

CHAPTER-3
TRIGONOMETRIC FUNCTIONS
01 MARK TYPE QUESTIONS

Q. NO	QUESTION	MARK
1.	Which of the following is correct a) $\sin \sin 1^\circ > \sin \sin 1$ b) $\sin \sin 1^\circ < \sin \sin 1$ c) $\sin \sin 1^\circ = \sin \sin 1$ d) $\sin \sin 1^\circ = \frac{\pi}{180} \sin \sin 1$	1
2.	Which of the following is not correct? a) $\sin \sin \theta = -\frac{1}{5}$ b) $\cos \cos \theta = 1$ c) $\sec \sec \theta = \frac{1}{2}$ d) $\tan \tan \theta = 20$	1
3.	The value of $\cos \cos 1^\circ \cos \cos 2^\circ \cos \cos 3^\circ \dots \cos \cos 179^\circ$ is a) $\frac{1}{\sqrt{2}}$ b) 0 c) 1 d) -1	1
4.	If $f(x) = \cos^2 x + \sec^2 x$, then a) $f(x) < 1$ b) $f(x) = 1$ c) $2 < f(x) < 1$ d) $f(x) \geq 2$	1
5.	If $\sin \sin x + \operatorname{cosec} x = 2$, then $\sin^n x + \operatorname{cosec}^n x$ is equal to a) 2 b) 2^n c) 2^{n-1} d) 2^{n-2}	1
6.	If $\tan \tan \theta = \frac{a}{b}$, then $b \cos \cos 2\theta + a \sin \sin 2\theta =$ a) a b) b c) b/a d) none of these	1
7.	Number of solutions of the equation $\tan \tan x + \sec \sec x = 2 \cos \cos x$, lying in the interval $[0, 2\pi]$ is a) 0 b) 1 c) 2 d) 3	1
8.	What is the angular elevation of the sun when the shadow of a 10m long pole is $10\sqrt{3}$ meters? a) 45° b) 30° c) 60° d) None of these	1
9.	At a certain instant the ratio of the lengths of a pillar and its shadow are in the ratio $1:\sqrt{3}$. At that instant, the angle of elevation of the sun is	1

	a) 30° b) 45° c) 60° d) None of these	
10.	If ΔABC is right angled at C, then $\cos A \cos B = ?$ a) 0 b) $\frac{1}{2}$ c) 1 d) $\frac{\sqrt{3}}{2}$	1
11.	Which of the following is the correct value of $\cot 10^\circ \cdot \cot 20^\circ \cdot \cot 60^\circ \cdot \cot 70^\circ \cdot \cot 80^\circ$? . a. $\frac{1}{\sqrt{3}}$ b. $\sqrt{3}$ c. -1 d. 1	1
12.	What is the value of $\frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta}$? . a. $\tan \theta + \cot \theta + 1$ b. $\tan \theta - \cot \theta - 1$ c. $\tan \theta - \cot \theta + 1$ d. None of the above	1
13.	What is the value of $(\tan^2 \theta - \sec^2 \theta)$? . a. 2 b. -1 c. 1 d. None of the above	1
14.	What is the value of $(\sin 30^\circ + \cos 60^\circ) - (\sin 60^\circ + \cos 30^\circ)$? . a. $1 + \sqrt{2}$ b. $1 + 2\sqrt{2}$ c. $1 + \sqrt{3}$ d. $1 + 2\sqrt{3}$	1
15.	If the value of $\tan 9^\circ = p/q$, then what is the value of $\sec^2 81^\circ / 1 + \cot^2 81^\circ$? . a. p^2/q^2 b. 1 c. q^2/p^2 d. None of the above	1

16.	Minute hand of a clock gains _____ on hour hand in one minute. (a) $5^{\circ}30'$ (b) 59° (c) $5^{\circ}50'$ (d) 360°	1
17.	$45^{\circ}30'$ is equal to a) 95° b) $\left(\frac{46}{2}\right)^{\circ}$ c) $\left(\frac{91}{2}\right)^{\circ}$ d) 50°	1
18.	If the value of $\sin(\theta + 30^{\circ})$ is $\frac{3}{\sqrt{12}}$, then what is the value of $\cos^2 \theta$? . a. $\frac{3}{4}$ b. $\frac{4}{3}$ c. $\frac{1}{4}$ d. None of the above	1
19.	In circular system, the unit of measurement of an angle is a a) degree b) radian c) minute d) second	1
20.	If the arcs of the same length of two circles subtend 75° and 140° at the centre, then the ratio of the radii of the circles is a) $\frac{3}{4}$ b) $\frac{4}{3}$ c) $\frac{\sqrt{3}}{2}$ d) $\frac{9}{16}$	1
21.	Which of the following is correct? (i) $\sin 1^{\circ} > \sin 1$ (ii) $\sin 1^{\circ} < \sin 1$ (iii) $\sin 1^{\circ} = \sin 1$ (iv) $\sin 1^{\circ} = \frac{\pi}{180} \sin 1$	1
22.	The value of $\sin 50^{\circ} - \sin 70^{\circ} + \sin 10^{\circ}$ is (i) 0 (ii) 1 (iii) 0.5 (iv) 2	1
23.	If $\sin \theta + \operatorname{cosec} \theta = 3$, then $\sin^2 \theta + \operatorname{cosec}^2 \theta$ is equal to (i) 2 (ii) 0 (iii) 1	1

