Q.1 $\tan 5x \tan 3x \tan 2x =$

(a) $\tan 5x - \tan 3x - \tan 2x$ (b) $\dfrac{\sin 5x - \sin 3x - \sin 2x}{\cos 5x - \cos 3x - \cos 2x}$

(c) $\tan 5x + \tan 3x + \tan 2x$ (d) 0

Q.2 $\dfrac{\tan^2 2\theta - \tan^2 \theta}{1 - \tan^2 2\theta \tan^2 \theta} =$

(A) $\tan 3\theta / \tan \theta$ (B) $\cot 3\theta / \cot \theta$

(C) $\tan 3\theta \tan \theta$ (D) $\cot 3\theta \cot \theta$

Q.3 If tan A = 1/3 and tan B = 1/7 then the value of 2A + B is -

(A) 30º (B) 60º

(C) 45º (D) 145º

Q.4 $\dfrac{\cos 12° - \sin 12°}{\cos 12° + \sin 12°} + \dfrac{\sin 147°}{\cos 147°} =$

(A) 1 (B) –1

(C) 0 (D) None

Q.5 If $\tan \alpha = \dfrac{m}{m+1}$ and $\tan \beta = \dfrac{1}{2m+1}$, then $\alpha + \beta =$

(a) $\dfrac{\pi}{3}$ (b) $\dfrac{\pi}{4}$

(c) $\dfrac{\pi}{6}$ (d) None of these

Q.6 If $\tan(A + B) = p$, $\tan(A - B) = q$, then the value of $\tan 2A$ in terms of p and q is

(a) $\dfrac{p+q}{p-q}$ (b) $\dfrac{p-q}{1+pq}$

(c) $\dfrac{p+q}{1-pq}$ (d) $\dfrac{1+pq}{1-p}$

Q.7 If $\cos(A - B) = \dfrac{3}{5}$ and $\tan A \tan B = 2$, then

(a) $\cos A \cos B = \dfrac{1}{5}$ (b) $\sin A \sin B = -\dfrac{2}{5}$

(c) $\cos A \cos B = -\dfrac{1}{5}$ (d) $\sin A \sin B = -\dfrac{1}{5}$

ANS 1 A 2 C 3C 4C 5B 6 C 7 A