Q.1.	In an AP $S_n = 3n^2 + n$, then the common difference							
	A	3	B	5	C	6	D	10

Q.2.	If $f(x) = x^3 - \frac{1}{x^3}$ find $f(x) + f\left(\frac{1}{x}\right)$							
	A	x	B	x^3	C	$2x^3$	D	0

Q.3.	The domain of $\frac{x^2+1}{x^2-9}$ is:							
	A	$R - \{3\}$	B	$R - \{3, -3\}$	C	R	D	[-3, 3]

Q.4.	If $\left(\frac{2x+1}{3}, \quad 2x+3y\right) = (3, 2)$, then values of x and y							
	A	x =4, y=-1	B	$x = -4$, y=-1	C	x =4, y=1	D	x =3, y=-1

Q.5.	Which of the following is a function?

A		B	
C		D	

Q.6.	Solve: $x^2 + 1 = 0$							
	A	$x = \pm 1$	B	$x = \pm i$	C	$x = 1$	D	x = −1

Q.7.	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	7 and 4	C	10 and 5	D	Can't find

Q.8.	$(1 + i)(1 + 2i)(1 + 3i)(1 + xi) = 16 + 12i$, then find the value(s) of x							
	A	$x = \pm 3$	B	$x = \pm 5$	C	$x = \pm\sqrt{3}$	D	$x = \pm 4$

Q.9.	The sum of n terms of the series: $7 + 77 + 777 + \ldots\ldots$(n terms)			
	A	$\dfrac{7}{9}\left(\dfrac{10(10^n - 1)}{9} - n\right)$	**C**	$\left(\dfrac{10(10^n - 1)}{9} - n\right)$
	C	$\left(\dfrac{7(10^n - 1)}{9} - n\right)$	**D**	$9\left(\dfrac{10(7^n - 1)}{9} - n\right)$

Q10	If A and B are two sets such that A ∪ B has 50 elements, A has 28 elements and B has 32 elements, how many elements does A ∩ B have ……elements.						
	A	12	**B**	22	**C**	10	**D** 110

Q.11	A= $\{1, 2\}$ and $B = \{x: x \in R, 0 < x < 3\}$. Then						
	A	A and B are disjoint sets	**B**	A=B	**C**	$B \subset A$	**D** $A \subset B$

Q12.	Standard form of $(1 + 2i)(3 - i)$						
	A	$-8 - 5i$	**B**	$8 + 5i$	**C**	$5 - 8i$	**D** $5 + 5i$

Q13	The multiplicative inverse of $3 + 4i$						
	A	$3 - 4i$	**B**	$\dfrac{3}{25} + \dfrac{4i}{25}$	**C**	$\dfrac{3}{25} - \dfrac{4i}{25}$	**D** $\dfrac{25}{3} + \dfrac{25i}{4}$

Q14	In an infinite GP, each term is sum of the remaining term, then the common ratio is						
	A	$\dfrac{1}{3}$	**B**	2	**C**	$\dfrac{1}{2}$	**D** None of these

Q15	If $A = \{1, 2, 3, 4, 5\}, B = \{2, 3, 5, 7\}, then\ B - A$						
	A	$\{1, 4, 7\}$	**B**	$\{7\}$	**C**	$\{1, 2\ 4\}$	**D** $\{2, 5, 7\}$

Q16	If AM and GM of two positive numbers are 12.5 and 10, then the numbers are						
	A	$20, 5$	**B**	$10, 5$	**C** 25, 5	**D** 12, 5

Q17	The sum of three consecutive terms of a GP is $\dfrac{13}{12}$ and the product is -1. Then the common ratio						
	A	$-\dfrac{3}{4}$ or $-\dfrac{4}{3}$	**B**	$\dfrac{3}{4}$ or $\dfrac{4}{3}$	**C**	$\dfrac{4}{3}$ or $\dfrac{3}{4}$	**D** $-\dfrac{4}{3}$ or $-\dfrac{3}{4}$

Q18.	The range of the function $f(x) = \sqrt{1 - x}$						
	A.	$[0, 1]$	**B**	$[0, \infty)$	**C** $(0, \infty)$	**D**	$(-\infty, 1]$

Q19.	If a, b, c are in G.P. and $a^{\frac{1}{x}} = b^{\frac{1}{y}} = c^{\frac{1}{z}}$ then

A	$y^2 = xz$	B	$2x = y + z$	C	$2y = x + z$	D	$x^2 = yz$

Q20. If $\left(\frac{1+i}{1-i}\right)^m = 1,$ then the least positive value of m

A	1	B	2	C	3	D	4

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

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