

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth
DATE :

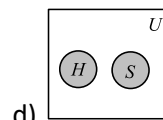
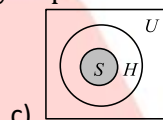
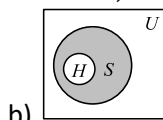
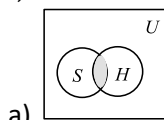
SUBJECT : MATHS
DPP NO. :1

Topic :-MATHEMATICAL REASONING

1. H :Set of holiday, S : day's

Set of Sunday and U :Set of

Then, the Venn diagram of statement, 'Every Sunday implies holiday' is



2. Simplify $(p \vee q) \wedge (p \vee \sim q)$
a) p b) T

c) F

d) q

3. The statement $p \Rightarrow p \vee q$ is
a) A tautology
b) A contradiction
c) Both a tautology and contradiction
d) Neither a tautology nor a contradiction

4. $p \rightarrow q$ is logically equivalent to
a) $p \wedge \sim q$

b) $\sim p \rightarrow \sim q$

c) $\sim q \rightarrow \sim p$

d) None of these

5. Which of the following is logically equivalent to $p \wedge q$?

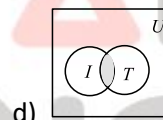
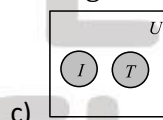
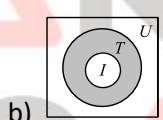
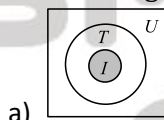
a) $p \rightarrow \sim q$

b) $\sim p \vee \sim q$

c) $\sim (p \rightarrow \sim q)$

d) $\sim (\sim p \wedge \sim q)$

6. Some triangles are not isosceles. Identify the Venn diagram



7. Which of the following is contingency?
a) $p \vee \sim p$

b) $p \wedge q \Rightarrow p \vee q$

c) $p \wedge \sim q$

d) None of these

8. $\sim (p \vee q) \vee (\sim p \wedge q)$ is logically equivalent to
a) $\sim p$

b) p

c) q

d) $\sim q$

9. A compound sentence formed by two simple statements p and q using connective 'or' is called
a) Conjunction b) Disjunction c) Implication d) None of these

10. If p and q are two statements, then $p \vee \sim (p \Rightarrow \sim q)$ is equivalent to
a) $p \wedge \sim q$

b) p

c) q

d) $\sim p \wedge q$

11. Let $p \wedge (q \vee r) = (p \wedge q) \vee (p \wedge r)$. Then, this law is known as

- a) Commutative law b) Associative law c) De-Morgan's law d) Distributive law
12. If p and q are two statements, then statement $p \Rightarrow q \wedge \sim q$ is
 a) Tautology b) Contradiction
 c) Neither tautology nor contradiction d) None of the above
13. Which of the following is logically equivalent to $\sim(\sim p \rightarrow q)$?
 a) $p \wedge q$ b) $p \wedge \sim q$ c) $\sim p \wedge q$ d) $\sim p \wedge \sim q$
14. The statement $(p \Rightarrow q) \Leftrightarrow (\sim p \wedge q)$ is a
 a) Tautology b) Contradiction c) Neither (a) nor (b) d) None of these
15. A compound sentence formed by two simple statements p and q using connective 'and' is called
 a) Conjunction b) Disjunction c) Implication d) None of these
16. Let p : is not greater than and q : Pairs is in France Be two statements. Then, $\sim(p \vee q)$ is the statement
 a) 7 is greater than or Pairs is not in France
 b) 7 is not greater than 4 and Pairs is not in France
 c) 7 is greater than 4 and Pairs is in France
 d) 7 is greater than 4 and Pairs is not in France
17. If p and q are two simple propositions, then $p \leftrightarrow \sim q$ is true when
 a) p and q both are true
 b) Both p and q are false
 c) p is false and q is true
 d) None of these
18. Negation of "Pairs is in France and London is in England" is
 a) Pairs is in England and London is in France
 b) Pairs is not in France or London is not in England
 c) Pairs is in England or London is in France
 d) None of the above
19. If truth value of $p \vee q$ is true, then truth value of $\sim p \wedge q$ is
 a) False if p is true b) True if p is true c) False if q is true d) True if q is true
20. The logically equivalent proposition of $p \Leftrightarrow q$ is
 a) $(p \wedge q) \vee (\sim p \wedge \sim q)$ b) $(p \Rightarrow q) \wedge (q \Rightarrow p)$ c) $(p \wedge q) \vee (q \Rightarrow p)$ d) $(p \wedge q) \Rightarrow (p \vee q)$