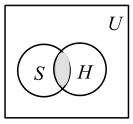
DPP

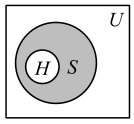
DAILY PRACTICE PROBLEMS

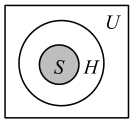
CLASS : XIth **SUBJECT : MATHS**
DATE : **DPP NO. :1**

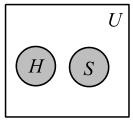
Topic :-MATHEMATICAL REASONING

1. H:Set of holiday, S: Set of Sunday and U:Set of day's
Then, the Venn diagram of statement, 'Every Sunday implies holiday' is

a) 

b) 

c) 

d) 

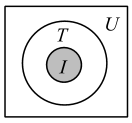
2. Simplify $(p \vee q) \wedge (p \vee \sim q)$
a) p b) T c) F d) q

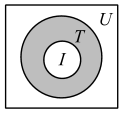
3. The statement $p \Rightarrow p \vee q$ is
a) A tautology
b) A contradiction
c) Both a tautology and contradiction
d) Neither a tautology nor a contradiction

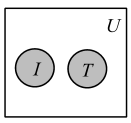
4. $p \rightarrow q$is logically equivalent to
a) $p \wedge \sim q$ b) $\sim p \rightarrow \sim q$ c) $\sim q \rightarrow \sim p$ d) None of these

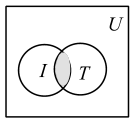
5. Which of the following is logically equivalent to $p \wedge q$?
a) $p \rightarrow \sim q$ b) $\sim p \vee \sim q$ c) $\sim (p \rightarrow \sim q)$ d) $\sim (\sim p \wedge \sim q)$

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

a) 

b) 

c) 

d) 

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 not 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 Londan is in England" is
   a) Pairs is in England and Londan is in France
   b) Pairs is not in France or Londan is not in England
   c) Pairs is in England or Londan 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) $(p \wedge q) \vee (p \wedge q)$ b) $(p \Rightarrow q) \wedge (q \Rightarrow p)$ c) $(p \wedge q) \vee (q \Rightarrow p)$ d) $(p \wedge q) \Rightarrow (p \vee q)$