

MULTIPLE CHOICE QUESTIONS (MCQ'S)

1. $f(\theta) = \sin\theta$, then Domain of $f(\theta)$ is _____.
(a) \mathbb{R}^+ (b) \mathbb{R}^- (c) \mathbb{R} (d) \mathbb{N}
2. $f(\theta) = \sin\theta$, then Range of $f(\theta)$ is _____.
(a) $-1 \leq \sin\theta \leq 1$ (b) $-1 < \sin\theta < 1$
(c) \mathbb{R} (d) \mathbb{R}^+
3. $f(\theta) = \cos\theta$, then Domain of $f(\theta)$ is _____.
(a) \mathbb{R}^+ (b) \mathbb{R}^- (c) \mathbb{N} (d) \mathbb{R}
4. $f(\theta) = \cos\theta$, then Range of $f(\theta)$.
(a) $-1 < \sin\theta < 1$ (b) $-1 \leq \sin\theta \leq 1$
(c) \mathbb{R} (d) \mathbb{R}^+
5. $f(\theta) = \tan\theta$, then Domain of $f(\theta)$ is _____.
(a) $\mathbb{R} - \left\{ \frac{n\pi}{2} \mid n \text{ is odd integer} \right\}$
(b) $\mathbb{R} - \left\{ \frac{n\pi}{2} \mid n \text{ is even integer} \right\}$
(c) $\mathbb{R} - \{ n\pi \mid n \text{ is odd integer} \}$
(d) $\mathbb{R} - \{ n\pi \mid n \text{ is even integer} \}$
6. $f(\theta) = \tan\theta$ then Range of $f(\theta)$ is _____.
(a) $-1 \leq \tan\theta \leq 1$ (b) $-1 < \tan\theta < 1$
(c) \mathbb{R}^+ (d) \mathbb{R}
7. $f(\theta) = \sec\theta$, then Domain of $f(\theta)$ is _____.
(a) $\mathbb{R} - \left\{ \frac{n\pi}{2} \mid n \text{ is even integer} \right\}$
(b) $\mathbb{R} - \left\{ \frac{n\pi}{2} \mid n \text{ is odd integer} \right\}$
(c) $\mathbb{R} - \{ n\pi \mid n \text{ is odd integer} \}$
(d) $\mathbb{R} - \{ n\pi \mid n \text{ is even integer} \}$
8. $f(\theta) = \sec\theta$, then Range of $f(\theta)$ is _____.
(a) $\sec\theta \geq 1$ or $\sec\theta \leq -1$ (b) $\sec\theta \geq 1$ and $\sec\theta \leq -1$
(c) $\sec\theta \geq 0$ or $\sec\theta \leq 0$ (d) $\sec\theta \geq 0$ or $\sec\theta \leq 0$
9. $f(\theta) = \csc\theta$, then Domain of $f(\theta)$ is _____.
(a) $\mathbb{R} - \left\{ \frac{n\pi}{2} \mid n \text{ is odd integer} \right\}$
(b) $\mathbb{R} - \{ n\pi \mid n \text{ is odd integer} \}$

