = \text{true}, q = \text{false}, r = \text{true} \), is the statement correct?

(b) If the assignment \( p = \text{false}, q = \text{true}, r = \text{false} \), is the statement correct?

Answers:

- True
- False

6.1 Which of the following formulas has the same truth table as \( p \lor q \land r \)?

(a) \( p \land q \land r \)
(b) \( p \lor q \lor r \)
(c) \( p \land q \land r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \lor q \lor r \)
- (d) \( p \lor q \lor r \)

7.1 Which of the following formulas has the same truth table as \( p \land q \land r \)?

(a) \( p \lor q \lor r \)
(b) \( p \land q \land r \)
(c) \( p \land q \lor r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \land q \land r \)
- (d) \( p \lor q \lor r \)

8.1 Which of the following formulas has the same truth table as \( p \lor q \land r \)?

(a) \( p \land q \land r \)
(b) \( p \lor q \lor r \)
(c) \( p \land q \lor r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \lor q \lor r \)
- (d) \( p \lor q \lor r \)

9.1 Consider the proposition logic formula \( p \lor q \rightarrow r \). Assume that exactly one of the statements is true. Consider the following question statements:

(a) If the assignment \( p = \text{true}, q = \text{false}, r = \text{true} \), is the statement correct?

(b) If the assignment \( p = \text{false}, q = \text{true}, r = \text{false} \), is the statement correct?

Answers:

- True
- False

10.1 Which of the following formulas has the same truth table as \( p \lor q \land r \)?

(a) \( p \land q \land r \)
(b) \( p \lor q \lor r \)
(c) \( p \land q \lor r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \lor q \lor r \)
- (d) \( p \lor q \lor r \)

11.1 Which of the following formulas has the same truth table as \( p \land q \land r \)?

(a) \( p \lor q \lor r \)
(b) \( p \land q \land r \)
(c) \( p \land q \lor r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \land q \land r \)
- (d) \( p \lor q \lor r \)

12.1 Which of the following formulas has the same truth table as \( p \lor q \land r \)?

(a) \( p \land q \land r \)
(b) \( p \lor q \lor r \)
(c) \( p \land q \lor r \)
(d) \( p \lor q \lor r \)

Answers:

- (b) \( p \lor q \lor r \)
- (d) \( p \lor q \lor r \)