

## Mathematics General Science Test Medium Mode

Sr	Questions	Answers Choice
1	Question Image	
2	If the cutting plane is parallel to the axis of the cone and intersects both of its nappes, then the curve of intersection is	A. an ellipse B. a hyperbola C. a circle D. a parabola
3	$\sin(a + \beta) + \sin(a - \beta) = \underline{\hspace{2cm}}$ ;	A. $2\cos a \cos \beta$ B. $2\sin a \cos \beta$ C. $2\cos a \sin \beta$ D. $-2\sin a \sin \beta$
4	Question Image	A. 120 B. 5 C. 4 D. 6
5	The quadratic equation $8 \sec^2\theta - 6 \sec\theta + 1 = 0$ has	A. Infinitely many roots B. Exactly two roots C. Exactly four roots D. No roots
6	The corner point of the boundary lines, $x - 2x + 2y = 10$ is:	A. (8,1) B. (1,8) C. (6,10) D. (3,5)
7	Given X,Y are any two sets such that number of elements in set X = 28, number of elements in set Y = 28, and number of elements in set $X \cup Y = 54$ , then number of elements in set $X \cap Y =$	A. 4 B. 3 C. 2 D. 1
8	$\cos^{-1}(x) =$	A. $\cos x$ B. $x$ C. $\tan^{-1}(-x)$ D. $\sec^{-1}(1/x)$
9	Question Image	A. The law of sines B. The law of cosines C. The law of tangents D. None of these
10	Each point of the feasible region is called	A. Solution B. feasible solution C. Both a & b D. None
11	If A is an event then which of the following is true	A. $P(A) < 0$ B. $0 \geq P(A) \leq 1$ C. $P(A) > 0$ D. None
12	If $S_r$ denotes the sum of the first r terms of a G.P., then $S_n, S_{2n} - S_n, S_{3n} - S_{2n}$ are in	A. A.P. B. G.P. C. H.P. D. None of these
13	The line $Ax + By + C = 0$ will touch the circle $x^2 + y^2 = \lambda$ when	A. $C^2 \leq \lambda(A^2 + B^2)$ B. $A^2 \leq \lambda(A^2 + B^2)$ C. $B^2 \leq \lambda(A^2 + B^2)$ D. $C^2 \geq \lambda(A^2 + B^2)$

rgb(34, 34, 34); text-align: center; background-color: rgb(255, 255, 224);"> $\lambda$ </span>(A<sup>2</sup>+ C<sup>2</sup>)</span>  
D. None of these

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Question Image

A. x  
C. y

15

Question Image

16

$$\sin(\alpha + \beta) + \sin(\alpha - \beta)$$

A.  $2 \sin \alpha \cos \beta$   
B.  $2 \sin \alpha \cos \beta$   
C.  $\sin \alpha \cos \beta$   
D. None of these

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$4^{1+x} + 4^{1-x} = 10$  is called

A. Reciprocal equation  
B. Exponential equation  
C. Radical equation  
D. None of these

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The degree of differential equation is the power of the

A. Lowest order derivative  
B. Highest order derivative  
C. Integral  
D. All are correct

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If  $f(x) = x + 1$  then  $f(z^2 - 1)$  is

A.  $z^2 + 2$   
B.  $z^2 + 2$   
C.  $z^2 - 2$   
D. none of these

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A circle passing through the vertices of any triangle is called

A. Circumcircle  
B. Incircle  
C. Escribed circle  
D. Unit circle