DAY - 13

Bits:

1. The frequency of 2 in the data 2,3,2,4,5,6,4,2,3,3,7,8,2,2 is_____.
2. The upper boundary of class 1-5 of the classes 1-5, 6-10, 11-15, ... Is _____.
3. The Mid value of 20-29 is _____.
4. The sum of 12 observations 600 then the Mean is _____.
5. The Range first 100 natural numbers is _____.
6. The Mode of 2, x, 3, 4, 5, 2, 4, 6, 4 is _____.
7. The Median of the data 10,15,17,19,20,21 is _____.
8. The Mode of a, a+1, a+2, a+3, a+4 is _____.
9. The Mean of a-2, a, a+2 _____.
10. _____ central tendency cannot be calculated by the graph.
11. _____ central tendency is calculated for both verbal and numerical data.
12. The mean of 26,19,15,24, and x is x then x is_____.
13. The A.M of first n natural numbers is 15 then M is _____.
14. The x-co-ordinate of point of intersection of ogive curve is _____.

Bits Answers:

1) 5	2) 5.5	3) 24.5	4) 50	5) 50.5
6) 4	7) 18	8) does not exist		9) a
10) Mean	11) Mode	12) 21	13) 29	14) Median

DAY - 14

Teacher made test on statistics

DAY - 15

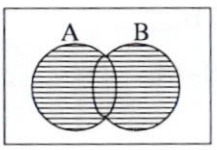
For A, B Grade students:

1. If A = {x:x is a natural number}
   B = {x:x is an even natural number}
   C = {x:x is an odd natural number}
   D = {x:x is a prime number}
   Find (i) $A \cap B$ (ii) $C \cup D$ (iii) $A - B$ (iv) $C - D$.
2. If A={1,2,3,4}, B={1,2,3,5,6} then find (i) $A \cap B$ (ii) $A \cup B$
3. If $n(A \cup B)=35$, $n(A)=20$, $n(B)=24$then find $n(A \cap B)$
4. Write all the subsets of {a, b}
5. An empty set is a finite set. Is the statement true? Justify your answer.

For C, D Grade students:

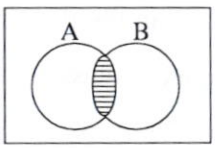
1. **Illustrate (i) A ∩ B, (ii) A ∪ B, (iii) A – B, (iv) B – A through Venn diagrams.**

Sol: (i)



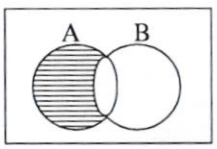
A ∪ B = 

(ii)



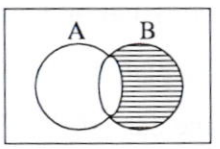
A ∩ B = 

(iii)



A – B = 

(iv)



B – A = 

2. **If A={0, 2,4 } then find A ∩ ϕ and A ∩ A, comment?**

Sol : Given A = {0, 2, 4}

A ∩ ϕ = {0, 2, 4} ∩ { }

= { } = ϕ

A ∩ A = {0, 2, 4} ∩ {0, 2, 4}

= {0,2,4} = A

Comment : A ∩ ϕ = ϕ and A ∩ A = A

3. **If A = {4, 5, 6}, B = {7, 8}then find A ∪ B and B ∪ A**

Sol: A ∪ B = {4, 5, 6} ∪ {7,8}

= {4,5,6,7,8}

B ∪ A = {7,8} ∪ {4,5,6}

= {4, 5, 6, 7, 8}

A ∪ B = B ∪ A

DAY - 16

For A, B Grade students:

1. If A = {1, 2, 3, 4, 5, 6, 7, 8} and B = {7, 8, 9, 10, 11} Find

(i) A ∪ B (ii) A ∩ B (iii) A – B (iv) B – A (v) A ∪ B - A ∩ B

(vi) A – B ∪ B – A. What do you notice about the results ?

