

Seat No. \_\_\_\_\_

Enrolment No.: \_\_\_\_\_

# Gujarat Technological University

## Diploma Engineering C to D Bridge Course Examination

**Subject Code: C300001****Date: 18/05/2016****Subject Name: Basic Mathematics****Time: 02.30 PM TO 04:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumption wherever necessary.
3. Each question is of 1 mark.
4. Use of SIMPLE CALCULATOR is permissible. (Scientific/Higher Version not allowed)
5. English version is authentic.

No.	Question Text and Option. પૂછી અને વિકલ્પો.			
1.	$\log_3(1/9) = \underline{\hspace{2cm}}$			
	A.	0	B.	-2
	C.	2	D.	1/3
2.	$\log_3(1/9) = \underline{\hspace{2cm}}$			
	A.	0	B.	-2
	C.	2	D.	1/3
3.	$\log_8 16 = \underline{\hspace{2cm}}$			
	A.	2	B.	3/4
	C.	1	D.	4/3
4.	$\log_8 16 = \underline{\hspace{2cm}}$			
	A.	2	B.	3/4
	C.	1	D.	4/3
5.	If $\log_5 125 = x$ , then $x = \underline{\hspace{2cm}}$			
	A.	3	B.	-2
	C.	2	D.	1
6.	$\log_y x^2 \cdot \log_x y^3 = \underline{\hspace{2cm}}$			
	A.	3	B.	-2
	C.	2	D.	1
7.	$\log_y x^2 \cdot \log_x y^3 = \underline{\hspace{2cm}}$			
	A.	3	B.	5
	C.	2	D.	6
8.	$\log_1 \log_2 \log_3 = \underline{\hspace{2cm}}$			
	A.	log5	B.	log6
	C.	0	D.	log3
9.	$\log_1 \log_2 \log_3 = \underline{\hspace{2cm}}$			
	A.	log5	B.	log6
	C.	0	D.	log3
10.	$\log_7 7 = \underline{\hspace{2cm}}$			
	A.	log1	B.	$7^2$
	C.	1	D.	7
11.	$\log_7 7 = \underline{\hspace{2cm}}$			
	A.	log1	B.	$7^2$
	C.	1	D.	7
12.	$4 \log_4 5 = \underline{\hspace{2cm}}$			

	A.	4	B.	$\log 4$
	C.	5	D.	$\log 5$
9.	$4^{\log_4 5} = \underline{\hspace{2cm}}$			
	A.	4	B.	$\log 4$
8.	$\frac{1}{\log_2 6} + \frac{1}{\log_3 6} = \underline{\hspace{2cm}}$			
	A.	0	B.	$5/3$
C.	$\frac{1}{\log_2 6} + \frac{1}{\log_3 6} = \underline{\hspace{2cm}}$			
	A.	0	B.	$5/3$
9.	$\log_b a \cdot \log_c b \cdot \log_a c = \underline{\hspace{2cm}}$			
	A.	0	B.	1
C.	$\log abc$		D.	None of these
	$\log_b a \cdot \log_c b \cdot \log_a c = \underline{\hspace{2cm}}$			
10.	A.	0	B.	$\log 2$
	C.	1	D.	$\log 7$
10.	$\log\left(\frac{9}{14}\right) - \log\left(\frac{15}{16}\right) + \log\left(\frac{35}{24}\right) = \underline{\hspace{2cm}}$			
	A.	0	B.	$\log 2$
11.	$\begin{vmatrix} 7 & 4 \\ 2 & 3 \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	29	B.	13
11.	$\begin{vmatrix} 7 & 4 \\ 2 & 3 \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	29	B.	13
12.	C.	2	D.	-2
	The order of the matrix $\begin{pmatrix} 1 & 2 \\ 3 & 2 \\ 4 & 4 \end{pmatrix}$ is $\underline{\hspace{2cm}}$ .			
12.	A.	$2 \times 2$	B.	$2 \times 3$
	C.	$3 \times 2$	D.	$3 \times 3$
12.	શ્રેણીક નો કહુ $\begin{pmatrix} 1 & 2 \\ 3 & 2 \\ 4 & 4 \end{pmatrix}$ એ કેવી છે.			
	A.	$2 \times 2$	B.	$2 \times 3$
13.	C.	$3 \times 2$	D.	$3 \times 3$
13.	If $\begin{bmatrix} x-3 & 2 \\ 4 & 0 \end{bmatrix} = \begin{bmatrix} 5 & 2 \\ 4 & 0 \end{bmatrix}$ , then $x = \underline{\hspace{2cm}}$			
	A.	8	B.	5
13.	C.	2	D.	0
	જે $\begin{bmatrix} x-3 & 2 \\ 4 & 0 \end{bmatrix} = \begin{bmatrix} 5 & 2 \\ 4 & 0 \end{bmatrix}$ હોય તો $x = \underline{\hspace{2cm}}$			
14.	A.	8	B.	5
	C.	2	D.	0
14.	$A = \begin{bmatrix} 2 & 2 \\ -2 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 1 \\ 2 & 3 \end{bmatrix}$ , then $A+B = \underline{\hspace{2cm}}$			

