Question 1

Correct

Mark 1.00 out of 1.00

Flag question

State which rule of inference is the basis of following argument:

"It is cloudy and sprinkling now. Therefore, it is sprinkling now."

Select one:

- a. Simplification ✓
- b. Conjunction
- c. Addition
- d. Resolution

The correct answer is: Simplification

Question 2

Incorrect

Mark 0.00 out of 1.00

Remove flag

If X is any propositional statement, then which of the following is not a Tautology?

Note:-(Multiple right answers with negative marking)

Select one or more:

- a. $X \wedge T$
- b. $X \wedge \neg X$
- c. $X \vee T$ ✗
- d. $\neg X \vee \neg F$ ✗

The correct answers are: $X \wedge \neg X$, $X \wedge T$

Question 3

Correct

Mark 1.00 out of 1.00

Flag question

What is the Cardinality of the set {3, 2, 1}?

Select one:

- a. 0
- b. 3 ✓
- c. 1
- d. 4

The correct answer is: 3

Question 4

Incorrect

Mark 0.00 out of 1.00

Flag question

D(x) is "x is a day";

S(x) is "x is sunny";

R(x) is "x is rainy".

What will be the representation for Some days are sunny and rainy

Select one:

- a. $\forall x(S(x) \wedge R(x) \wedge D(x))$
- b. $\exists x(S(x) \wedge R(x) \wedge D(x))$
- c. $\exists x(S(x) \rightarrow (R(x) \wedge D(x)))$
- d. $\exists x(S(x) \wedge R(x))$ ✗

The correct answer is: $\exists x(S(x) \wedge R(x) \wedge D(x))$

Question 5

Incorrect

Mark 0.00 out of 1.00

Flag question

Which logical operator is having the second highest preference

Answer: conjunction ^

The correct answer is: And

Question 6

Correct

Mark 1.00 out of 1.00

Remove flag

what we have to prove in proof by contrpositive method

Select one:

- a. $\sim p \rightarrow \sim q$ is true
- b. $\sim p \rightarrow \sim q$ is false
- c. $p \rightarrow \sim q$ is false
- d. $\sim q \rightarrow \sim p$ is true ✓

The correct answer is: $\sim q \rightarrow \sim p$ is true

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

The tautology $(\neg q \wedge (p \rightarrow q)) \rightarrow \neg p$ stands for which rule of inference

Select one:

- a. Hypothetical
- b. Modus Ponens
- c. None of the above
- d. Modus Tollens ✓

The correct answer is: Modus Tollens

Question 8

Incorrect

Mark 0.00 out of 1.00

Remove flag

Let P(x) be the statement

"the word x contains the letter a."

What is the truth value of P(True)

Answer: 0 ✗

The correct answer is: F

Question 9

Incorrect

Mark 0.00 out of 1.00

Flag question

Which of the following is/ are true?

Note:-(Multiple right answers with negative marking)

Select one or more:

- a. $\forall x \forall y (P(x,y)) \Leftrightarrow \exists y \exists x (P(x,y))$ ✗
- b. $\forall x \exists y (P(x,y)) \Rightarrow \exists x \forall y (P(x,y))$
- c. $\exists x \forall y (P(x,y)) \Rightarrow \forall y \exists x (P(x,y))$ ✓
- d. $\forall x \exists y (P(x,y)) \Rightarrow \exists x \exists y (P(x,y))$
- e. $\forall x \forall y (P(x,y)) \Leftrightarrow \forall y \forall x (P(x,y))$
- f. $\forall x \exists y (P(x,y)) \Rightarrow \exists x \forall y (P(x,y))$

The correct answers are: $\forall x \exists y (P(x,y)) \Rightarrow \exists x \exists y (P(x,y))$, $\exists x \forall y (P(x,y)) \Rightarrow \forall y \exists x (P(x,y))$, $\forall x \forall y (P(x,y)) \Leftrightarrow \forall y \forall x (P(x,y))$

Question 10

Correct

Mark 1.00 out of 1.00

Flag question

Which of these is not a rule of inference

Select one:

- a. none of the given option is right
- b. disjunctive resolution ✓
- c. hypothetical syllogism
- d. disjunctive syllogism

The correct answers are: disjunctive resolution, none of the given option is right

Question 11

Incorrect

Mark 0.00 out of 1.00

Flag question

What is the negation of the following logical expression

$\forall x \exists y (F(x,y) \rightarrow (G(x,y) \wedge H(x,y)))$

Select one:

- a. $\exists x \forall y (F(x,y) \wedge \neg G(x,y) \vee \neg H(x,y))$
- b. $\exists x \forall y (F(x,y) \wedge G(x,y) \wedge \neg H(x,y))$ ✗
- c. $\exists x \forall y (\neg F(x,y) \wedge \neg G(x,y) \vee \neg H(x,y))$
- d. $\exists x \forall y (F(x,y) \wedge G(x,y) \wedge H(x,y))$

The correct answer is: $\exists x \forall y (F(x,y) \wedge \neg G(x,y) \vee \neg H(x,y))$

Question 12

Correct

Mark 1.00 out of 1.00

Flag question

A set of premises are inconsistent if

Select one:

- a. they are false
- b. they lead to multiple conclusion and they are are contradictory ✓
- c. they are are not deducable
- d. they lead to multiple conclusion

The correct answer is: they lead to multiple conclusion and they are are contradictory

Question 13

Correct

Mark 1.00 out of 1.00

Flag question

Considering the following premises:

$p \rightarrow q$

$q \rightarrow r$

$\neg r$

what would be the conclusion

Select one:

- a. the given premises are inconsistant
- b. $p \wedge r$
- c. q
- d. $\neg p$ ✓

The correct answer is: $\neg p$

Question 14

Incorrect

Mark 0.00 out of 1.00

Flag question

"If today is Rahul and Ravi's birthday, then today is 28th April" and "Today is 28th April and 28th April is not a holiday" conclude that _____

Select one:

- a. Today is not 28th April.
- b. Today is Rahul's Birthday or today is 28th April.
- c. Today is Rahul and Ravi's Birthday ✗
- d. 28th April is holiday.

The correct answer is: Today is Rahul's Birthday or today is 28th April.

Question 15

Incorrect

Mark 0.00 out of 1.00

Flag question

$(p \vee q) \vee (\neg p \wedge q) \vee p$ is a _____

Select one:

- a. Contingency
- b. None of the mentioned
- c. Contradiction
- d. Tautology ✗

The correct answer is: Contingency