

JEE MAIN TRIGONOMETRIC FUNCTIONS — TRIGONOMETRIC IDENTITIES AND CONDITIONAL IDENTITIES — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 2 questions

Q.1 If $\frac{\tan(A-B)}{\tan A} + \frac{\sin^2 C}{\sin^2 A} = 1$, $A, B, C \in \left(0, \frac{\pi}{2}\right)$, then

[JEE Main 2026 (Online) 28th January Morning Shift]

- (1) $\tan A, \tan C, \tan B$ are in A.P.
 (2) $\tan A, \tan C, \tan B$ are in G.P.
 (3) $\tan A, \tan B, \tan C$ are in G.P.
 (4) $\tan A, \tan B, \tan C$ are in A.P.

Scan or tap for the full solution



Q.2 If $10\sin^4\theta + 15\cos^4\theta = 6$, then the value of $\frac{27\operatorname{cosec}^6\theta + 8\sec^6\theta}{16\sec^8\theta}$ is

[JEE Main 2025 (Online) 4th April Morning Shift]

- (1) $\frac{2}{5}$ (2) $\frac{3}{5}$ (3) $\frac{1}{5}$ (4) $\frac{3}{4}$

Scan or tap for the full solution



Section B (Numerical) — 1 question

Q.3 If $A = \frac{\sin 3^\circ}{\cos 9^\circ} + \frac{\sin 9^\circ}{\cos 27^\circ} + \frac{\sin 27^\circ}{\cos 81^\circ}$ and $B = \tan 81^\circ - \tan 3^\circ$, then $\frac{B}{A}$ is equal to _____.

[JEE Main 2026 (Online) 4th April Morning Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2																		
Ans.	2	1																		

Section B (Numerical) — 1 question

Ques.	3																			
Ans.	2																			