22103 (MOCK)

Total points 26/40

Time:1 hour, Marks:30
Attempt any 30 questions.
1 mark each question
Subject : BASIC MATHEMATICS

The respondent's email address (**ao2020.krish.shah@ves.ac.in**) was recorded on submission of this form.

0 of 0 points

Roll no: *

5

Enrollment no: *

2000040104

Program Code:

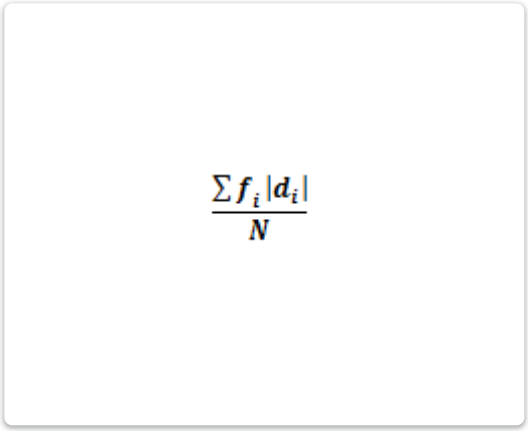
A01I

Multiple Choice Questions

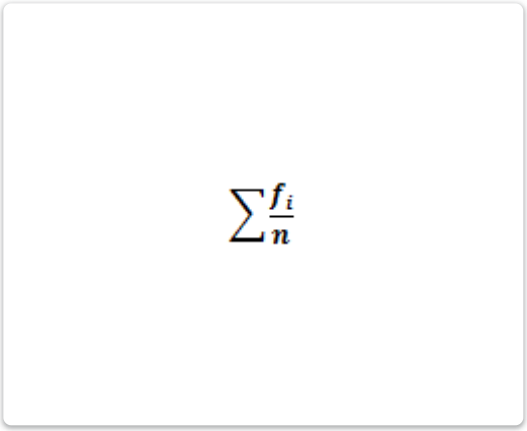
26 of 40 points

Attempt the following Question:

✓ Mean deviation is define as..... 1/1

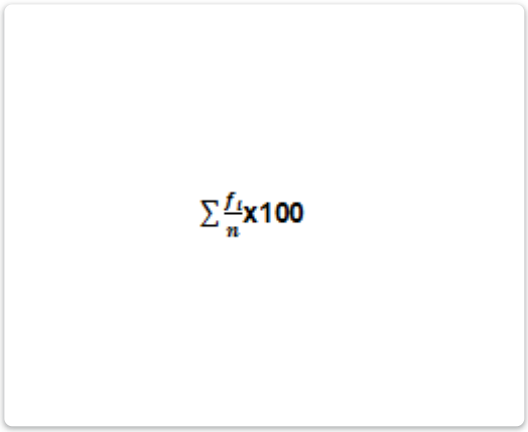


(●) Option 1 ✓



( ) Option 2

( ) none



( ) Option 3

✗ If sinA=3/5 and angle "A" line in 3rd quadrant find value of TanA. 0/1

(●) 2/3 ✗

( ) 4/3

( ) 3/4

( ) -3/4

✓ The dimensions of a metallic cuboid are 100cmx80cmx64cm.It is melted and recast into a cube.Find the surface area of the cube. 1/1

- (●) 38400sq.cm ✓
- ( ) 38000sq.cm
- ( ) 39500sq.cm
- ( ) 40000 sq.cm

✗ 0/1

simplify $\cos[\frac{7\pi}{13}] + \cos[\frac{6\pi}{13}]$

- ( ) 1
- ( ) 0
- ( ) -1
- (●) 2 ✗

✓ The area of ring formed by two concentric circles is 346.5 sq.cm.If the circumference of the inner circle is 88cm, then find radius of outer circle. 1/1

- ○ 19 cm
- ○ 20 cm
- ◉ 17.5 cm ✓
- ○ 21 cm
- ○ Other: .....

✓ 1/1

Factories	Average wages[weekly]	std deviation
A	**34.5**	**5**
B	**28.5**	**4.5**

WHICH FACTORY IS MORE CONSISTANT?

- ◉ Factory A ✓
- ○ Factory B
- ○ Factory A and B both
- ○ none

✗ Find the distance between the parallel lines 3x + 2y - 6 = 0 and 3x + 2y - 12 = 0. 0/1

$\frac{6}{\sqrt{13}}$

Option 1

$\frac{-6}{\sqrt{13}}$

Option 2 ✗

$\frac{-5}{\sqrt{13}}$

Option 3

$\frac{5}{\sqrt{13}}$

Option 4

✓ 1/1

If $A = \begin{bmatrix} 1 & x & 0 \\ -1 & 3 & 4 \\ -2 & 5 & 6 \end{bmatrix}$ then cofactor of x is...