	A. $\begin{bmatrix} 1 & 1 \\ -4 & -5 \end{bmatrix}$	B. $\begin{bmatrix} 3 & 3 \\ -4 & 1 \end{bmatrix}$
	C. $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$	D. $\begin{bmatrix} 3 & 3 \\ 0 & 1 \end{bmatrix}$
18.	$A = \begin{bmatrix} 2 & 2 \\ -2 & -2 \end{bmatrix}$ અને $B = \begin{bmatrix} 1 & 1 \\ 2 & 3 \end{bmatrix}$ હોય તો, $A+B=$ _____	
	A. $\begin{bmatrix} 1 & 1 \\ -4 & -5 \end{bmatrix}$	B. $\begin{bmatrix} 3 & 3 \\ -4 & 1 \end{bmatrix}$
	C. $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$	D. $\begin{bmatrix} 3 & 3 \\ 0 & 1 \end{bmatrix}$
15.	If $A = [1 \ 2 \ 3]$ , $B = \begin{bmatrix} 4 \\ 3 \\ 5 \end{bmatrix}$ then $AB=$ _____	
	A. $[4 \ 6 \ 15]$	B. $[1 \ 8 \ 9]$
	C. $[25]$	D. $[52]$
15.	જો $A = [1 \ 2 \ 3]$ , $B = \begin{bmatrix} 4 \\ 3 \\ 5 \end{bmatrix}$ હોય તો $AB=$ _____ આથ.	
	A. $[4 \ 6 \ 15]$	B. $[1 \ 8 \ 9]$
	C. $[25]$	D. $[52]$
16.	If $A = \begin{bmatrix} 1 & 2 \\ 3 & -4 \end{bmatrix}$ then, adj. A= _____	
	A. $\begin{bmatrix} -4 & -2 \\ -3 & 1 \end{bmatrix}$	B. $\begin{bmatrix} -1 & 2 \\ 3 & 4 \end{bmatrix}$
	C. $\begin{bmatrix} -1 & 3 \\ 2 & 4 \end{bmatrix}$	D. $\begin{bmatrix} 4 & 2 \\ 3 & -1 \end{bmatrix}$
15.	જો $A = \begin{bmatrix} 1 & 2 \\ 3 & -4 \end{bmatrix}$ તો, adj. A= _____	
	A. $\begin{bmatrix} -4 & -2 \\ -3 & 1 \end{bmatrix}$	B. $\begin{bmatrix} -1 & 2 \\ 3 & 4 \end{bmatrix}$
	C. $\begin{bmatrix} -1 & 3 \\ 2 & 4 \end{bmatrix}$	D. $\begin{bmatrix} 4 & 2 \\ 3 & -1 \end{bmatrix}$
17.	If $A = \begin{bmatrix} 2 & 3 \\ 4 & 1 \end{bmatrix}$ then $A^2=$ _____	
	A. $\begin{bmatrix} 4 & 9 \\ 8 & 1 \end{bmatrix}$	B. $\begin{bmatrix} 16 & 9 \\ 12 & 13 \end{bmatrix}$
	C. $\begin{bmatrix} 9 & 16 \\ 13 & 12 \end{bmatrix}$	D. $\begin{bmatrix} 13 & 11 \\ 11 & 17 \end{bmatrix}$
19.	જો $A = \begin{bmatrix} 2 & 3 \\ 4 & 1 \end{bmatrix}$ તો $A^2=$ _____	
	A. $\begin{bmatrix} 4 & 9 \\ 8 & 1 \end{bmatrix}$	B. $\begin{bmatrix} 16 & 9 \\ 12 & 13 \end{bmatrix}$
	C. $\begin{bmatrix} 9 & 16 \\ 13 & 12 \end{bmatrix}$	D. $\begin{bmatrix} 13 & 11 \\ 11 & 17 \end{bmatrix}$
18.	If $A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$ then, adj. (adj. A)= _____	
	A. -A	B. 0
	C. A	D. I
16.	જો $A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$ તો, adj. (adj. A)= _____	
	A. -A	B. 0
	C. A	D. I
19.	$\begin{vmatrix} \tan\theta & \sec\theta \\ \sec\theta & \tan\theta \end{vmatrix} =$ _____	
	A. 2	B. 1
	C. -1	D. 0
16.	$\begin{vmatrix} \tan\theta & \sec\theta \\ \sec\theta & \tan\theta \end{vmatrix} =$ _____	

