INDIAN SCHOOL AL WADI AL KABIR

Worksheet -1 (2024-2025)

Class: XI Sub: MATHEMATICS (041) 21st April 2024

SECTION A

Q1. *Which of the following represents* $-1 \leq x < 5$?

	A	$(-1, 5)$	**B**	[-1, 5)	**C**	$[-1, 5]$	**D**	$(-1, 5]$

Q2. Given: For two finite sets A and B, n(A-B) = 10+x, n(B – A) = 3x and n(A∩ B)= x+1.
If n(A) = n(B), then n(A).

	A	5	**B**	16	**C**	21	**D**	15

Q3. The roster form of the set $A = \{x: x = n^2 + 1, n \in N, n \leq 5\}$

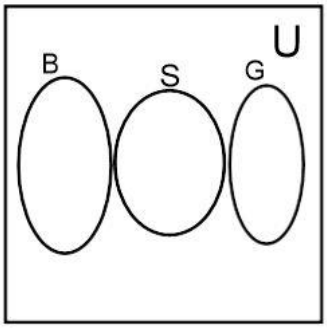
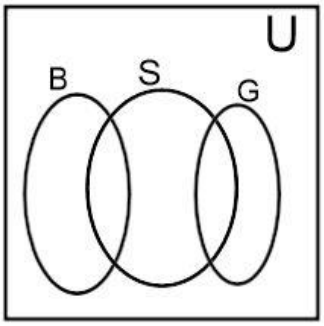
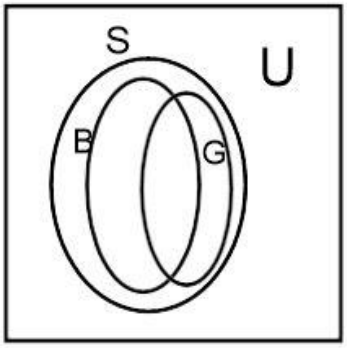
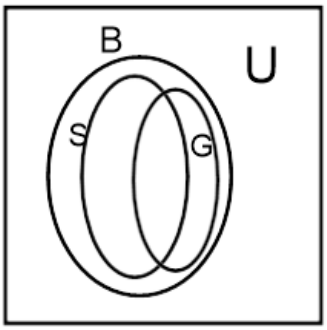
	A	{2, 5, 10, 17, 26}	**B**	{5, 10, 17, 26}	C	{2, 5, 10, 17, 26….}	**D**	{2, 5, 10, 17, 26, 37}

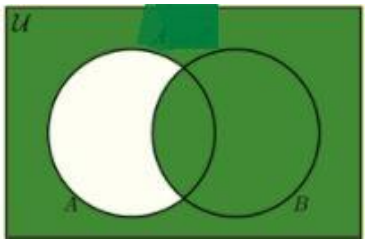
Q4. *Which of the following are disjoint sets*?

	A	Set of natural numbers, set of whole numbers	**B**	Set of integers, set of rational numbers
	C	Set of whole numbers, set of prime numbers	**D**	Set of odd numbers, set of even numbers

Q5. In a class of 70 students, 30 students play cricket and 20 students play tennis, and 10 students play both the games. Then, the number of students who play neither is

