



Copy of 22103 Set B

Questions

Responses

Section 1 of 2

22103



MSBTE theory online exam S-2020

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Multiple Choice Questions



Attempt the following Question:

If $\tan A = 1/2$ and $\tan B = 1/3$ then $\tan[A + B] = \dots\dots\dots$

- ☐ 1
- ☐ -1
- ☐ 0
- ☐ none

$\cos 2A = \dots\dots$

- ☐ $2\cos A - 1$
- ☐ $2\sin A - 1$
- ☐ Option 3
- ☐ none

Question



- ☐ Option 1
- ☐ Option 2



☐ none

☐ Other...

In which quadrant angle θ lie when the condition $3\pi/2 < \theta < 2\pi$ is given

☐ 3rd

☐ 1st

☐ 4th

☐ 2nd

Question



☐ $\cos x$

☐ Option 2

☐ Option 3

☐ $\sin x$

Question



☐ Option 2

☐ Option 3

☐ none

$\sec[\pi/2 + A] = \dots\dots\dots$

☐ $\sec A$

☐ $-\operatorname{Cosec} A$

☐ $-\cos A$

☐ $\sin A$

$\tan[\pi/4 - A] = \dots\dots\dots$

☐ $[1 - \tan A]/[\tan A]$

☐ $[\tan A]/[1 + \tan A]$

☐ $[1 + \tan A]/[1 - \tan A]$

☐ $[1 - \tan A]/[1 + \tan A]$

$\sin 2A = \dots\dots$

☐ $2\sin A \cdot \cos A$

☐ $2\cos A$

☐ $2\sin A$



$\cos C + \cos D$

- ☐ $4\cos\left[\frac{(C+D)}{2}\right]\cos\left[\frac{(C-D)}{2}\right]$
- ☐ $\cos\left[\frac{(C+D)}{2}\right]\cos\left[\frac{(C-D)}{2}\right]$
- ☐ $2\cos\left[\frac{(C+D)}{2}\right]\cos\left[\frac{(C-D)}{2}\right]$
- ☐ none

Question

$\cos^2 A$

- ☐ $2\cos^2 A$
- ☐ $2\sin^2 A$
- ☐ $2\tan^2 A$
- ☐ none

Question

$\sin^2 A$

- ☐ 5
- ☐ 3



☐ 2

Find the area of triangle whose vertices are $(4, 4)$, $(3, -2)$ and $(-3, 16)$.

☐ 27 sq.unit

☐ 26 sq.unit

☐ 30 sq.unit

☐ none

If the determinant of the matrix A is zero then matrix A is called -----

☐ non singular

☐ zero

☐ singular

☐ none

A diagonal matrix whose each diagonal element is equal to one is called a

☐ identity matrix

☐ zero matrix

☐ diagonal matrix

☐ scalar matrix



☐ -2

☐ -3

☐ 4

☐ 1

Question

C

☐ Option 1

☐ Option 2

☐ Option 3

☐ NONE

Question

C

☐ Identity matrix

☐ scalar matrix

☐ null matrix

☐ none



Matrix obtained by changing rows and column is called

- ☐ zero matrix
- ☐ transpose of matrix
- ☐ diagonal matrix
- ☐ none

The matrix in which all principal diagonal elements are same and rest elements is zero then

- ☐ cofactor matrix
- ☐ scalar matrix
- ☐ zero matrix
- ☐ coloumn matrix

Question

- ☐ $A = -1$ and $B = -1$
- ☐ $A = 2$ and $B = 1$
- ☐ $A = 1$ and $B = 1$
- ☐ $A = 1$ and $B = -1$



☐ improper fraction

☐ proper fraction

☐ normal fraction

☐ partial fraction

Find the equation of the line passing through (2,3) and having slope 5 units

*

☐ $x-y-7=0$

☐ $5x+y=4$

☐ $5x-y-9=0$

☐ $5x-y-7=0$

Find k if the lines $4y+3kx+5=0$ and $5kx-3y+6=0$ are perpendicular to each other

☐ $2/3$

☐ $3/2$

☐ $4/3$

☐ none

Find the x and y intercepts of a line $2x+3y=6$

☐ $x=3, y=2$

☐ $x=1, y=4$



☐ none

Find the length of perpendicular from (3,4) to the line $3x+4y=7$

☐ $18/5$

☐ $5/18$

☐ $9/5$

☐ none

Find the distance between two parallel lines $3x+4y-7=0, 6x+8y-5=0$

☐ $8/9$

☐ $9/10$

☐ $10/9$

☐ none

Find area of rhombus whose diagonals are of length 10 cm and 8.2 cm

☐ 43 sq.cm

☐ 42 sq.cm.

☐ 41 sq cm

☐ 40 sq.cm

☐ Other



The length , breadth and height of a cuboid are 8 cm,11 cm and 15 cm respectively, then total

- ☐ 800 sq.cm
- ☐ 648sq.cm
- ☐ 700 sq.cm
- ☐ 746sq.cm

The length of one side of the rectangle is twice the length of its adjacent side. If the perimeter

- ☐ 100 sq.cm
- ☐ 150 sq.cm
- ☐ 200 sq.cm
- ☐ none

The volume of cube is 1000 cm .Find its total surface area.

- ☐ 500 sq.cm
- ☐ 700 sq.cm
- ☐ 600 sq.cm
- ☐ none

The volume of a sphere is $\frac{88}{21}$ cubic meters. Find its surface area



☐ 3π sq m

☐ none

Find the range and coefficient of range of the data: 50 , 90 , 120 , 40 , 180 , 200 , 80.

☐ range=145and c.r=0.800

☐ range=150 and c.r =0.776

☐ range=160andc.r.=0.667

☐ none

If mean is 82.5 and standard deviation is 7.3, find the coefficient of variance

☐ 8.900

☐ 8.888

☐ 8.848

☐ 8.001

If coefficient of variation of a distribution is 75 and standard deviation is 24, find its mean

☐ 32

☐ 30

☐ 35



Calculate mean of the following data 1, 2,3,4,5,6,,8,9,10

- ☐ 4.44
- ☐ 4.111
- ☐ 3.99
- ☐ 2.88

Question

- ☐ Factory A
- ☐ Factory B
- ☐ Factory A and B both
- ☐ none

Coefficient of variance is given by.....

- ☐ Option 1
- ☐ Option 2
- ☐ option3
- ☐ none



Mean deviation is define as.....

- ☐ Option 1
- ☐ Option 2
- ☐ Option 3
- ☐ none

Which of the following can not be determined graphically?

- ☐ median
- ☐ mode
- ☐ mean
- ☐ one

