	1- & 2-mark questions
Q.1.	Find the value of $\sin\left[2\cot^{-1}\left(\frac{-5}{12}\right)\right]$
Q.2.	Find the value of $\tan\left(\cos^{-1}\left(\frac{1}{\sqrt{2}}\right)\right)$.
Q.3.	Evaluate $\cos\left[\sin^{-1}\left(\frac{1}{4}\right) + \sec^{-1}\left(\frac{4}{3}\right)\right]$
Q.4.	Express $\sec\left(\tan^{-1}\frac{y}{2}\right)$ in terms of y.
Q.5.	Write $\cot^{-1}\left(\frac{1}{\sqrt{x^2-1}}\right), |x| > 1$ in the simplest form.
Q.6.	Prove that $2\sin^{-1}\frac{3}{5} - \tan^{-1}\frac{17}{31} = \frac{\pi}{4}$
Q.7.	Prove that $\cos^{-1}x = \tan^{-1}\left(\frac{\sqrt{1-x^2}}{x}\right)$.
Q.8.	Find the principal value of $\sin^{-1}\sin\left(\frac{2\pi}{3}\right)$.
	Descriptive questions
Q.9.	Prove that $\cot^{-1}7 + \cot^{-1}8 + \cot^{-1}18 = \cot^{-1}3$
Q.10	Find the value of $\sin\left(2\tan^{-1}\frac{2}{3}\right) + \cos\left(\tan^{-1}\sqrt{3}\right)$
Q.11	Write $\sin^{-1}\left(x\sqrt{1-x} - \sqrt{x}\sqrt{1-x^2}\right)$, in the simplest form.
Q12.	If $\tan^{-1}x + \tan^{-1}y + \tan^{-1}z = \frac{\pi}{2}$, then prove that $xy + yz + zx = 1$
Q13.	Simplify the following:
	i) $\tan^{-1}\left(\frac{a\cos x - b\sin x}{b\cos x + a\sin x}\right), -\frac{\pi}{2} < x < \frac{\pi}{2}, \frac{a}{b}\tan x > -1$
	ii) $\sin^{-1}\left(\frac{\sin x + \cos x}{\sqrt{2}}\right), \frac{-\pi}{4} < x < \frac{\pi}{4}$.
Q14.	Solve the following:
	i) $\sin^{-1}6x + \sin^{-1}6\sqrt{3}\,x = -\frac{\pi}{2}$
	ii) $\tan^{-1}\frac{1}{4} + 2\tan^{-1}\frac{1}{5} + \tan^{-1}\frac{1}{6} + \tan^{-1}\frac{1}{x} = \frac{\pi}{4}$.
Q15.	Prove that $\tan^{-1}\left(\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}\right) = \frac{\pi}{4} - \frac{1}{2}\cos^{-1}x$

Answers	**1**	$\dfrac{-120}{169}$	**2**	1	**3.**	$\dfrac{3\sqrt{15} - \sqrt{7}}{16}$	**4**	$\dfrac{\sqrt{4+y^2}}{2}$
	5	$sec^{-1}x$	**6**		**7**		**8**	
	9	$\dfrac{14}{15}$	**10**	$\dfrac{37}{26}$	**11**		**12**	
	13	.i) $tan^{-1}\dfrac{a}{b} - x$ ii). $x + \dfrac{\pi}{4}$	**14**	i) $-\dfrac{1}{12}$ ii). $\dfrac{-461}{9}$ iii)	**15**			