

**CET-QUESTION BANK:
TRIGONOMETRY-**

First year syllabus: Functions of compound angles, functions of multiple and sub multiple angles, transformation formulae and properties of triangles.

1. $\tan 3x \text{ ó } \tan 2x \text{ ó } \tan x =$
 - 1) $\tan x \tan 2x \tan 3x$
 - 2) $-\tan x \tan 2x \tan 3x$
 - 3) $\tan x \tan 2x \text{ ó } \tan x \tan 3x \text{ ó } \tan 2x \tan 3x$
 - 4) $\tan x + \tan 2x + \tan 3x.$
2. The value of $\tan [\frac{1}{4} +] \text{ ó } \tan [\frac{1}{4} \text{ ó }] =$
 - 1) $\tan 2$
 - 2) $2 \tan$
 - 3) $2 \tan 2$
 - 4) none of these.
3. If $\cos [A + B] = 0$, then $\sin [A + 2B] =$
 - 1) $\text{ó } \sin A$
 - 2) $\cos A$
 - 3) $\sin B$
 - 4) $\text{ó } 2 \cot B.$
4. If $\sin A = 1 / \sqrt{5}$, $\cos B = 3 / \sqrt{10}$, where A, B are positive acute angles, then $A + B =$
 - 1) $\sqrt{6}$
 - 2) $\sqrt{4}$
 - 3) $\sqrt{3}$
 - 4) $\sqrt{2}.$
5. If $\sin \theta_1 + \sin \theta_2 + \sin \theta_3 = 3$, then $\cos \theta_1 + \cos \theta_2 + \cos \theta_3 =$
 - 1) 3
 - 2) 2
 - 3) 1
 - 4) 0
6. The value of $\sin [45^\circ + A] \cdot \cos [45^\circ - B] + \cos [45^\circ + A] \cdot \sin [45^\circ - B] =$
 - 1) $\cos [A + B]$
 - 2) $\cos [A \text{ ó } B]$
 - 3) $\sin [A + B]$
 - 4) $\sin [A \text{ ó } B].$
7. If $2 \sin A \cos B \sin C = \sin B \sin [A + C]$, then $\tan A, \tan B$ and $\tan C$ are in
 - 1) A.P
 - 2) G.P
 - 3) H.P
 - 4) A.G.P.
8. The value of $\cos^2 13^\circ \cos^2 47^\circ + \cos^2 73^\circ =$
 - 1) $1/2$
 - 2) $\text{ó } 1/2$
 - 3) $3/2$
 - 4) $-3/2$
9. If A, B and C are in A.P, then $\sin A \text{ ó } \sin C / \cos C \text{ ó } \cos A =$
 - 1) $\tan B$
 - 2) $\cot B$
 - 3) $\tan [B / 2]$
 - 4) $\cot [B / 2].$
10. $2 \sin^2 B + 4 \cos [A + B] \sin A \sin B + \cos 2 [A + B] =$
 - 1) $\cos 2B$
 - 2) $\cos 3B$
 - 3) $\cos 2A$
 - 4) $\cos 3A$
11. $\sin \frac{1}{18} \cdot \sin \frac{5}{18} \cdot \sin \frac{7}{18} =$
 - 1) $1/16$
 - 2) $1/4$
 - 3) $1/8$
 - 4) $1/6.$
12. $\tan 100^\circ + \tan 125^\circ + \tan 100^\circ \tan 125^\circ =$
 - 1) $\sqrt{3}$
 - 2) -1
 - 3) $1/\sqrt{3}$
 - 4) 1
13. In triangle ABC, $C = \frac{1}{2}$ then $\tan A + \tan B =$
 - 1) b^2 / ac
 - 2) $a + b$
 - 3) a^2 / bc
 - 4) $c^2 / ab.$
14. In a triangle ABC, $a = 13 \text{ cm}$, $b = 12 \text{ cm}$ and $c = 5 \text{ cm}$, the distance of A from BC is
 - 1) $144 / 13$
 - 2) $65 / 12$
 - 3) $60 / 13$
 - 4) $25 / 13$
15. If in triangle ABC, $\cos A \cos B + \sin A \sin B \sin C = 1$, then triangle is
 - 1) isosceles
 - 2) right angled
 - 3) isosceles right angled
 - 4) equilateral.
16. In a triangle ABC, if $C = 90^\circ$, then $[a^2 + b^2 / a^2 \text{ ó } b^2] \sin (A \text{ ó } B) =$
 - 1) 1
 - 2) $1/2$
 - 3) 2
 - 4) $-1.$
17. If $2 \sec 2A = \tan B + \cot B$, then the one of the values of $(A + B)$ is
 - 1) $\pi/2$
 - 2) $n \text{ ó } \pi/4$
 - 3) $\pi/4$
 - 4)
18. In triangle ABC, $\sin [A \text{ ó } B] / \sin [A + B] =$
 - 1) $b^2 \text{ ó } a^2 / c^2$
 - 2) $b^2 + a^2 / c^2$
 - 3) $a^2 \text{ ó } b^2 / c^2$
 - 4) $a + b / c^2.$
19. If in a triangle ABC, $(\sin A + \sin B + \sin C) (\sin A + \sin B \text{ ó } \sin C) = 3 \sin A \sin B$
Then
 - 1) $A = 60^\circ$
 - 2) $B = 60^\circ$
 - 3) $C = 60^\circ$
 - 4) $A = B = C = 60^\circ$
20. In a triangle ABC, $a \tan A + b \tan B = (a + b) \tan [A + B / 2]$, then
 - 1) $A = B$
 - 2) $B = C$
 - 3) $C = A$
 - 4) $A = B = C$

