SHIKSHA CLASSES

Subject : Maths - I	**Question Paper**	Total Marks :25
Class : XI	2 : Trigonometry - I	Time : 1 Hour

SECTION - A

Q.1 : Choose the correct option :   4

i) $\cos(x) + \cos(p - x) = ?$

  a) $2\cos(x)$ b) $\cos(x) - \sin(x)$

  c) $\cos(x) + \sin(x)$ d) 0

ii) If $y = \cos x$, then what is the maximum value of y?

  a) 1   b) -1

  c) p   d) 2p

Q.2 : Solve the following questions: 2

i) Find the signs of the following :

  a) $\sin 300°$ b) $\cot(-206°)$

ii) If $x = a\sin^2\theta, y = a, \cos^2\theta$, then $x + y =$ ....

SECTION B

: Solve the following : (ANY 3)   6

Q.3 : Find the other trigonometric function if ;

$\cot x = \dfrac{3}{4}, x$ lies in the third quadrant.

Q.4 : Eliminate θ from the following :

$x = 4\cos\theta - 5\sin\theta, y = 4\sin\theta + 5\cos\theta$

Q.5 : If $\theta = \dfrac{1}{2}$, evaluate $\dfrac{2\sin\theta + 3\cos\theta}{4\cos\theta + 3\sin\theta}$

Q.6 : Find the trigonometric function of 270^0

Q.7 : Prove the following :

$\dfrac{\cos ec\theta + \cot\theta - 1}{\cos ec\theta + \cot\theta + 1} = \dfrac{1 - \sin\theta}{\cos\theta}$

SECTION C

: Solve the following : (ANY 3)   9

Q.8 : Prove the following :

$\dfrac{(1 + \cot\theta + \tan\theta)(\sin\theta - \cos\theta)}{\sec^3\theta - \cos ec^3\theta}$

$= \sin^2\theta\cos^2\theta$

Q.9 : Find the trigonometric function of -300^0.

Q.10 : Prove the following :

$\dfrac{\tan^3\theta}{1 + \tan^2\theta} + \dfrac{\cot^3\theta}{1 + \cot^2\theta} = \sec\theta\cos ec\theta$

$-2\sin\theta\cos\theta$

Q.11 : If $\dfrac{\sin A}{3} = \dfrac{\sin B}{4} = \dfrac{1}{5}$ and A, B are angles in the second quadrant, then prove that $4\cos A + 3\cos B = -5$

Q.12 : If $\cos\theta = \dfrac{12}{13}, 0 < \theta < \dfrac{\pi}{2}$, find the values of :

$\dfrac{\sin^2\theta - \cos^2\theta}{2\sin\theta\cos\theta}, \dfrac{1}{\tan^2\theta}$

SECTION D

: Solve the following : (ANY 1)   4

Q13 : If $2\sin A = 1 = \sqrt{2}\cos B$

$\dfrac{\pi}{2} < A < \pi, \dfrac{3\pi}{2} < B < 2\pi,$ then find the value of

$\dfrac{\tan A + \tan B}{\cos A - \cos B}$

Q.14 : Eliminate from the following :

i) $2x = 3 - 4\tan\theta, 3y = 5 + 3\sec\theta$

ii) $x = 6\cos ec\theta, y = 8\cot\theta$

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