	A.	2	B.	1
	C.	-1	D.	0
20.	If A is a square matrix then, $A - A^T$ is _____ matrix			
	A.	Diagonal	B.	Symmetric
	C.	Row	D.	Skew-symmetric
20.	જો A ચોરસ શ્રેણીક હોય તો , $A - A^T$ _____ શ્રેણીક થાય.			
	A.	વિકર્ષ	B.	સંમિત
	C.	હરોળ	D.	વિસંમિત
21.	Matrix A = $\begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$ is _____ matrix			
	A.	Square	B.	Column
	C.	Row	D.	Identity
21.	શ્રેણીક A = $\begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$ એ _____ શ્રેણીક છે.			
	A.	ચોરસ	B.	સ્તંભ
	C.	હરોળ	D.	એકમ
22.	If order of matrices A and B are p x q and q x r respectively then AB is of order _____			
	A.	p x q	B.	q x r
	C.	q x q	D.	p x r
22.	જો શ્રેણીક A અને B નો કમ અનુક્રમે p x q અને q x r હોય તો AB નો કમ _____ થાય			
	A.	p x q	B.	q x r
	C.	q x q	D.	p x r
23.	$(AB)^{-1} =$ _____			
	A.	$A^{-1}B^{-1}$	B.	$A^{-1}B$
	C.	$B^{-1}A^{-1}$	D.	$B^{-1}A$
23.	$(AB)^{-1} =$ _____			
	A.	$A^{-1}B^{-1}$	B.	$A^{-1}B$
	C.	$B^{-1}A^{-1}$	D.	$B^{-1}A$
24.	If A = $\begin{bmatrix} 2 & 3 \\ 4 & 0 \end{bmatrix}$ , B = $\begin{bmatrix} 4 & -1 \\ 2 & 2 \end{bmatrix}$ then $\frac{1}{2}(A + B) =$ _____			
	A.	$\begin{bmatrix} 0.5 & 1.5 \\ 2 & 0 \end{bmatrix}$	B.	$\begin{bmatrix} 3 & 1 \\ 3 & 1 \end{bmatrix}$
	C.	$\begin{bmatrix} 3 & 2 \\ 3 & 0 \end{bmatrix}$	D.	$\begin{bmatrix} 1.5 & 1 \\ 3 & 0 \end{bmatrix}$
24.	જો A = $\begin{bmatrix} 2 & 3 \\ 4 & 0 \end{bmatrix}$ , B = $\begin{bmatrix} 4 & -1 \\ 2 & 2 \end{bmatrix}$ તો $\frac{1}{2}(A + B) =$ _____			
	A.	$\begin{bmatrix} 0.5 & 1.5 \\ 2 & 0 \end{bmatrix}$	B.	$\begin{bmatrix} 3 & 1 \\ 3 & 1 \end{bmatrix}$
	C.	$\begin{bmatrix} 3 & 2 \\ 3 & 0 \end{bmatrix}$	D.	$\begin{bmatrix} 1.5 & 1 \\ 3 & 0 \end{bmatrix}$
25.	If A = $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$ , then $A^2 =$ _____			
	A.	$\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$	B.	$\begin{bmatrix} 2 & 2 \\ 0 & 2 \end{bmatrix}$
	C.	$\begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$	D.	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
25.	જો A = $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$ , તો $A^2 =$ _____			
	A.	$\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$	B.	$\begin{bmatrix} 2 & 2 \\ 0 & 2 \end{bmatrix}$
	C.	$\begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$	D.	$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

