PREVIOUS YEAR QUESTIONS
(Chapterwise)

CHAPTER NAME: TRIGONOMETRIC IDENTITIES

SUMMARY POINTS	

Q.NO.: 1	**Prove that:** $\frac{(\cot A + \tan A - 1)(\sin A + \cos A)}{\sin^3 A + \cos^3 A} = \sec A.\text{cosec}A$	**YEAR** [2025]
ANS.:		
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Q.NO.: 1	**Assertion (A): $\sin^2 A + \cos^2 A = 1$ then $\cos^4 A + \cos^2 A = 1$** **Reason (R) : $1 - \sin^2 A = \cos^2 A$** **(a) (A) is true, (R) is false** **(b) (A) is false, (R) is true** **(c) Both (A) and (R) are true, and (R) is the correct reason for (A)** **(d) Both (A) and (R) are true, and (R) is the incorrect reason for (A)**	**YEAR** [2025]
ANS.:	c	
TOPIC:	**Page No.:**	Ref. Link

Q.NO.: 1	**Statement 1: $\sin^2 q + \cos^2 q = 1$** **Statement 2: $\text{cosec}^2 q + \cot^2 q = 1$** **Which of the following is valid?** **(a) only 1** **(b) only 2** **(c) both 1 and 2** **(d) neither 1 nor 2**	**YEAR** [2024]
ANS.:		
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Q.NO.: 2	**Factorize: sin3 q + cos3 q Hence, prove the following identity:** $\frac{\sin^3\theta + \cos^3\theta}{\sin\theta + \cos\theta} + \sin\theta\cos\theta = 1$	**YEAR** [2024]
ANS.:		

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Q.NO.: 3	(1 + sin A)(1 – sin A) is equal to: (a) cosec^2 A (b) $\sin^2$ A (c) $\sec^2$ A (d) $\cos^2$ A	YEAR [2023]
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Q.NO.: 4	Prove the following identity: $(\sin^2\theta - 1)(\tan^2\theta + 1) + 1 = 0$	YEAR [2023]
ANS.:		
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Q.NO.: 5	Prove that $\frac{1}{1+\sin\theta} + \frac{1}{1-\sin\theta} = 2\sec^2\theta$	YEAR [2022]
ANS.:		
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Q.NO.: 6	Prove that: $\frac{(1+\sin\theta)^2+(1-\sin\theta)^2}{2\cos^2\theta} = \sec^2\theta + \tan^2\theta$	YEAR [2022]
ANS.:		
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Q.NO.: 7	Prove that :	YEAR [2020]

	$\frac{\sin A}{1+\cot A}-\frac{\cos A}{1+\tan A}=\sin A-\cos A$	
ANS.:		
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Q.NO.: 8	**Prove the identity** $\left(\frac{1-\tan\theta}{1-\cot\theta}\right)^2=\tan^2\theta$	**YEAR** [2020]
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Q.NO.: 9	**Prove that:** $(\operatorname{cosec}\theta - \sin\theta)(\sec\theta-\cos\theta)(\tan\theta-\cot\theta)=1$	**YEAR** [2019]
ANS.:		
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Q.NO.: 10	**Prove that:** $\sqrt{\sec^2\theta+\operatorname{cosec}^2\theta} = \tan\theta + \cot\theta$	**YEAR** [2018]
ANS.:		
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Q.NO.: 11	**Prove that** $(1 + \cot\theta - \operatorname{cosec}\theta)(1+ \tan\theta + \sec\theta) = 2$ **[4]**	**YEAR** [2018]
ANS.:		
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