- (c) $R - \{ n\pi \mid n \text{ is even integer} \}$
 (d) $R - \left\{ \frac{n\pi}{2} \mid n \text{ is even integer} \right\}$
10. $f(\theta) = \operatorname{Cosec}\theta$, then Range of $f(\theta)$ is _____.
 (a) $\operatorname{Cosec}\theta \geq 1$ or $\operatorname{Cosec}\theta \leq -1$
 (b) $\operatorname{Cosec}\theta \geq 1$ and $\operatorname{Cosec}\theta \leq 1$
 (c) $\operatorname{Cosec}\theta \geq 0$ and $\operatorname{Cosec}\theta \leq 0$
 (d) $R - \{ x \mid -1 < x < 1 \}$
11. $f(\theta) = \operatorname{Cot}\theta$, then Domain of $f(\theta)$ is _____.
 (a) $R - \left\{ \frac{n\pi}{2} \mid n \text{ is odd integer} \right\}$
 (b) $R - \left\{ \frac{n\pi}{2} \mid n \text{ is even integer} \right\}$
 (c) $R - \{ n\pi \mid n \text{ is odd integer} \}$
 (d) $R - \{ n\pi \mid n \text{ is even integer} \}$
12. $f(\theta) = \operatorname{Cot}\theta$, then Range of $f(\theta)$ is _____.
 (a) $-1 \leq \operatorname{Cot}\theta \leq 1$ (b) $-1 < \operatorname{Cot}\theta < 1$
 (c) R (d) R^+
13. Sine is a periodic function and its period is _____.
 (a) π (b) 2π (c) 3π (d) 0
14. Cosine is a periodic function and its period is _____.
 (a) π (b) 4π (c) 3π (d) 2π
15. Tangent is a periodic function and its period is _____.
 (a) π (b) 2π (c) $\frac{\pi}{2}$ (d) 3π
16. Cotangent is a periodic function and its period is _____.
 (a) π (b) 2π (c) $\frac{\pi}{2}$ (d) 3π
17. Secant is a periodic function and its period is _____.
 (a) π (b) 2π (c) 3π (d) 4π
18. Cosecant is a periodic function and its period is _____.
 (a) π (b) 4π (c) 2π (d) 3π
19. The period of $\sin 2x$ is _____.
 (a) π (b) 2π (c) $\frac{\pi}{2}$ (d) $\frac{\pi}{3}$
20. The period of $\cos 2x$ is _____.
 (a) π (b) 2π (c) 3π (d) $\frac{\pi}{4}$

21. The period of $\tan \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 0
22. The period of $2\cos x$ is _____.
 (a) π (b) 2π (c) 3π (d) 4π
23. The period of $3\sin x$ is _____.
 (a) π (b) 2π (c) 3π (d) $\frac{\pi}{2}$
24. The period of $(\sin x + \cos x)$ is _____.
 (a) π (b) 4π (c) 3π (d) 2π
25. The period of $(\tan x + \cos x)$ is _____.
 (a) π (b) 2π (c) 3π (d) 4π
26. While drawing the graphs of trigonometric functions values of θ is taken along _____.
 (a) y-axis (b) x-axis (c) Vertex (d) Diameter
27. While drawing the graphs of trigonometric function values of trigonometric function is taken along _____.
 (a) x-axis (b) Diameter (c) y-axis (d) Vertex
28. The greatest and least values of $\cos(-\theta)$ is _____.
 (a) 1 and -1 (b) $\frac{1}{2}$ and $-\frac{1}{2}$ (c) 2 and -2 (d) 3 and -3
29. The greatest and least values of $\sin(-\theta)$ is _____.
 (a) 2 and -2 (b) $\frac{1}{2}$ and $-\frac{1}{2}$ (c) 3 and -3 (d) 1 and -1
30. The period of $\frac{1}{2} \sin 2x$ is _____.
 (a) 2π (b) 4π (c) π (d) $\frac{\pi}{2}$
31. The period of $\sin \frac{x}{2} + \cos \frac{x}{4}$ is _____.
 (a) $\frac{\pi}{4}$ (b) 4π (c) 2π (d) π
32. The period of $\tan 3x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) 2π (d) π
33. For any integer n , $\sin(2n\pi + \theta)$ is _____.
 (a) $\cos \theta$ (b) $\tan \theta$ (c) $\sec \theta$ (d) $\sin \theta$
34. For any integer n , $\cos(2n\pi + \theta)$ is _____.
 (a) $\tan \theta$ (b) $\operatorname{Cosec} \theta$ (c) $\cos \theta$ (d) $\sec \theta$