	If $A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}$ , then $A^{-1} = \underline{\hspace{2cm}}$			
26.	A.	$5 \begin{bmatrix} 3 & -2 \\ 1 & 1 \end{bmatrix}$	B.	$\frac{1}{5} \begin{bmatrix} 3 & -2 \\ 1 & 1 \end{bmatrix}$
	C.	$\frac{1}{5} \begin{bmatrix} -1 & -1 \\ 2 & 3 \end{bmatrix}$	D.	$\frac{1}{5} \begin{bmatrix} 3 & 2 \\ -1 & 1 \end{bmatrix}$
27.	$\text{જો } A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}, \text{તો } A^{-1} = \underline{\hspace{2cm}}$			
	A.	$5 \begin{bmatrix} 3 & -2 \\ 1 & 1 \end{bmatrix}$	B.	$\frac{1}{5} \begin{bmatrix} 3 & -2 \\ 1 & 1 \end{bmatrix}$
28.	If matrix A is non singular matrix then _____			
	A.	$A^T = A$	B.	$ A  = 0$
29.	C.	$A^T = -A$	D.	$ A  \neq 0$
	જો શ્રેણીક A સામાન્ય શ્રેણીક હોય તો _____			
30.	A.	$A^T = A$	B.	$ A  = 0$
	C.	$A^T = -A$	D.	$ A  \neq 0$
31.	$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = 5$ , તો $\begin{vmatrix} 3a & 3b \\ 3c & 3d \end{vmatrix} = \underline{\hspace{2cm}}$			
	A.	15	B.	45
32.	C.	30	D.	125
	$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = 5$ , તો $\begin{vmatrix} 3a & 3b \\ 3c & 3d \end{vmatrix} = \underline{\hspace{2cm}}$			
33.	A.	15	B.	45
	C.	30	D.	125
34.	$120^\circ = \underline{\hspace{2cm}}$ radian			
	A.	$\frac{\pi}{6}$	B.	$2\pi$
35.	C.	$\frac{2\pi}{3}$	D.	$\pi$
	$120^\circ = \underline{\hspace{2cm}}$ રેડિયન			
36.	A.	$\frac{\pi}{6}$	B.	$2\pi$
	C.	$\frac{2\pi}{3}$	D.	$\pi$
37.	$1 + \cot^2 \theta = \underline{\hspace{2cm}}$			
	A.	$\sin^2 \theta$	B.	$\sec^2 \theta$
38.	C.	$\cos^2 \theta$	D.	$\operatorname{cosec}^2 \theta$
	$1 + \cot^2 \theta = \underline{\hspace{2cm}}$			
39.	A.	$\sin^2 \theta$	B.	$\sec^2 \theta$
	C.	$\cos^2 \theta$	D.	$\operatorname{cosec}^2 \theta$
40.	$\tan 30^\circ = \underline{\hspace{2cm}}$			
	A.	$\frac{1}{2}$	B.	$\frac{1}{\sqrt{3}}$
41.	C.	1	D.	$\sqrt{3}$
	$\tan 30^\circ = \underline{\hspace{2cm}}$			
42.	A.	$\frac{1}{2}$	B.	$\frac{1}{\sqrt{3}}$
	C.	1	D.	$\sqrt{3}$

