



Practice Section-01



- Q.1** If $\cos 3x = -1$, where $0^\circ \leq x \leq 360^\circ$, then $x =$
 (1) $60^\circ, 180^\circ, 300^\circ$ (2) 180° (3) $60^\circ, 80^\circ$ (4) $180^\circ, 300^\circ$
- Q.2** If $\sin 3\theta = \sin \theta$, then the general value of θ is-
 (1) $2n\pi, (2n+1)\frac{\pi}{3}$ (2) $n\pi, (2n+1)\frac{\pi}{4}$ (3) $n\pi, (2n+1)\frac{\pi}{3}$ (4) None
- Q.3** If $2 \sin x \cos 2x = \sin x$, then the general solution of x is
 (1) $2n\pi \pm \frac{\pi}{2}$ (2) $2n\pi \pm \frac{\pi}{3}$ (3) $n\pi \pm \frac{\pi}{6}$ (4) $n\pi \pm \frac{\pi}{3}$
- Q.4** If $3 \tan^2 \theta - 2 \sin \theta = 0$, then θ is equal to
 (1) $\frac{n\pi}{4}$ (2) $n\pi + (-1)^n \frac{\pi}{6}$ (3) $n\pi + (-1)^n \frac{\pi}{3}$ (4) $n\pi + \frac{\pi}{3}$
- Q.5** General solutions of the equation $\sqrt{3} \sec 2\theta = 2$
 (1) $n\pi \pm \frac{\pi}{12}$ (2) $n\pi \pm \frac{\pi}{6}$ (3) $n\pi \pm \frac{\pi}{4}$ (4) $n\pi \pm \frac{\pi}{2}$
- Q.6** The solution of the equation $4 \cos^2 x + 6 \sin^2 x = 5$
 (1) $x = n\pi \pm \frac{\pi}{2}$ (2) $x = n\pi \pm \frac{\pi}{4}$ (3) $x = n\pi \pm \frac{3\pi}{2}$ (4) none of these
- Q.7** General solution of the equation $\tan^2 \theta = 3$ is-
 (1) $n\pi \pm \frac{\pi}{3}$ (2) $2n\pi \pm \frac{\pi}{3}$ (3) $n\pi + (-1)^n \frac{\pi}{3}$ (4) $2n\pi + (-1)^n \frac{\pi}{3}$
- Q.8** If $\sin^2 \theta = 1$, then which is not correct
 (1) $\theta = n\pi + \frac{\pi}{2} (n \in \mathbb{I})$ (2) $\theta = n\pi - \frac{\pi}{2} (n \in \mathbb{I})$ (3) $\theta = n\pi + \frac{\pi}{3} (n \in \mathbb{I})$ (4) $\theta = n\pi \pm \frac{\pi}{2} (n \in \mathbb{I})$