35. The period of $\frac{1}{2} \sin 3x$ is _____.
 (a) π (b) 2π (c) $\frac{2\pi}{3}$ (d) $\frac{3\pi}{2}$
36. The period of $\tan 5x$ is _____.
 (a) π (b) $\frac{\pi}{4}$ (c) $\frac{2\pi}{3}$ (d) $\frac{\pi}{5}$
37. The period of $\sec \frac{2x}{3}$ is _____.
 (a) $\frac{2\pi}{3}$ (b) 3π (c) π (d) 2π
38. The period of $\cos 3x$ is _____.
 (a) 6π (b) $\frac{2\pi}{3}$ (c) 2π (d) 3π
39. The dashed lines are vertical _____ in the graphs of $\tan x$, $\cot x$, $\sec x$ and $\csc x$.
 (a) Asymptotes (b) Major axis
 (c) Minor axis (d) Diameter
40. The trigonometric functions are periodic so their curves respects _____ interval.
 (a) Semi (b) before
 (c) fixed (d) None of these
41. Trigonometric functions are _____.
 (a) Continuous (b) discontinuous
 (c) Open interval (d) fixed
42. The graph of trigonometric functions will be _____ curves.
 (a) Rough (b) Line
 (c) Smooth (d) None of these
43. _____ of a trigonometric function is the smallest +ve number which when added to the original circular measure of the angle, gives the same value of the function.
 (a) Periodicity (b) Period
 (c) Domain (d) None of these
44. From the graphs of trigonometric functions we can check their _____ and ranges.
 (a) Smooth, Rough (b) Domain, Range
 (c) Continuous, Discontinuous (d) None of these

45. By making use of the periodic property, each one of these graphs can be extended on the left as well as on the right side of x -axis depending upon the _____ of the function.
 (a) period (b) Line
 (c) Domain (d) None of these
46. The values of trigonometric function for θ and $\theta \pm 2n\pi$ where $\theta \in \mathbb{R}$ and $n \in \mathbb{Z}$ are the same. This behaviour of trigonometric function is called _____.
 (a) Viscosity (b) periodicity
 (c) lagamity (d) None of these
47. A function $f(x)$ is said to be the periodic function if, for all x in the domain of f , there exists a smallest positive number p such that $f(x+p) =$ _____.
 (a) $f(p)$ (b) 0 (c) p (d) $f(x)$
48. If, for all x in the domain of f there exists a smallest positive number p such that $f(x+p) = f(x)$ then p is the _____.
 (a) Period of $f(x)$ (b) period of $f(2x)$
 (c) period of $f(3x)$ (d) period of $f(4x)$
49. The graph of $f(x) = A \sin x$ the number $|A|$ is the _____.
 (a) period (b) Altitude
 (c) Magnitude (d) Amplitude
50. What is the amplitude of $5 \sin x$.
 (a) 6 (b) 5 (c) 4 (d) 0
51. What is the amplitude of $-6 \cos x$.
 (a) 0 (b) -6 (c) 5 (d) 6
52. The period of $\tan 2x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π
53. The period of $\cot 2x$ is _____.
 (a) $\frac{\pi}{2}$ (b) $\frac{\pi}{3}$ (c) $\frac{2\pi}{3}$ (d) π
54. The period of $\sec 2x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π
55. The period of $\csc 2x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π

56. The period of $3\sin 3x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π
57. The period of $\cot 3x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π
58. The period of $\tan 4x$ is _____.
 (a) $\frac{\pi}{4}$ (b) $\frac{\pi}{2}$ (c) π (d) 2π
59. The period of $\sec 3x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) $\frac{2\pi}{3}$ (d) π
60. The period of $\operatorname{cosec} 3x$ is _____.
 (a) $\frac{\pi}{3}$ (b) $\frac{\pi}{2}$ (c) π (d) $\frac{2\pi}{3}$
61. The period of $\sin \frac{x}{2}$ is _____.
 (a) 2π (b) 4π (c) π (d) 5π
62. The period of $3 \sin \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 6π
63. The period of $\tan \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 4π
64. The period of $\cot \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 4π
65. The period of $\sec \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 6π
66. The period of $\operatorname{cosec} \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 6π
67. The period of $3\cos \frac{x}{3}$ is _____.
 (a) π (b) 6π (c) 2π (d) 3π