	$\cos(180^\circ + \theta) =$			
32.	A.	$\sin\theta$	B.	$-\cos\theta$
	C.	$-\sin\theta$	D.	$\cos\theta$
	$\cos(180^\circ + \theta) =$			
32.	A.	$\sin\theta$	B.	$-\cos\theta$
	C.	$-\sin\theta$	D.	$\cos\theta$
	$\sin(-\theta) =$			
33.	A.	$-\cos\theta$	B.	$-\sin\theta$
	C.	$\sin\theta$	D.	$\cos\theta$
	$\sin(-\theta) =$			
33.	A.	$-\cos\theta$	B.	$-\sin\theta$
	C.	$\sin\theta$	D.	$\cos\theta$
	$\sec 240^\circ =$ _____			
34.	A.	-2	B.	$1/2$
	C.	$-1/2$	D.	2
	$\sec 240^\circ =$ _____			
38.	A.	-2	B.	$1/2$
	C.	$-1/2$	D.	2
	Period of $\sin 9x$ is _____			
35.	A.	$\Pi/9$	B.	$2\Pi$
	C.	$2\Pi/9$	D.	None of these
34.	$\sin 9x$ નો આવર્તકાળ _____ થાય.			
	A.	$\Pi/9$	B.	$2\Pi$
	C.	$2\Pi/9$	D.	None of these
36.	$\sin^2 37(1/2)^\circ - \sin^2 7(1/2)^\circ =$ _____			
	A.	$1/2$	B.	$1/\sqrt{2}$
	C.	1	D.	$1/2\sqrt{2}$
35.	$\sin^2 37(1/2)^\circ - \sin^2 7(1/2)^\circ =$ _____			
	A.	$1/2$	B.	$1/\sqrt{2}$
	C.	1	D.	$1/2\sqrt{2}$
37.	If $\tan\theta = 3/4$ , then the value of $\tan 2\theta =$ _____			
	A.	$24/7$	B.	$12/7$
	C.	$12/25$	D.	$23/25$
39.	જે $\tan\theta = 3/4$ હોય તો $\tan 2\theta$ ની કિંમત _____ થાય.			
	A.	$24/7$	B.	$12/7$
	C.	$12/25$	D.	$23/25$
38.	$\sin^2(40^\circ) + \sin^2(50^\circ) =$ _____			
	A.	-1	B.	0
	C.	1	D.	$1/2$
36.	$\sin^2(40^\circ) + \sin^2(50^\circ) =$ _____			
	A.	-1	B.	0
	C.	1	D.	$1/2$
39.	If $\tan A = 3$ and $\tan B = 4$ , then $\tan(A-B) =$ _____			
	A.	$-1/13$	B.	$1/7$
	C.	-1	D.	1
36.	જે $\tan A = 3$ અને $\tan B = 4$ હોય તો $\tan(A-B) =$ _____ થાય.			
	A.	$-1/13$	B.	$1/7$
	C.	-1	D.	1
40.	$\cos^{-1}(-x) =$ _____, $x \in [-1, 1]$			
	A.	$\cos^{-1} x$	B.	$\sin^{-1} x$
	C.	$-\cos^{-1} x$	D.	$\Pi - \cos^{-1} x$
40.	$\cos^{-1}(-x) =$ _____, $x \in [-1, 1]$			

	A.	$\cos^{-1} x$	B.	$\sin^{-1} x$
	C.	$-\cos^{-1} x$	D.	$\Pi - \cos^{-1} x$
41.		cosec <sup>-1</sup> x + sec <sup>-1</sup> x = _____, $ x  \geq 1$		
	A.	0	B.	$\Pi/4$
૪૧.	C.	$\Pi/2$	D.	$\Pi$
		cosec <sup>-1</sup> x + sec <sup>-1</sup> x = _____, $ x  \geq 1$		
42.	A.	0	B.	$\Pi/4$
	C.	$\Pi/2$	D.	$\Pi$
૪૨.		$\sin^{-1}(1/2) = _____$		
	A.	$\Pi/6$	B.	$\Pi/3$
43.	C.	$\Pi/2$	D.	$\Pi$
		$\tan^{-1}(1/2) + \tan^{-1}(1/3) = _____$		
૪૩.	A.	$\Pi/2$	B.	$\Pi/4$
	C.	$\Pi$	D.	કોઈ પણ નહીં
44.		$\tan^{-1}(\infty) + \sin^{-1}(\sqrt{3}/2) + \cos^{-1}(1/2) = _____$		
	A.	$\Pi/3$	B.	$7\Pi/6$
૪૪.	C.	$\Pi/7$	D.	$\Pi/6$
		$\tan^{-1}(\infty) + \sin^{-1}(\sqrt{3}/2) + \cos^{-1}(1/2) = _____$		
45.	A.	$\Pi/3$	B.	$7\Pi/6$
	C.	$\Pi/7$	D.	$\Pi/6$
૪૫.		$\sin(A+B) = _____$		
	A.	$\sin A \cos B + \cos A \sin B$	B.	$\sin A \sin B + \cos A \cos B$
46.	C.	$\sin A \sin B - \cos A \cos B$	D.	$\sin A \cos B - \cos A \sin B$
		$\sin(A+B) = _____$		
૪૬.	A.	$\sin A \cos B + \cos A \sin B$	B.	$\sin A \sin B + \cos A \cos B$
	C.	$\sin A \sin B - \cos A \cos B$	D.	$\sin A \cos B - \cos A \sin B$
47.		$\cos 2\theta = _____$		
	A.	$2(\cos \theta - \sin \theta)$	B.	$\cos^2 \theta - \sin^2 \theta$
૪૭.	C.	$2\sin \theta \cos \theta$	D.	$\cos^2 \theta + \sin^2 \theta$
		$\cos 2\theta = _____$		
48.	A.	$2(\cos \theta - \sin \theta)$	B.	$\cos^2 \theta - \sin^2 \theta$
	C.	$2\sin \theta \cos \theta$	D.	$\cos^2 \theta + \sin^2 \theta$
૪૮.		_____ is a vector quantity.		
	A.	Displacement	B.	Distance
૪૯.	C.	Mass	D.	Energy
		_____ એ સરિશ રાશિ છે.		
50.	A.	સ્થાનાંતર	B.	અંતર
	C.	દળ	D.	કુર્જા
49.		The magnitude of P(3,4,5) is _____		
	A.	50	B.	$\sqrt{5}$
50.	C.	$5\sqrt{2}$	D.	25
		P(3,4,5) નું માત્ર _____ થાય.		

