Trigonometry Questions Overview

Trigonometry Questions have a good weightage in the Banking Exam and the type of question asked in Banking exam is similar to the question mentioned below. It has been solved and explained by Gargi.ai Experts and they have tried to elaborate the concept used in Trigonometry Questions.

Question

If tan (1 + 2) = 3 and Sec (1 - 2) = 2/3, then what is the value of sin 21 + tan 32? where [0º (1 - 2) (1 + 2) 90º]

Difficulty : Moderate

Average Time : 36 Seconds

Options :

1. 1
2. 2
3. 3
4. 2/3

Solution

The correct answer is **option 2** i.e. **2**

Sin 90º = 1, Tan 45º = 1, Tan 60º = 3, Sec 30º = 2/3

tan ($_1$ + $_2$) = 3

or

tan ($_1$ + $_2$) = tan 60º

($_1$ + $_2$) = 60º .... (i)

Similarly,

Sec ($_1$ - $_2$) = 2/3

Sec ($_1$ - $_2$) = sec 30º

($_1$ - $_2$) = 30º ... (ii)

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Adding equation (i) and (ii)

$(_1 + _2) + (_1 - _2) = 60^o + 30^o$

$2_1 = 90^o$

$_1 = 45^o$

Put value of $_1$ in equation (i)

we get, $_2 = 60^o + 45^o = 15^o$

Now,

$[\sin (2 \times 45^o)] + [\tan (3 \times 15^o)]$

$\sin 90^o + \tan 45^o = 1 + 1 = 2$

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