68. The period of $3\tan \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 4π
69. The period of $3\cot \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 4π (d) 3π
70. The period of $3\sec \frac{x}{3}$ is _____.
 (a) π (b) 6π (c) 3π (d) 2π
71. The period of $15 \operatorname{cosec} \frac{x}{3}$ is _____.
 (a) π (b) 2π (c) 3π (d) 6π
72. The period of $15 \operatorname{cosec} \frac{x}{5}$ is _____.
 (a) 30π (b) 10π (c) 15π (d) 2π
73. The period of $15 \sin \frac{x}{15}$ is _____.
 (a) 30π (b) 15π (c) 10π (d) 5π
74. The period of $3 \cos \frac{x}{5}$ is _____.
 (a) 10π (b) $\frac{2\pi}{5}$ (c) 2π (d) 0
75. All the Six trigonometric function repeat their values of each increase or decrease.
 (a) π in θ (b) 2π in θ (c) $\frac{\pi}{2}$ in θ (d) $\frac{3\pi}{2}$ in θ
76. The values of trigonometric function for θ and $\theta \pm 2n\pi$ where $\theta \in \mathbb{R}$ and $n \in \mathbb{Z}$ are
 (a) Same (b) different
 (c) 0 (d) does not exist
77. The function which repeats itself after equal interval is called _____.
 (a) Time function (b) periodic function
 (c) Work function (d) None of these
78. The Smallest number P that indicates the distance between the points at the beginning and end of each cycle is called _____ of function.
 (a) period (b) Amplitude
 (c) Modulus (d) None of these

79. The Complete graph of a trigonometric function is _____ series.

- (a) A finite (b) An Infinite
(c) A time (d) None of these

80. The function $y = \frac{1}{5} \cos 3x$ varies between _____

- (a) $\frac{1}{3}$ and $-\frac{1}{3}$ (b) $-\frac{3}{5}$ and $\frac{3}{5}$
(c) $-\frac{1}{5}$ and $\frac{1}{5}$ (d) None of these

81. The function $y = \frac{1}{3} \sin 2x$ varies between _____

- (a) -2 and 2 (b) $-\frac{1}{3}$ and $\frac{1}{3}$
(c) -6 and 6 (d) None of these

82. The function $y = \frac{2}{3} \cos 5x$ varies between _____

- (a) -3 and 3 (b) -2 and 2
(c) $-\frac{2}{3}$ and $\frac{2}{3}$ (d) None of these

83. The function $y = \frac{1}{2} \cos 3x$ varies between _____

- (a) 1 and -1 (b) $-\frac{1}{2}$ and $\frac{1}{2}$
(c) $-\frac{1}{3}$ and $\frac{1}{3}$ (d) None of these

84. The function $y = \frac{1}{7} \sin 6x$ varies between _____

- (a) $-\frac{1}{7}$ and $\frac{1}{7}$ (b) $-\frac{1}{7}$ and $\frac{1}{7}$
(c) 3 and -3 (d) None of these

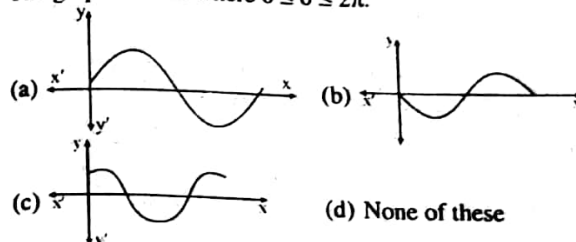
85. The function $y = \frac{1}{6} \sin 5x$ varies between _____

- (a) -6 and 6 (b) -1 and 1
(c) $-\frac{1}{6}$ and $\frac{1}{6}$ (d) None of these

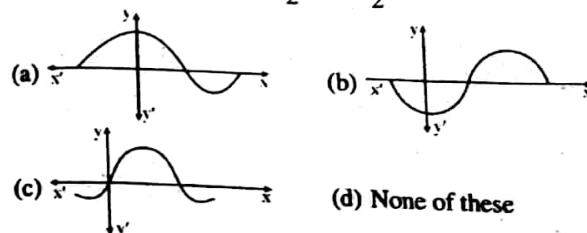
Chapter 11 # Graphs of Trigonometric functions

915

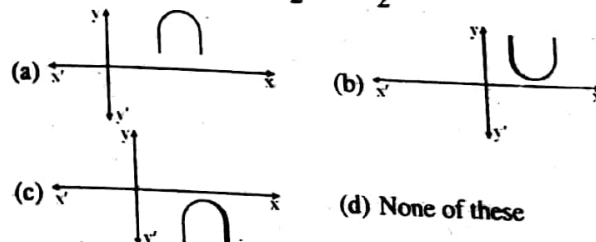
86. The graph of $\sin \theta$ where $0 \leq \theta \leq 2\pi$.