	A.	50	B.	$\sqrt{5}$
	C.	$5\sqrt{2}$	D.	25
49.	The _____ vector represents a unit in the direction of x-axis.			
	A. $(0,1,0)$	B. $(1,1,1)$	C. $(0,0,1)$	D. $(1,0,0)$
૪૬.	સદિશ _____ ખ-અક્ષની દિશામા એકમ સદિશ દર્શાવે છે.			
	A. $(0,1,0)$	B. $(1,1,1)$	C. $(0,0,1)$	D. $(1,0,0)$
50.	If $\bar{a} = (1,2,1)$ , $\bar{b} = (1,0,2)$ , then $ \bar{a} - \bar{b}  =$ _____			
	A. 3	B. 5	C. $\sqrt{5}$	D. $\sqrt{3}$
	જો $\bar{a} = (1,2,1)$ , $\bar{b} = (1,0,2)$ તો $ \bar{a} - \bar{b}  =$ _____ થાય.			
૫૦.	A. 3	B. 5	C. $\sqrt{5}$	D. $\sqrt{3}$
	If $\bar{a} = 3i + 2j - k$ , then the direction cosine of $\bar{a}$ corresponding to x-axis is _____			
51.	A. 3	B. $2/\sqrt{14}$	C. $-1/\sqrt{14}$	D. $3/\sqrt{14}$
	જો $\bar{a} = 3i + 2j - k$ તો $\bar{a}$ નું ખ-અક્ષ સંદર્ભે દિક્કોસાઇન _____ થાય.			
૫૧.	A. 3	B. $2/\sqrt{14}$	C. $-1/\sqrt{14}$	D. $3/\sqrt{14}$
	The angle between the vectors $\bar{a} = (1,3,-2)$ and $\bar{b} = (4,-2,-1)$ is _____			
52.	A. 0	B. $\pi/2$	C. $\pi$	D. None of these
	સદિશો $\bar{a} = (1,3,-2)$ અને $\bar{b} = (4,-2,-1)$ વચ્ચે નો ખુણો _____ થાય.			
૫૨.	A. 0	B. $\pi/2$	C. $\pi$	D. કોઈ પણ નહીં
	If $\bar{x} = (2,1)$ and $\bar{y} = (1,3)$ , then unit vector in the direction of $3\bar{x} - 2\bar{y}$ is given by _____			
53.	A. $\frac{1}{5}(2,1)$	B. $\frac{1}{\sqrt{10}}(1,3)$	C. $\frac{1}{5}(4, -3)$	D. None of these
	જો $\bar{x} = (2,1)$ અને $\bar{y} = (1,3)$ તો $3\bar{x} - 2\bar{y}$ ની દિશાનો એકમ સદિશ _____ થાય.			
૫૩.	A. $\frac{1}{5}(2,1)$	B. $\frac{1}{\sqrt{10}}(1,3)$	C. $\frac{1}{5}(4, -3)$	D. કોઈ પણ નહીં
	i.(j × k)=_____			
54.	A. -1	B. 0	C. 1	D. None of these
	i.(j × k)=_____			
૫૪.	A. -1	B. 0	C. 1	D. કોઈ પણ નહીં
	i.(j × k)=_____			
55.	If $\bar{a} = (2,-3,-1)$ and $\bar{b} = (1,4, -3)$ , then their cross product = _____			
	A. -7	B. $(13,5,11)$	C. $-(13,5,11)$	D. $(3,1,-4)$
૫૫.	જો $\bar{a} = (2,-3,-1)$ અને $\bar{b} = (1,4, -3)$ તો તેમનો સદિશ ગુણાકાર _____ થાય.			