Practice Section-02



- Q.1** The general solution of the equation $\cos^3 x + \cos^2 x - 4\cos^2 \frac{x}{2} = 0$
 (1) $n\pi \forall n \in I$ (2) $2n\pi \forall n \in I$ (3) $(2n+1)\pi \forall n \in I$ (4) None of these
- Q.2** The general solution of the equation $\tan^2 \theta + 3\sec \theta + 3 = 0$
 (1) $2n\pi \pm \frac{2\pi}{3}, n \in I$ (2) $n\pi \pm \frac{\pi}{3} \forall n \in I$ (3) $n\pi \pm \frac{\pi}{9} \forall n \in I$ (4) $n\pi \pm \frac{\pi}{12} \forall n \in I$
- Q.3** The general solution of the equation $4\sin^2 \theta + 2\sin \theta (\sqrt{3}-1) - \sqrt{3} = 0$
 (1) $n\pi + (-1)^n \frac{\pi}{6}, n \in I$ (2) $n\pi + (-1)^n \frac{\pi}{12}, n \in I$ (3) $n\pi + (-1)^n \frac{\pi}{5}, n \in I$ (4) $n\pi + (-1)^n \frac{\pi}{4}, n \in I$
- Q.4** The general solution of the equation $\sin 7\theta = \sin 3\theta + \sin \theta$
 (1) $\frac{n\pi}{2}, n \in I$ (2) $\frac{n\pi}{3}, n \in I$ (3) $\frac{n\pi}{4}, n \in I$ (4) $n\pi, n \in I$
- Q.5** The general solution of the equation $1 + \cos 3x = 2\cos 2x$
 (1) $n\pi \pm \frac{\pi}{12}, n \in I$ (2) $n\pi \pm \frac{\pi}{6}, n \in I$
 (3) $n\pi \pm \frac{\pi}{4}, n \in I$ (4) $x \in \bigcup_{n \in I} \left[2n\pi - \frac{\pi}{6}, 2n\pi + \frac{\pi}{2} \right], n \in I$
- Q.6** The general solution of the equation $8\cos x \cos 2x \cos 4x = \frac{\sin 6x}{\sin x}$
 (1) $n\pi + \frac{\pi}{14}, n \in I$ (2) $\frac{n\pi}{7} + \frac{\pi}{14}, n \in I$
 (3) $\frac{n\pi}{6} + \frac{\pi}{12}, n \in I$ (4) $\frac{n\pi}{8} + \frac{\pi}{16}, n \in I$
- Q.7** Total number of solutions of equation $\sin x \cdot \tan 4x = \cos x$ belonging to $(-\pi, 2\pi)$ are :
 (1) 4 (2) 7 (3) 8 (4) 15
- Q.8** The general solution of the equation $2\cos 2x = 3.2\cos^2 x - 4$ is
 (1) $x = 2n\pi, n \in I$ (2) $x = n\pi, n \in I$ (3) $x = \frac{n\pi}{4}, n \in I$ (4) $x = \frac{n\pi}{2}, n \in I$
- Q.9** If $2\cos^2(\pi+x) + 3\sin(\pi+x)$ vanishes then the values of x lying in the interval from 0 to 2π are
 (1) $x = \frac{\pi}{6}$ or $\frac{5\pi}{6}$ (2) $x = \frac{\pi}{3}$ or $\frac{5\pi}{3}$
 (3) $x = \frac{\pi}{4}$ or $\frac{5\pi}{4}$ (4) $x = \frac{\pi}{2}$ or $\frac{5\pi}{2}$

Q.10 If $\frac{\cos 3\theta}{2 \cos 2\theta - 1} = \frac{1}{2}$, then θ is

(1) $\theta = n\pi + \frac{\pi}{3}$, $n \in I$

(2) $\theta = 2n\pi \pm \frac{\pi}{3}$, $n \in I$

(3) $\theta = 2n\pi \pm \frac{\pi}{6}$, $n \in I$

(4) $\theta = n\pi + \frac{\pi}{6}$, $n \in I$

Q.11 If $\cos 2\theta + 3 \cos \theta = 0$, then

(1) $\theta = 2n\pi \pm \alpha$ where $\alpha = \cos^{-1} \left(\frac{\sqrt{17}-3}{4} \right)$

(2) $\theta = 2n\pi \pm \alpha$ where $\alpha = \cos^{-1} \left(\frac{-\sqrt{17}-3}{4} \right)$

(3) $\theta = 2n\pi \pm \alpha$ where $\alpha = \cos^{-1} \left(\frac{\pm\sqrt{17}-3}{4} \right)$

(4) $\theta = 2n\pi \pm \alpha$ where $\alpha = \cos^{-1} \left(\frac{\sqrt{17}+3}{4} \right)$

