CHOITHRAM SCHOOL

Class : XI **Subject : Mathematics** **Assignment no. 2**

Date of Assignment: 02/08/2017 **Date of Submission: 11/08 /2017**

Q No.	Question	Weightage	Level
Q1	Prove that : $2sin^2\frac{\pi}{6} + cosec^2\frac{7\pi}{6}cos^2\frac{\pi}{3} = \frac{3}{2}$	**1 mark**	**Knowledge**
Q2	Find the value of : sin (- 1440°)	**1 mark**	**Knowledge**
Q3	Simplify $\frac{\cos(360° - x)\,\text{cosec}\,(180°+x)\cot(90° - x)}{\sec(90°+x)\sin(-x)}$	**1 mark**	**Knowledge**
Q4	Prove that $\cos^4\frac{\pi}{8}+\cos^4\frac{3\pi}{8}+\cos^4\frac{5\pi}{8}+\cos^4\frac{7\pi}{8}=\frac{3}{2}$	**2marks**	**Logic**
Q5	Prove that : $\frac{1-\sin x}{1+\sin x} = \tan^2(\frac{\pi}{4} - \frac{x}{2})$	**2 marks**	**Multi Conceptual**
Q6	Prove that : $\cos\left(\frac{3\pi}{4}+x\right) - \cos\left(\frac{3\pi}{4}-x\right) = -\sqrt{2}\sin x$	**2 mark**	**Knowledge**
Q7	Find the value of sin18°	**2 marks**	**H.O.T**
Q8	If tanA = $\frac{1}{2}$ and tanB = $\frac{1}{3}$, where A and B are positive acute angles , prove that A + B = 45°.	**3 marks**	**Understanding**
Q9	Find the general solution of the equation : sinx + sin3x + sin5x = 0	**3 marks**	**Value Based**
Q10	Prove that : cos10°cos50°cos60°cos70° = $\frac{\sqrt{3}}{16}$	**3marks**	**Understanding**
Q11	Prove that $\sqrt{2+\sqrt{2+2\,cos4\theta}}$ = 2cosθ	**5 marks**	**Logic**
Q12	If $\tan\alpha = \frac{1}{5}$ & $\tan\beta = \frac{1}{239}$, Show that $\tan(4\alpha - \beta)$ = 1	**5 marks**	**Multi Conceptual**