	A.	-7	B.	(13,5,11)
	C.	-(13,5,11)	D.	(3,1,-4)
56.		If $\bar{x}=(1,2,3)$ and $\bar{y}=(2,3,4)$ then their dot product is _____		
	A.	20	B.	(6,4,9)
	C.	(2,6,12)	D.	14
57.		જો $\bar{x}=(1,2,3)$ અને $\bar{y}=(2,3,4)$ તો તેમનો અદિશ ગુણકાર _____ થાય.		
	A.	20	B.	(6,4,9)
	C.	(2,6,12)	D.	14
58.		_____ is a unit vector.		
	A.	(1,1,1)	B.	(-1,-1,-1)
	C.	$(\frac{1}{3}, \frac{1}{3}, \frac{1}{3})$	D.	$(\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}})$
59.		_____ એકમ સદિશ છે.		
	A.	(1,1,1)	B.	(-1,-1,-1)
	C.	$(\frac{1}{3}, \frac{1}{3}, \frac{1}{3})$	D.	$(\frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}}, \frac{1}{\sqrt{3}})$
60.		If $\bar{a}=(3,-1,3)$ is a given vector, then the vector of magnitude 6 in the direction $\bar{a}$ is _____		
	A.	$6\bar{a}$	B.	$6\bar{a}$
	C.	$\bar{a}/6$	D.	$6 \bar{a} $
61.		આપેલ સદિશ $\bar{a}=(3,-1,3)$ માટે $\bar{a}$ ની દિશા માં 6 માન ધરાવતો સદિશ _____ થાય.		
	A.	$6\bar{a}$	B.	$6\bar{a}$
	C.	$\bar{a}/6$	D.	$6 \bar{a} $
62.		If the force $\bar{F}$ is acting on the point P then the moment of the force $\bar{F}$ about a point A is given by _____.		
	A.	$\overrightarrow{AP} \cdot \bar{F}$	B.	$\overrightarrow{AP} \times \bar{F}$
	C.	$\bar{F} \times \overrightarrow{AP}$	D.	None of these
63.		જો બળ $\bar{F}$ બિંદુ P આગળ કાર્ય કરે તો $\bar{F}$ ની બિંદુ A આસપાસની ચાકમાત્રા _____ થાય.		
	A.	$\overrightarrow{AP} \cdot \bar{F}$	B.	$\overrightarrow{AP} \times \bar{F}$
	C.	$\bar{F} \times \overrightarrow{AP}$	D.	કોઈ પણ નહીં
64.		A particle moves from a point A (3,2,-1) to the point B(2,-1,4) under the effect of force $F= 4i-3j+2k$ . The work done by the force is _____ units.		
	A.	12	B.	10
	C.	15	D.	17
65.		બળ $F= 4i-3j+2k$ ની અસર હેઠળ કણ બિંદુ A (3,2,-1) થી બિંદુ B(2,-1,4) સુધી સ્થાનાંતર કરે છે તો થયેલ કાર્ય = _____ એકમ.		
	A.	12	B.	10
	C.	15	D.	17
66.		The circumference of a circle whose radius is 7 cm. is _____		
	A.	154cm	B.	44cm
	C.	14cm	D.	48cm
67.		7cm. ત્રિજ્યા ધરાવતા વર્તુળનો પરિધ _____ થાય.		
	A.	154cm	B.	44cm
	C.	14cm	D.	48cm
68.		A cube is having surface area $96 \text{ cm}^2$ . then its edge length is _____ cm.		
	A.	16	B.	38
	C.	4	D.	32