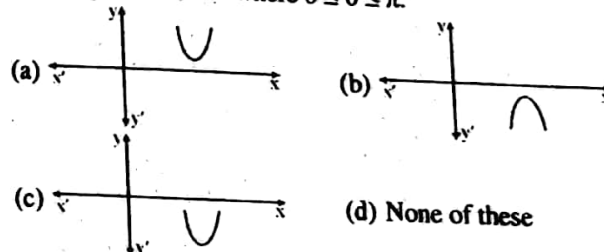
87. The graph of $\cos \theta$ where $-\frac{\pi}{2} \leq \theta \leq \frac{3\pi}{2}$.



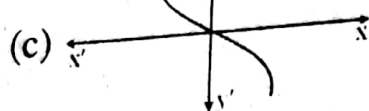
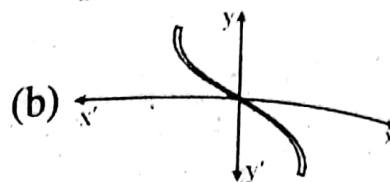
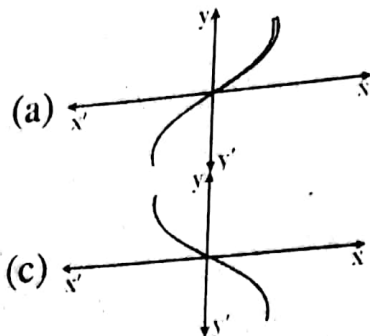
88. The graph of $\sec \theta$ where $-\frac{\pi}{2} \leq \theta \leq \frac{3\pi}{2}$.



89. The graph of $\operatorname{Cosec} \theta$ where $0 \leq \theta \leq \pi$.

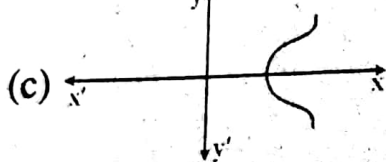
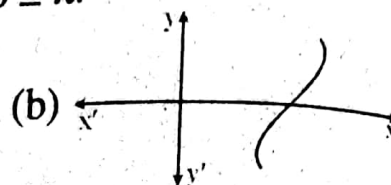
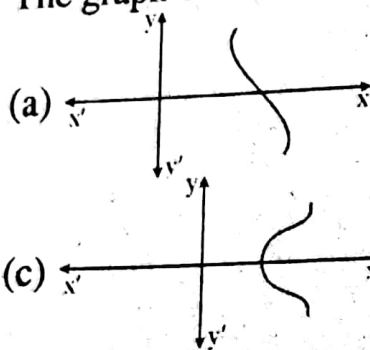


90. The graph of $\tan \theta$ where $-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$.



(d) None of these

91. The graph of $\cot \theta$ where $0 \leq \theta \leq \pi$.



(d) None of these

Answers

1.	c	2.	a	3.	d	4.	b	5.	a
6.	d	7.	b	8.	a	9.	d	10.	a
11.	b	12.	c	13.	b	14.	d	15.	a
16.	a	17.	b	18.	c	19.	a	20.	a
21.	c	22.	b	23.	b	24.	d	25.	a
26.	b	27.	c	28.	a	29.	d	30.	c
31.	b	32.	a	33.	d	34.	c	35.	c
36.	d	37.	b	38.	b	39.	a	40.	c
41.	a	42.	c	43.	b	44.	b	45.	a
46.	b	47.	d	48.	a	49.	d	50.	b
51.	d	52.	b	53.	a	54.	d	55.	d
56.	c	57.	a	58.	a	59.	c	60.	d
61.	b	62.	d	63.	c	64.	c	65.	d
66.	d	67.	b	68.	c	69.	d	70.	b
71.	d	72.	b	73.	a	74.	a	75.	b
76.	a	77.	b	78.	a	79.	b	80.	c
81.	b	82.	c	83.	b	84.	b	85.	c
86.	a	87.	a	88.	c	89.	a	90.	a
91.	a								