**Unit -3**

1. is equivalent to



a) b) c) Tautology d) Contradiction



1. Consider the statement, “Either or ”. The negation of this statement is



a) X<-2 or 2<x or -1<x<1 b) X<-2 or 2<x c) -1<x<1 d) -2<x<2

1. is equivalent to



a) b) c) d) e)



1. Which of the following statement is the negation of the statement, “2 is even and -3 is negative”?

a) 2 is even and -3 is not negative b) 2 is odd and -3 is not negative

c) 2 is even or -3 is not negative d) 2 is odd or -3 is not negative

1. is logically equivalent to



a)7p → 7q b)7p → q c)7p ∧ q d) 7p ˅ q

1. 7q ∧ (p → q) → 7p is

a) Consistent b) inconsistent c) Tautology d) Contradiction

1. The statement is a



a) Consistent b) Contradiction c) Tautology d) None of the above

1. Which one is the contrapositive of ?



a) b) c) d) None of these



1. The truth or falsity of a given proposition is called its \_\_\_\_\_\_\_\_\_\_

a) Integer value b) Truth value c) Numerical value d) Actual value

1. The \_\_\_\_\_\_\_\_\_\_ of a proposition is generally formed by introducing the word “not” at the proper place

a) Conjunction b) Disjunction c) Negation d) Conditional

1. State true (T) or false (F)

I) The proposition “” is F when ‘p’ is F and ‘q’ is F.



II) The proposition “” is T when ‘p’ is T and ‘q’ is F.



a) (i) T (ii) T b) (i) F (ii) F c) (i) T (ii) F d) (i) F (ii) T

1. State true (T) or false (F)

I) II)



a) (i) T (ii) T b) (i) F (ii) F c) (i) T (ii) F d) (i) F (ii) T

1. The following are the properties of logical equivalence

i) ii) if and then iii) p → q ≡ 7q→ p iv) q → p ≡ 7p → 7q



a) (i) T (ii) T (iii) F (iv) F

b) (i) T (ii) T (iii) F (iv) T

c) (i) F (ii) T (iii) F (iv) F

d) (i) T (ii) T (iii) T (iv) T

1. Let ‘p’ be “He is tall” and let ‘q’ be “He is handsome”. Then the statement “It is false that he is short or handsome” is:

a) b) 7(7p ˅ q) c) p˅ 7q d) 7p ˅ q



1. Which of the following proposition is a tautology?

a) b) c) d)



1. What is the converse of the following assertion? I stay only if you go.

a) I stay if you go b) If you do not go then I do not stay

c) If I stay then you go d) If you do not stay then you go

1. Which of the following statement is the contra positive of the statement “If 4 is even and then -5 is negative”?

a) If -5 is not negative and then 4 is not even b) If 4 is even then -5 is not negative

c) 4 is odd or -5 is not negative d) 4 is even and -5 is not negative

1. Which one is the inverse of ?



a) b) 7p → 7q c) 7q → p d) None of these



1. What is the dual of



a) b)



c) d) None of these



1. What is the dual of



a) b)



c) d) None of these



1. is equivalent to



a) b) c) Tautology d) Contradiction



1. is equivalent to



a) b) c) d) e)



1. is logically equivalent to



a)7p → 7q b)7p → q c)7p ∧ q d) 7p ˅ q

1. 7q ∧ (p → q) → 7p is

a) Consistent b) inconsistent c) Tautology d) Contradiction

1. The truth or falsity of a given proposition is called its \_\_\_\_\_\_\_\_\_\_

a) Integer value b) Truth value c) Numerical value d) Actual value

1. The \_\_\_\_\_\_\_\_\_\_ of a proposition is generally formed by introducing the word “not” at the proper place

a) Conjunction b) Disjunction c) Negation d) Conditional

1. Check whether RHS is a tautology
2. Tautology
3. Contradiction
4. Contingency
5. None
7. The solution is
8. What is the type of inference
9. Direct proof
10. Mathematical induction
11. CP rule
12. Inference
13. S.T R is a vaild inference from the premises PQ
14. Premises , implies
15. S.T logically follws from the premises
16. The rule used to convert is
17. Modus pollens
18. Modus tollens
19. Idempotent
20. Conditional equivalence
21. S.T logically follows from
22. The implication is called
23. Modus pollens
24. Modus tollens
25. Idempotent
26. Contrapositive
27. Conditional premise
28. If the conclusion is of the form then r is an
29. Rule T
30. Rule P
31. Premises
32. Additional premises
33. A set of premises is said to be consistent of their \_\_\_\_\_\_\_\_\_\_\_\_\_ is a contradiction
34. Conjunction
35. Disjunction
36. Negation
37. Conditional
38. Symbolize the statements
39. If Rama gets his degree (P), he will go for a job (q)
40. symbolize the statements
41. Krishna goes for a job (p) and he will not for higher studies (q)

| Answer |
| --- |
| 1. 1)a 2) a 3) a 4) d 5) d 6) c 7) c 8) c 9) b 10) c 11) c 12) b 13) b 14) d 15) a 16) a   17) a 18) b 19) a 20) d 21) a 22) a 23) d 24) c 25) b 26) c 27) c 28) b 29) a 30) c 31) d) 32) d 33) d 34) a) 35) b 36) b. |