- (●) -2 ✓
- ( ) -3
- ( ) 4
- ( ) 1

✗ The total surface area of a cuboidal cement concrete slab is 608sq.m. If the length of the slab is 30 m and height 10cm. find its breadth. 0/1

- ( ) 1m
- ( ) 15m
- (●) 20m ✗
- ( ) 10 m

✓ Find value of x and y satisfying the following equation 1/1

$$\begin{bmatrix} 1 & x & 0 \\ y & 2 & 4 \end{bmatrix} + \begin{bmatrix} 3 & 1 & 2 \\ 4 & 3 & -2 \end{bmatrix} = \begin{bmatrix} 4 & 2 & 2 \\ 6 & 5 & 2 \end{bmatrix}$$

- ○ x=-2 and y=1
- ○ x=-1 and y=2
- ○ x=2 and y=1
- ◉ x=1 and y=2 ✓

✗ Evaluate [sin2A]/ [1+cos2A] =..... 0/1

- ○ cos A
- ○ sinA
- ○ tan A
- ◉ cotA ✗

✗ find x using cramer's rule from the following given equations x + z = 0,2x +3y +3z=5,x+3y=5 0/1

- ◉ 1 ✗
- ○ 0
- ○ -1
- ○ 2

✓ Find the length of perpendicular from (3,4) to the line 3x+4y=7 1/1

- (●) 18/5 ✓
- ( ) 5/18
- ( ) 9/5
- ( ) none

✓ simplify log[9/14]-log[15/16]+log[35/24]= 1/1

- (●) 0 ✓
- ( ) 1
- ( ) -1
- ( ) 2

✓ 1/1

Simplify $\tan^{-1}[\frac{1}{11}] + \tan^{-1}[\frac{5}{6}] =$

- ( ) 30 degree
- ( ) 60 degre
- (●) 45 degree ✓
- ( ) 90 degree

✗ 0/1

If matrix $A = \begin{bmatrix} 3 & 9 \\ -1 & -3 \end{bmatrix}$ then A^2=...

- ○ Identity matrx
- ◉ scalar matrix ✗
- ○ null matrix
- ○ invrse matrix

✓ Find the height of a cylinder whouse radius is 7cm and the total surface area is 968 sq.cm 1/1

- ○ 12 cm
- ○ 10 cm
- ◉ 15 cm ✓
- ○ 8 cm

✓ A cylinder has a hemispherical ends having radius 14 cm and height 50 cm. Find the total surface area. 1/1

- ○ 6400 sq.cm
- ○ 6800 sq.cm
- ◉ 6864 sq.cm ✓
- ○ 7000 sq.cm

✓ simplify; [sin3A - sinA] / [cos3A + cos A] 1/1

- sinA
- cosA
- cotA
- (●) tan A ✓

✓ 1/1

Resolve into partial fraction if $\frac{1}{x(x+1)} = \frac{A}{x} + \frac{B}{x+1}$

- A = -1 andB= -1
- A = 2 and B = 1
- A = 1 and B=1
- (●) A = 1 and B= -1 ✓

✗ 0/1

$$\log[\frac{p^2}{qr}] + \log[\frac{q^2}{pr}] + \log[\frac{r^2}{pq}]$$

- (●) 1 ✗
- ( ) 0
- ( ) 2
- ( ) -1

✗ If tanA = 3 and tanB=2 ,Find the value of tan[2A + B] 0/1

- ( ) 1/2
- ( ) 1/3
- ( ) 1/4
- (●) -1/2 ✗
- ( ) Other: .....

✓ If mean is 82.5 and standard deviation is 7.3, find the coefficient of variance 1/1

- ○ 8.900
- ○ 8.888
- ◉ 8.848 ✓
- ○ 8.001

✓ 1/1

If matrix $A=\begin{bmatrix} 5 & 3 \\ -1 & 1 \end{bmatrix}$ and matrix $B=\begin{bmatrix} 2 & -1 \\ 3 & 2 \end{bmatrix}$ then $2A - 3B$=.....

