

Mathematics General Science Test Medium Mode

Sr	Questions	Answers Choice
1	Question Image	
2	$n(n-1)(n-2) \dots (n-r+1) = \underline{\hspace{2cm}}$	
3	The probability to get an odd number in a dice thrown once is	A. $\frac{1}{2}$ B. $\frac{1}{6}$ C. $\frac{1}{3}$ D. 2
4	The value of x, and y, when $(x+iy)^2 = 5+4i$	A. $X=2, y=-1$ B. $X=-2, y=1$ C. $X=2, y=-1$ D. $X=2, y=2$
5	The roots of the equation $ax^2+bx+c=0$ are real and equal if	A. $b^2-4ac < 0$ B. $b^2-4ac = 0$ C. $b^2-4ac > 0$ D. None of these
6	Question Image	
7	The towers each 120 meters high are 800 meters apart. The measure of the angle of elevation from the base of one tower to the top of the other is	A. 12° B. 9° C. 7° D. -120°
8	The first three terms in the expansion of $(1-x)^{-1}$ are	A. $1+x+x^2$ B. $1-x-x^2$ C. $-1-x-x^2$ D. $1-x+x^2$
9	If A(a,b) lies on $3x+2y=13$ and point B(b,a) lies on $x-y=5$ then equation of AB is	A. $x-y=5$ B. $x+y=5$ C. $x+y=-5$ D. $5x+5y=21$
10	If b_1, b_2, b_3, \dots are in G.P. with first term unity and common ratio r, then the minimum value of $b_1 - b_3 + b_5$ is equal to	A. $\frac{3}{4}$ B. $\frac{1}{4}$ C. 1 D. None of these
11	Question Image	
12	$w^{11} = \underline{\hspace{2cm}}$	A. 0 B. 1 C. w D. w^2
13	If $\sin(\pi \cos \theta) = \cos(\pi \sin \theta)$, then which of the following is correct?	
14	A committee consists of 9 experts taken from three institutions A, B, and C, of which 2 are from A, 3 from B and 4 from C. If three experts resign, then the probability that they belong to different institutions is	A. $\frac{1}{729}$ B. $\frac{1}{24}$ C. $\frac{1}{21}$ D. $\frac{2}{7}$
15	for $n \in \mathbb{N}$, $3^{2n} + 7$ is divisible by	A. 7 B. 8 C. 9 D. 10
16	G is geometric mean between a and b if a, G, b is	A. A.P. B. G.P. C. H.P. D. None of these
17	The parabola $y^2=4ax$ open up if	A. $a < 0$ B. $a \neq 0$ C. $a > 0$ D. All are incorrect
18	If $x^2 - 7x + a$ has remainder 1 when divided by $x+1$, then $a = \underline{\hspace{2cm}}$	A. -7 B. 7 C. 0 D. ...

D. None of these

19

The point which divides the line segment joining the points (a, b) and (c, d) in the ratio 2 : 3 internally is

D. none of these

20

Two sets A and B are said to be disjoint if