CHAPTER-3

TRIGONOMETRIC FUNCTIONS

01 MARK TYPE QUESTIONS

Q. NO	QUESTION	MARK
1.	Which of the following is correct a) $sin\, sin\, 1° > sin\, sin\, 1$ b) $sin\, sin\, 1° < sin\, sin\, 1$ c) $sin\, sin\, 1° = sin\, sin\, 1$ d) $sin\, sin\, 1° = \frac{\pi}{180} sin\, sin\, 1$	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 $cos\, cos\, 1° \, cos\, cos\, 2° \, cos\, cos\, 3°$ ....$cos\, cos\, 179°$ 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)≥2	1
5.	If $sin\, sin\, x$ +cosecx=2 , then $\sin^n x+\text{cosec}^n x$ 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 [0,2π] 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 $cos\ cos\ (A+B)$ =? a) 0 b) ½ c) 1 d) $\frac{\sqrt{3}}{2}$	1
11.	Which of the following is the correct value of cot 10^0.cot 20^0.cot 60^0.cot 70^0.cot 80^0? . 1/√3 a. √3 b. -1 c. 1	1
12.	What is the value of tan θ/(1 - cot θ) + cot θ/(1 - tan θ)? . tan θ + cot θ + 1 a. tan θ - cot θ - 1 b. tan θ - cot θ + 1 c. None of the above	1
13.	What is the value of ($\tan^2$ θ - $\sec^2$ θ)? . 2 a. -1 b. 1 c. None of the above	1
14.	What is the value of (sin 30^0 + cos 60^0) - (sin 60^0 + cos 30^0)? . 1 + √2 a. 1 + 2√2 b. 1 + √3 c. 1 + 2√3	1
15.	If the value of tan 9^0 = p/q, then what is the value of $\sec^2 81^0$/ 1 + $\cot^2 81^0$? . p^2/q^2 a. 1 b. q^2/p^2 c. None of the above	1

16.	Minute hand of a clock gains _____ on hour hand in one minute. (a) 5°30′ (b) 59° (c) 5°50′ (d) 360°	1
17.	$45^0 30' \; is \; equal \; to$ $a)\ 95^0 \qquad b)\ \left(\frac{46}{2}\right)^0 \qquad c)\ \left(\frac{91}{2}\right)^0 \qquad d) 50^0$	1
18.	If the value of $\sin(\theta + 30^0)$ is $3/\sqrt{12}$, then what is the value of $\cos^2 \theta$? . 3/4 a. 4/3 b. 1/4 c. 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 $75^0 \; and \; 140^0 \; at \; the \; centre, then \; the \; ratio \; of \; the \; radii$ of the circles is a) 3/4 b) 4/3 c) $\sqrt{3}/2$ d) 9/16	1
21.	Which of the following is correct? (i) $\sin 1^0 > \sin 1$ (ii) $\sin 1^0 < \sin 1$ (iii) $\sin 1^0 = \sin 1$ (iv) $\sin 1^0 = \frac{\pi}{180} \sin 1$	1
22.	The value of $sin\ 50^0 - sin 70^0 + sin 10^0$ is (i) 0 (ii) 1 (iii) 0.5 (iv) 2	1
23.	If $\sin\theta + cosec\theta = 3, then \; sin^2\theta + cosec^2\theta \; is \; equal \; to$ (i) 2 (ii) 0 (iii) 1	1

	(iv) 4	
24.	The value of $\frac{sin130^0}{sin220^0}$ is (i) 1 (ii) -1 (iii) 0 (iv) Not defined	1
25.	The value of $\frac{1-tan^2 15^0}{1+tan^2 15^0}$ 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 $\tan 15^0 + \cot 15^0\ is$ (i) 4 (ii) 3 (iii) 2 (iv) 1	1
28.	If $tan\theta = \frac{1}{2}\ and\ tan\emptyset = \frac{1}{3}$, *then the value of* $\tan(\theta - \emptyset)\ is$ (i) 1 (ii) 0 (iii) $\frac{1}{7}$ (iv) $\frac{6}{7}$	1
29.	If $secx = \frac{13}{5}$, $x\ lies\ in\ fourth\ quadrant$, $then\ sinx\ is$ (i) $\frac{5}{13}$ (ii) $\frac{-5}{13}$ (iii) $\frac{12}{13}$ (iv) $\frac{-12}{13}$	1
30.	The value of $\tan 480^0$ 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(-16π/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° tan 2° tan 3° … tan 89° is** (a) 0 (b) 1 (c) ½ (d) Not defined	1
34.	Find the greatest value of sinxcosx. a)0.3 b)0.2 c)0.5 d)0.6	1
35.	Find the value of $(\cot^2 15^o - 1) / (\cot^2 15^o + 1)$. 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 $\cos 10^o + \cos 110^o + \cos 130^o$ a)-1 b)0 c) 1 d)none of the above	1
37.	If A+B+C= π,then what is cos(A+B) +cosC a) 0 b) 1 c)2 d)-1	1
38.	1. Convert $-40^o 20'$ 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 sinA+sinB+sinC =3 then find cosA+cosB+cosC. a)-1 b)0 c)1 d)-2	1
40.	10. Find the radius of the circle in which a central angle of 90^o intercepts an arc of length 22cm.(use π= 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

40.	D	1