UNITY TRAINING
ACADEMY FOR DDCET

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Practice Set 4 Solution

Trigonometry
MATERIAL

Topics : 1. Units of Angles (degree and radian) 2. Trigonometric Functions 3. Periods of Trigonometric functions 4. Allied & Compound Angles, Multiple –Submultiples angles 5. Sum and factor formula

DDCET final exam weightage of this topic : 3 Questions (6 Marks)

Total Practice sets of this topic : 8 (sets) x 25 (questions) = 200 Questions

Total Practice tests of this topic : 2 (exams) x 30 (questions) = 60 Questions

Offline / Online during lecture : 4 (lectures) X 50 (Questions) = 200 Question

DDCET 2025

Total 460 Questions to practice this topic

91739 04421

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Section 2: Topic 2: Trigonometry

1. If $\sec\theta = \frac{3}{2}$ and $0 < \theta < \frac{\pi}{2}$, then $\tan\theta =$ _____.

   a. $\frac{\sqrt{3}}{2}$
   b. 0
   c. $\frac{9}{4}$
   d. $\frac{\sqrt{5}}{2}$ ✓

2. If $\theta = \frac{7\pi}{4}$ then θ is in the _____ quadrant.

   a. First
   b. Third
   c. Second
   d. Fourth ✓

3. If $\tan\theta = \sqrt{2}$ and $\cos\theta = \frac{1}{\sqrt{3}}$ then θ is in the _____ quadrant.

   a. First ✓
   b. Third
   c. Second
   d. Fourth

4. $\sin 90^0 \cdot \sin 60^0 \cdot \sin 45^0 \cdot \sin 0^0 =$ _____.

   a. 0 ✓
   b. 1
   c. -1
   d. ½

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5. $\sin 27^0 \cos 33^0 + \cos 27^0 \sin 33^0 =$ _____.

   a. 1
   b. 0
   c. $\frac{\sqrt{3}}{2}$ ✓
   d. $-\frac{\sqrt{3}}{2}$

6. $\sin 120^0 \cos 30^0 - \cos 120^0 \sin 30^0 =$ _____.

   a. 1 ✓
   b. 0
   c. $\frac{\sqrt{3}}{2}$
   d. $-\frac{\sqrt{3}}{2}$

7. $\cos 90^0 \cos 60^0 + \sin 90^0 \sin 60^0 =$ _____.

   a. 1
   b. 0
   c. $\frac{\sqrt{3}}{2}$ ✓
   d. $\frac{1}{2}$

8. $\sin^{-1}(\cos \frac{\pi}{3}) =$ _____.

   a. $\frac{\pi}{3}$
   b. $\frac{\pi}{4}$
   c. $\frac{\pi}{2}$
   d. $\frac{\pi}{6}$ ✓

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9. $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ = _____. [DDCET -2024]

a. $\frac{2\pi}{3}$
b. $-\frac{\pi}{6}$
c. $\frac{5\pi}{3}$
d. $\frac{5\pi}{6}$ ✓

10. $\cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$ = _____

a. $\frac{3\pi}{4}$
b. $\frac{\pi}{4}$ ✓
c. $\frac{5\pi}{4}$
d. $-\frac{\pi}{4}$

11. If $\cos\theta + \sin\theta = \sqrt{2}$, then $\sin 2\theta$ = _____.

a. 1 ✓
b. 2
c. 3
d. -1

12. $\sin 20^0 + \sin 40^0$ = _____.

a. $\cos 10^0$ ✓
b. $\cos 20^0$
c. $-\cos 10^0$
d. $-\cos 20^0$

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Section 2: Topic 2: Trigonometry

13.If cos θ – sin θ=0, then sin2θ= _____.

a. 0
b. 1 ✓
c. −1
d. $\frac{1}{\sqrt{2}}$

14.Sin45^0+sin75^0=

a. $\sqrt{3}\cos 15^0$ ✓
b. $-\sqrt{3}\cos 15^0$
c. $\sqrt{2}\cos 15^0$
d. $-\sqrt{2}\cos 15^0$

15.If f(x) = log (tan x) then $f\left(\frac{\pi}{4}\right)$ = _____.

a. 1
b. 0 ✓
c. 1/2
d. -1

16.$\sin\frac{\pi}{8}+\sin\frac{9\pi}{8}$ = _____.

a. $\frac{\sqrt{3}}{2}$
b. 0 ✓
c. $\frac{1}{\sqrt{2}}$
d. $-\frac{\sqrt{3}}{2}$

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17.sin 150^0 = _____.

a. 1/ 2 ✓
b. -1 / 2
c. $\frac{1}{\sqrt{2}}$
d. $\frac{\sqrt{3}}{2}$

18.cot 225^0 = _____.

a. 1 / 2
b. -1 / 2
c. 1 ✓
d. -1

19.$\sin^2 30^0 + \sin^2 60^0$ = _____.

a. 1 ✓
b. -1
c. 0
d. -1/2

20.If sin(x) = 3/5 and x is in Quadrant II, what is cos(x)?

a. -4/5 ✓
b. 4/5
c. -3/5
d. 3/5

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21. What is the value of sin(2x) if sin(x) = 0.6 and cos(x) = 0.8?

a. 0.96 ✓
b. 0.48
c. 1.4
d. 0.36

22. Which of the following is NOT a valid identity?

a. tan(x) = sin(x)/cos(x)
b. $1 + \tan^2 x = \sec^2 x$
c. $\sin^2 x + \cos^2 x = 1$
d. sin(x) = 1/cos(x) ✓

23. If $\tan\theta = -\frac{12}{5}$ and $-\frac{3\pi}{2} < \theta < 2\pi$, then $\cos\theta$ = _____. [DDCET 2024]

a. $-\frac{12}{13}$
b. $\frac{12}{13}$
c. $\frac{5}{13}$ ✓
d. $-\frac{5}{13}$

24. If $\sin\theta = -\frac{3}{5}$ and $\pi < \theta < \frac{3\pi}{2}$, then $\tan\theta$ = _____.

a. $-\frac{4}{5}$
b. $\frac{3}{4}$ ✓
c. $\frac{4}{5}$
d. $-\frac{3}{4}$

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Section 2:

Topic 2: Trigonometry

25.If $\cos\theta = -\frac{1}{2}$ and $\frac{\pi}{2} < \theta < \pi$, then $\sin\theta =$ _____.

a. $\frac{\sqrt{3}}{2}$ ✓

b. 0

c. $\frac{1}{\sqrt{2}}$

d. $-\frac{\sqrt{3}}{2}$

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