$\begin{bmatrix} 4 & 9 \\ -11 & -4 \end{bmatrix}$

Option 1 ✓

$\begin{bmatrix} 9 & 9 \\ -11 & -4 \end{bmatrix}$

Option 2

NONE

$\begin{bmatrix} 9 & 9 \\ -11 & 4 \end{bmatrix}$

Option 3

✓ If cosA =1/2 ,find the value of cos3A 1/1

- 2
- 1
- -1 ✓
- 0
- Other: .....

✓ A right circular cone has a slant height three times the radius of the base .If the area of the curved surface of the cone is 18.48 sq.cm .Find the radius of base. 1/1

- 1.4 cm ✓
- 1.6 cm
- 1cm
- 2 cm

✓ If coefficient of variation of a distribution is 75percent. and standard deviation is 24, find its mean 1/1

- (●) 32 ✓
- ( ) 30
- ( ) 35
- ( ) 31

✗ 0/1

1] If tan[A/2] = $1/\sqrt{2}$ find sinA

- ( ) [√2]/3
- ( ) [2√2]/3
- ( ) 1/2
- (●) 2 ✗
- ( ) none

✓ 1/1

Simplify $2\cos 75^0 . \cos 15^0$

- ○ -1/2
- ○ 1/3
- ◉ 1/2 ✓
- ○ 0

✓ If tanA = 1/2 and ,tanB= 1/3 then tan[A + B] =..... 1/1

- ◉ 1 ✓
- ○ -1
- ○ 0
- ○ 3

✓ 1/1

Express in the form of partial fraction $\frac{x^2+23x}{[x+3][x^2+1]}$

$\frac{A}{[x+3]}+\frac{Bx+C}{x^2+1}$

◉ Option 1 ✓

$\frac{A}{[x+3]}+\frac{B+C}{x^2+1}$

○ Option 2

$\frac{x}{[x+3]}-\frac{Bx+C}{x^2+1}$

○ Option 3

$\frac{A}{[x+3]}-\frac{Bx+C}{x^2+1}$

○ Option 4

0/1

$\tan^{-1}[\frac{1}{7}] + \tan^{-1}[\frac{1}{13}]$

$\cot^{-1}[\frac{9}{2}]$

Option 1

$\sin^{-1}[\frac{9}{2}]$

Option 2

$\sec^{-1}[\frac{9}{2}]$

Option 3

$\cos^{-1}[\frac{9}{2}]$ -

Option 4

✗ Find the acute angle between the lines x -2y + 5= 0 and 7x + y - 10 = 0. 0/1

- (●) -3 ✗
- ( ) 3
- ( ) 2
- ( ) 1

✓ Find the equation of the line passing through (2,3) and having slope 5 units 1/1

- ( ) x-y-7=0
- ( ) 5x+y=4
- ( ) 5x-y-9=0
- (●) 5x-y-7=0 ✓

✓ 1/1

If A= $\begin{bmatrix}1 & 2 & 3\\4 & 5 & 6\end{bmatrix}$ and B = $\begin{bmatrix}1\\9\\8\end{bmatrix}$ Find A.B

$\begin{bmatrix}42\\90\end{bmatrix}$

Option 1

$\begin{bmatrix}42\\97\end{bmatrix}$

Option 2

$\begin{bmatrix}43\\97\end{bmatrix}$

Option 3 ✓

$\begin{bmatrix}52\\90\end{bmatrix}$

Option 4

✓ 1/1

Find range and coefficient of range

C.I	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Fi	10	15	16	20	21	22	9	8

- ○ R=80 and C.R=0.876
- ○ R=80 and C.R= 0.721
- ◉ R=80 and C.R=0.672 ✓
- ○ R=70 and C.R=400
- ○ Other: .....

✗ Find k if the lines 4y+3kx+5=0 and 5kx-3y+6=0 are perpendicular to each other 0/1

- ○ 2/3
- ○ 3/2
- ○ 4/3
- ◉ none ✗

✓ Find std .deviation of the data 9,11,15,20,20 1/1

- 4
- (●) 4.52 ✓
- 3.99
- 2.88

✗ Find principle value of 0/1

$\cos^{-1}[\frac{-1}{2}]- \sin^{-1}[\frac{1}{2}]$ =

- 90 degree
- 120 degree
- 45 degre
- (●) 30 degre ✗

✓ If the mean is 82.5,standard deviation is 7.2 ,find the coefficient of variance. 1/1

- 2.33 percent
- 9.67 percent
- (●) 8.727 percent ✓
- 10.44 percent.