

MCQs with One Correct Answer

PROBLEM

1. The value of $\tan\left[\cos^{-1}\left(\frac{4}{5}\right) + \tan^{-1}\left(\frac{2}{3}\right)\right]$ is

(1983 - 1 Mark)

- (a) $\frac{6}{17}$ (b) $\frac{7}{16}$ (c) $\frac{16}{7}$ (d) none

SOLUTION

$$(d) \quad \tan\left[\cos^{-1}\left(\frac{4}{5}\right) + \tan^{-1}\left(\frac{2}{3}\right)\right]$$

$$= \tan\left[\tan^{-1}\frac{3}{4} + \tan^{-1}\frac{2}{3}\right]$$

$$= \tan\left[\tan^{-1}\left(\frac{3/4 + 2/3}{1 - 3/4 \times 2/3}\right)\right] = \frac{17}{12} \times \frac{12}{6} = \frac{17}{6}$$