	A	10	**B**	20	**C**	30	**D**	40

<table>
<tr><td>Q6.</td><td colspan="4">Let U be the set of all boys and girls in a school. G be the set of all girls, B be the set of all boys and S be the set of all students who take swimming. Some but not all students in the school take swimming. Which of the following Venn diagram shows one of the possible relationships among the sets U, B, G and S.</td></tr>
<tr><td></td><td>A</td><td> 
</td><td>B</td><td> 
</td></tr>
<tr><td></td><td>C</td><td> 
</td><td>D</td><td> 
</td></tr>
<tr><td>Q7.</td><td colspan="8">$If\ A = \{2, 3, 5, 7\}, B = \{\ 2, 4, 6, 8, 10\} and\ C = \{1, 5, 10\}, then\ (A - B) U (B - C)$</td></tr>
<tr><td></td><td>A</td><td>{2, 4, 6, 8, 10}</td><td>B</td><td>{1, 2, 5, 4, 6, 8, 10}</td><td>C</td><td>{1, 2, 3, 4, 5, 6}</td><td>D</td><td>{2, 3, 4, 5, 6,7, 8}</td></tr>
<tr><td>Q8.</td><td colspan="8">If N, Z, Q, Rand C represent the set of natural numbers, integers, rational numbers, real numbersand complex numbers respectively, which of the following is true?</td></tr>
<tr><td></td><td>A</td><td colspan="3">$N \subset Z \subset R \subset Q \subset C$</td><td>B</td><td colspan="3">$N \subset Z \subset Q \subset R \subset C$</td></tr>
<tr><td></td><td>C</td><td colspan="3">$N \subset Z \subset C \subset Q \subset R$</td><td>D</td><td colspan="3">$N \subset Z \subset Q \subset C \subset R$</td></tr>
<tr><td>Q9.</td><td colspan="8">$Which\ of\ the\ following\ collection\ is\ not\ a\ set?$</td></tr>
<tr><td></td><td>A</td><td colspan="3">The collection of natural numbers less than 100</td><td>B</td><td colspan="3">The collection of all even integers.</td></tr>
<tr><td></td><td>C</td><td colspan="3">The collection of ten most talented writers of India.</td><td>D</td><td colspan="3">The collection of all the months of a year.</td></tr>
<tr><td>Q10.</td><td colspan="8">Roster form of $\{x: x \in Z: x^3 - x = 0\}$ is:</td></tr>
</table>

	A	$\{0,1\}$	**B**	$\{1\}$	**C**	$\{0,1,-1\}$	**D**	$\emptyset$
Q11.	*Set builder form of* $\{2,3,5,7,\ 11,13,17\}$ is:							
	A	$\{x: is\ a\ prime\ number, x<19\}$	**B**	$\{x: x=2n+1, n\in N, n\leq 8\}$	**C**	$\{x: x=n^2+1, n\in N, n\leq 5\}$	**D**	None of these
Q12.	$A=\{0,1\}$, B = $\{x: x\in N, x\leq 2\}, C=\{x: x\in W, x^2-x=0\}, D=\{1,-1\}$, then :.							
	A	A = C	**B**	A = B	**C**	B =C	**D**	A = D
Q13.	*Which of the following are disjoint sets*?							
	A	Set of natural numbers, set of whole numbers			**B**	Set of integers, set of rational numbers		
	C	Set of whole numbers, set of prime numbers			**D**	Set of odd numbers, set of even numbers		
Q14.	If $A\subseteq B$, *which of the following option is always correct*?							
	A	$A\cap B=B$	**B**	$A\cup B=A$	**C**	A − B = ∅	**D**	B − A = ∅
Q15.	Two finite sets have m and n elements. The total number of subsets of the first set is 112 more than the total number of subsets of the second set. The values of m and n are:							
	A	8 and 1	**B**	128 and 16	**C**	10 and 5	**D**	7 and 4
Q16.	$4\leq x\leq 5$ *can write as*:							
	A	(4, 5)	**B**	$(4,5]$	**C**	$[4,5]$	**D**	$[4,5)$
Q17.	In the given Venn diagram, shaded region represents							
	A	$(AUB)'$	**B**	A'UB	**C**	$A-B$	**D**	$B-A$
Q18.	A= $\{1,2\}$ *and* $B=\{x: x\in R, 0<x<3\}$. Then							
	A	A∩ $B=\{\}$ B	**B**	A=B	**C**	$B\subset A$	**D**	$A\subset B$
Q19.	If $A=\{x: x\epsilon N\ 0<x<5\}, B=\{y: y\ is\ a\ prime\ number\ less\ than\ 8\}, then\ B-A$							
	A	$\{1,4\}$	**B**	$\{5,7\}$	**C**	{1,2 4}	**D**	{2, 4,5, 7}
Q20.	$A=\{x: x=8^n-7n-1, n\in N\}, B=\{x; x=49n-49, n\in N\}, then:$							
	A	$A\subset B$	**B**	$B\subset A$	**C**	A =B	**D**	$A\cap B=\emptyset$
	ANSWER							

Answer	**1**	B	**2**	C	**3.**	A	**4**	D
	5	D	**6**	B	**7**	D	**8**	B
	9	C	**10**	C	**11**	A	**12**	A
	13	D	**14**	C	**15**	D	**16**	C
	17	B	**18**	C	**19**	B	**20**	A

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