	(iv) 4	
24.	The value of $\frac{\sin 130^\circ}{\sin 220^\circ}$ is (i) 1 (ii) -1 (iii) 0 (iv) Not defined	1
25.	The value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$ is (i) 0 (ii) $\frac{1}{2}$ (iii) 1 (iv) $\frac{\sqrt{3}}{2}$	1
26.	The value of $\sin \frac{\pi}{12} + \cos \frac{\pi}{12}$ is (i) 0.5 (ii) 1 (iii) -0.5 (iv) $\sqrt{\frac{3}{2}}$	1
27.	The value of $\tan 15^\circ + \cot 15^\circ$ is (i) 4 (ii) 3 (iii) 2 (iv) 1	1
28.	If $\tan \theta = \frac{1}{2}$ and $\tan \phi = \frac{1}{3}$, then the value of $\tan(\theta - \phi)$ is (i) 1 (ii) 0 (iii) $\frac{1}{7}$ (iv) $\frac{6}{7}$	1
29.	If $\sec x = \frac{13}{5}$, x lies in fourth quadrant, then $\sin x$ is (i) $\frac{5}{13}$ (ii) $\frac{-5}{13}$ (iii) $\frac{12}{13}$ (iv) $\frac{-12}{13}$	1
30.	The value of $\tan 480^\circ$ or $\tan \frac{8\pi}{3}$ is (i) $\sqrt{3}$ (ii) $-\sqrt{3}$ (iii) $\frac{1}{\sqrt{3}}$	1

	(iv) $-\frac{1}{\sqrt{3}}$	
31.	Find the value of $\tan(-16\pi/3)$. i) $\sqrt{3}$ b) $-\sqrt{3}$, c) $\sqrt{2}$ d) $-\sqrt{2}$	1
32.	The minute hand of a watch is 7 cm. How far does it tip move in 30 minutes? a)21cm b)19cm c)22cm d) None of the above	1
33.	The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 89^\circ$ is (a) 0 (b) 1 (c) $\frac{1}{2}$ (d) Not defined	1
34.	Find the greatest value of $\sin x \cos x$. a)0.3 b)0.2 c)0.5 d)0.6	1
35.	Find the value of $(\cot^2 15^\circ - 1) / (\cot^2 15^\circ + 1)$. a) $\frac{\sqrt{3}}{2}$ b) $\frac{\sqrt{3}}{3}$ c) $\frac{\sqrt{3}}{4}$ d) $\frac{\sqrt{3}}{1}$	1
36.	Find the value of $\cos 10^\circ + \cos 110^\circ + \cos 130^\circ$ a)-1 b)0 c) 1 d)none of the above	1
37.	If $A+B+C = \pi$, then what is $\cos(A+B) + \cos C$ a) 0 b) 1 c)2 d)-1	1
38.	1. Convert $-40^\circ 20'$ into radian measure. a) $\frac{121\pi}{540}$ b) $\frac{121\pi}{240}$ c) $\frac{120\pi}{540}$ d) $\frac{122\pi}{540}$	1
39.	If $\sin A + \sin B + \sin C = 3$ then find $\cos A + \cos B + \cos C$. a)-1 b)0 c)1 d)-2	1
40.	10. Find the radius of the circle in which a central angle of 90° intercepts an arc of length 22cm.(use $\pi = 22/7$). a)12cm b)10 cm c)13cm d)14cm	1

ANSWERS:

Q. NO	ANSWER	MARKS
1.	b)	1
2.	c)	1
3.	b)	1
4.	d)	1
5.	a)	1
6.	b)	1
7.	c)	1
8.	b)	1
9.	a)	1
10.	a)	1
11.	a	1
12.	a	1
13.	b	1
14.	c	1
15.	c	1
16.	a	1
17.	c	1
18.	a	1
19.	b	1
20.	a	1
21.	(ii)	1
22.	(i)	1
23.	(iii)	1
24.	(ii)	1
25.	(iv)	1
26.	(iv)	1
27.	(i)	1
28.	(iii)	1
29.	(iv)	1
30.	(ii)	1
31.	B	1
32.	C	1
33.	B	1
34.	C	1
35.	A	1
36.	b	1
37.	A	1
38.	A	1
39.	B	1

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