	જો એક સમઘનની સપાટીનું ક્ષેત્રફળ $96\text{cm}^2$ . હોય તો, તેની બાજુની લંબાઈ _____ cm. થાય.			
62.	A. 16	B. 38	C. 4	D. 32
63.	The volume of a cylinder having radius 7cm and height 12cm is _____ $\text{cm}^3$			
	A. 1848	B. 264	C. 3168	D. 1294
63.	7cm ત્રિજ્યા અને 12cm ઊંચાઈ ધરાવતા એક નળાકાર નું ધનકળ _____ $\text{cm}^3$ થાય.			
	A. 1848	B. 264	C. 3168	D. 1294
64.	The volume of a hemisphere of radius 3 cm is _____ $\text{cm}^3$ .			
	A. $12\pi$	B. $24\pi$	C. $18\pi$	D. $36\pi$
64.	3 cm ત્રિજ્યા ધરાવતા અર્ધગોલકનું ધનકળ _____ $\text{cm}^3$ છે.			
	A. $12\pi$	B. $24\pi$	C. $18\pi$	D. $36\pi$
65.	In an equilateral triangle the length of a side is 4 cm, then its area = _____ $\text{cm}^2$			
	A. $4\sqrt{3}$	B. 16	C. 64	D. 36
65.	એક સમબાજ ત્રિકોણ ની બાજુ નું માપ 4 સે.મી. હોય તો તેનું ક્ષેત્રફળ = _____ સે.મી. $^2$			
	A. $4\sqrt{3}$	B. 16	C. 64	D. 36
66.	The volume of a cuboid having length 5m, breadth 3 m and height 2 m is _____ $\text{cm}^3$ .			
	A. 30	B. 60	C. 150	D. 90
66.	એક લંબઘન ની લંબાઈ 5 મીટર, પહોળાઈ 3 મીટર અને ઊંચાઈ 2 મીટર છે. તો તેનું ધનકળ= _____ ધનમીટર થાય.			
	A. 30	B. 60	C. 150	D. 90
67.	If the diameter and the slant height of a cone is 12 cm. and 14cm. The curved surface area of the cone is _____ $\text{cm}^2$ .			
	A. 264	B. 528	C. 176	D. 1584
67.	એક શંકુ ના પાયા નો વ્યાસ 12cm અને ત્રાંસી ઊંચાઈ 14cm. છે. આ શંકુ ની વક્સપાટી નું ક્ષેત્રફળ _____ $\text{cm}^2$ . થાય.			
	A. 264	B. 528	C. 176	D. 1584
68.	The total surface area of a cylinder is given by-			
	A. $2\pi(r + h)$	B. $2\pi r^2$	C. $2\pi rh$	D. $2\pi r(r + h)$
68.	નળાકાર ની વક્સ સપાટી નું કુલ ક્ષેત્રફળ _____ થાય.			
	A. $2\pi(r + h)$	B. $2\pi r^2$	C. $2\pi rh$	D. $2\pi r(r + h)$
69.	In $\Delta PQR$ , the length of the sides is 5cm, 8cm and 11cm. Its area is _____ $\text{cm}^2$ .			
	A. $4\sqrt{21}$	B. $8\sqrt{7}$	C. $12\sqrt{3}$	D. $10\sqrt{7}$
69.	$\Delta PQR$ ની બાજુઓ નું માપ 5cm, 8cm, 11cm. છે તો તેનું ક્ષેત્રફળ _____ $\text{cm}^2$ થાય.			
	A. $4\sqrt{21}$	B. $8\sqrt{7}$	C. $12\sqrt{3}$	D. $10\sqrt{7}$

70.	A tank of length 3m, breadth 2m and height 0.5m can store _____ litre water.			
	A.	3	B.	30
	C.	300	D.	3000
70	3મી. લંબાઈ, 2મી પહોળાઈ અને 0.5મી ઊચાઈ ધરાવતી એક ટાકી માં _____ લિટર પાણી સમાય.			
	A.	3	B.	30
	C.	300	D.	3000

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