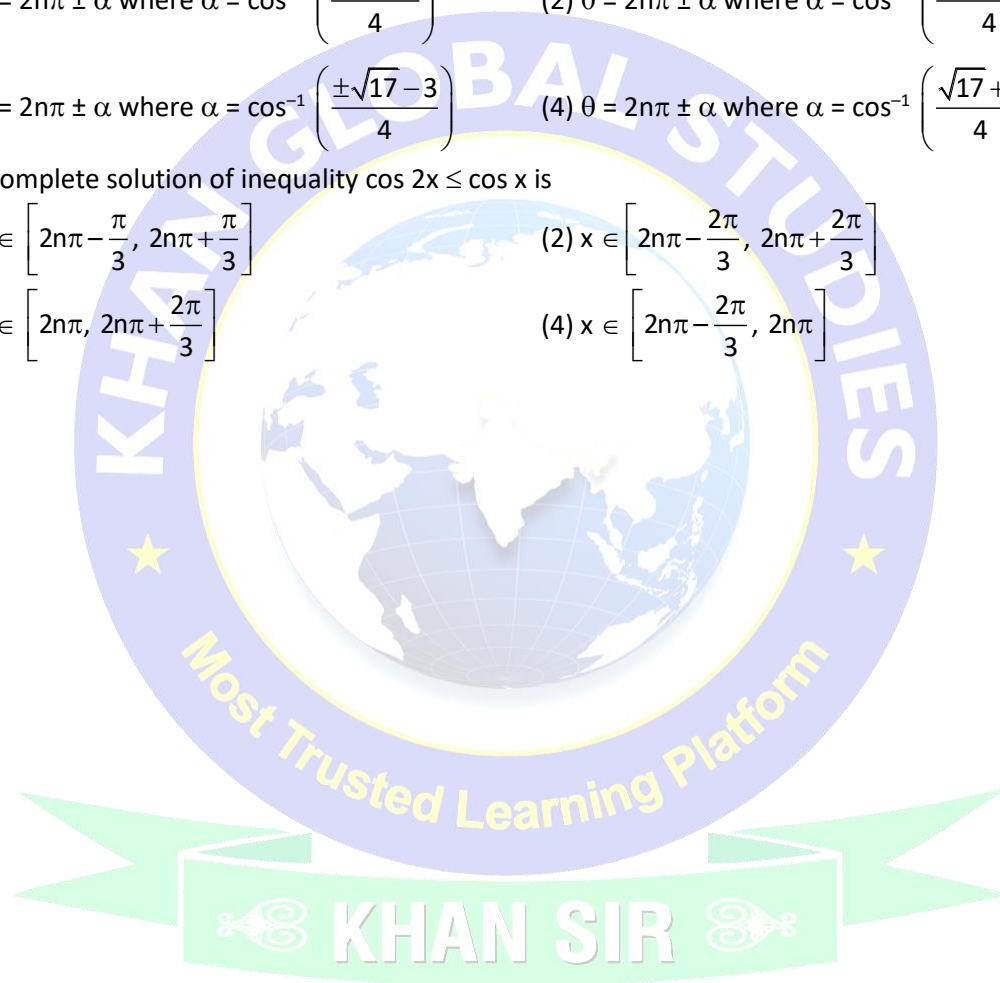
Q.12 The complete solution of inequality $\cos 2x \leq \cos x$ is

(1) $x \in \left[2n\pi - \frac{\pi}{3}, 2n\pi + \frac{\pi}{3} \right]$

(2) $x \in \left[2n\pi - \frac{2\pi}{3}, 2n\pi + \frac{2\pi}{3} \right]$

(3) $x \in \left[2n\pi, 2n\pi + \frac{2\pi}{3} \right]$

(4) $x \in \left[2n\pi - \frac{2\pi}{3}, 2n\pi \right]$



ANSWER KEY

PRACTICE SECTION-01

Que.	1	2	3	4	5	6	7	8
Ans.	1	2	3	2	1	2	1	3

PRACTICE SECTION-02

Que.	1	2	3	4	5	6	7	8	9	10	11	12
Ans.	3	1	1	2	2	2	4	1	1	2	1	2