2. Give reasons for the following:

   (i) $\{1, 2, 3,\ldots,10\} \neq \{x : x \in N \text{ and } 1 < x < 10\}$

   (ii) $\{2,4,6,8,10\} \neq \{x : x = 2n + 1 \text{ and } x \in N\}$

   (iii) $\{5,15,30,45\} \neq \{x : x \text{ is a multiple of } 15\}$

   (iv) $\{2,3,5,7,9\} \neq \{x : x \text{ is a prime number}\}$

3. If $A \subset B$ and $n(A) = 15$, $n(B) = 22$ then find $n(A \cup B)$ and $n(A \cap B)$

4. Give two examples for finite and infinite sets.

5. If A and B are disjoint sets and $n(A) = 5$, $n(B) = 4$ then find $n(A \cup B)$ and $n(A \cap B)$.

For C, D Grade students:

1. **If A = {3, 6, 9, 12, 15, 18, 21}, B = {4, 8, 12, 16, 20}, C = {2, 4, 6, 8, 10, 12, 14, 16} then find (i) A – B (ii) B – A (iii) A – C (iv) C – A What you have observed?**

Sol: Given A $= \{3, 6,9,12,15,18,21\}$, B $= \{4, 8, 12, 16, 20\}$, C$=\{2, 4, 6, 8, 10, 12, 14, 16\}$

$A - B = \{3,6,9,12,15,18,21\} - \{4,8,12,16,20\}$

$= \{3,6,9,15,18,21\}$

$B - A = \{4,8,12,16,20\} - \{3,6,9,12,15,18,21\}$

$= \{4,8,16,20\}$

$A - B \neq B - A$

$A - C = \{3,6,9,12,15,18,21\} - \{2,4,6,8,10,12,14,16\}$

$= \{3,9,15,18,21\}$

$C - A = \{2,4,6,8,10,12,14,16\} - \{3,6,9,12,15,18,21\}$

$= \{2,4,8,10,14,16\}$

$A - C \neq C - A$

2. **A = {Quadrilaterals}, B = {Square, Rectangle, Trapezium, Rhombus}. State whether $A \subset B$ or $B \subset A$. Justify your answer.**

Sol: Given : A = {Quadrilaterals}

A = {square, rectangle, trapezium, rhombus, parallelogram}

B= {square, rectangle, trapezium, rhombus}

Every element of B are in A

So, $B \subset A$, $A \not\subset B$.

3. If A = {1,2,3,4,5}, B = {2,4,6,8} then find n (A), n (B), n (A ∪ B) ?

Sol: The set 'A' contains 5 elements.

$\therefore$ n (A) = 5

The set 'B' contains 4 elements

$\therefore$ n (B) = 4

$A \cup B = \{1,2,3,4,5\} \cup \{2,4,6,8\} = \{1,2,3,4,5,6,8\}$

$\therefore$ n (A ∪ B) = 7.

DAY - 17

For A,B Grade students :

1. If $A = \{x / x \text{ is a prime number and } x \leq 20\}$

   $B = \{2x + 1, x \in w \text{ and } x \leq 9\}$ then find

   (i) $A \cup B$ (ii) $A \cap B$ (iii) $A - B$ (iv) $B - A$. What you observed?

2. $A = \{2,3,4,5\}$; $A \cap B = \{3,4\}$ and $\mu = \{1,2,3,4,5,6,7\}$; $7 \notin A \cup B$ then what can you say about B and B – A?

3. Choose three sets A, B, C such that $A \subset B$, $B \subset C$ and then check whether $A \subset C$ or not ?

4. Draw Venn diagrams for $A \cup B$, $A \cap B$ such that $A \cup B = A$ and $A \cap B = A$

5. $A = \{1,2,3\}$; $B = \{0,2,4\}$ represents these sets in Venn diagrams.

For C, D Grade students:

1. If $A = \{x / x \text{ is a prime number and } x \leq 20\}$

$B = \{2x + 1, x \in w \text{ and } x \leq 9\}$ then find

(i) n(A ∪ B) (ii) n(A ∩ B) (iii) A – B (iv) B – A. What you observed?

Sol: $A = \{2,3,5,7,11,13,17,19\}$

$B = \{1,3,5,7,9,11,13,15,17,19\}$

(i) $A \cup B = \{2,3,5,7,11,13,17,19\} \cup \{1,3,5,7,9,11,13,15,17,19\}$

$= \{1,2,3,5,7,9,11,13,15,17,19\}$

$n (A \cup B) = 11$

(ii) $A \cap B = \{2,3,5,7,11,13,17,19\} \cap \{1,3,5,7,9,11,13,15,17,19\}$

$= \{3,5,7,11,13,17,19\}$

$n (A \cap B) = 7$

(iii) $A - B = \{2,3,5,7,11,13,17,19\} - \{1,3,5,7,9,11,13,15,17,19\}$

$= \{2\}$

(iv) $B - A = \{1,3,5,7,9,11,13,15,17,19\} - \{2,3,5,7,11,13,17,19\}$

$= \{1,9,15\}$

$A - B \neq B - A$