22103 (MOCK)

Total points 24/40

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

Enrollment no: *

2000040104

Program Code:

A01I

Roll no: *

5

Multiple Choice Questions

24 of 40 points

Attempt the following Question:

✗ Find sinA 0/1

If tan[A/2] = 1

- ○ 2
- ◉ -1 ✗
- ○ 1
- ○ -2

✗ If cos A = 0.4 then cos(3A) =..... 0/1

- ○ 0.9444
- ○ 0.8944
- ○ 0.4899
- ◉ 0.9989 ✗

✓ 1/1

Find range and coefficient of range from the following observation table

temperature	25-26	27-28	29-30	31-32	33-34	35-36
No. of days	100	200	300	400	500	600

- ○ R = 11 AND C.R=0.30
- ○ R=10 AND C.R=0.20
- ◉ R=12 AND C.R=0.20 ✓
- ○ R=13 AND C.R=0.22

✓ A solid right circular cone of radius 2m.and height 27m.is melted and recasted into sphere. Find the surface area of the sphere. 1/1

- ◉ 113.04 sq.cm ✓
- ○ 100.34 sq cm
- ○ 210 sq .cm
- ○ 115.36sq.cm
- ○ Other: .....

✓ which set is more consistant 1/1

Set	mean	Std.deviation
1	83.4	5.9
2	51.85	7.45

- ○ set2
- ◉ set 1 ✓
- ○ set1 and 2 both consistant
- ○ both set not consistant

✓ 1/1

Find $\sum[d_i]^2$ from the following observation

xi	48	50	39	46	37

- ○ 135
- ○ 100
- ○ 120
- ◉ 130 ✓

✓ coefficient of variance of a distribution is 75% and standard deviation is 24 ,what is its mean ? 1/1

- ○ 30
- ◉ 32 ✓
- ○ 25
- ○ 20

✓ Find the equation of the line passing through point(1,7) and having slope 2 units 1/1

- ○ 2x-3y+5 =0
- ○ 2x-y-5 =0
- ○ 2x+y+5 =0
- ◉ 2x-y+5 =0 ✓

✗ If sin A = 1/2 then sin3A = ... 0/1

- ○ 3
- ○ 2
- ○ 1
- ○ 8

✓ Find k if the following points are collinear [2,3],[-1,k],[5,8] 1/1

- ○ 6
- ○ 3
- ○ 1
- ◉ -2 ✓

✓ Find range and coefficient of range for the data :3, 7, 11, 2, 16, 17, 22, 20, 19 1/1

- ○ Range =40 C.R=0.80
- ◉ Range =20 C.R=0.833 ✓
- ○ Range =10 C.R=0.900
- ○ Range =30 C.R=0.833

0/1

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

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

Option 2

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

Option 3

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

Option 4

✓ tan(A- B) = ... 1/1

- (●) [tanA-tanB]/(1+tanA.tanB) ✓
- ( ) [tanA+tanB]/(1+tanA.tanB)
- ( ) [tanA-tanB]/(1-tanA.tanB)
- ( ) none

✓ 1/1

Find equation of line whose y intercept is "-3 "and inclination at an angle of " $\tan^{-1}[\sqrt{3}]$ "

To the x axis

$\sqrt{3}\,x - Y = 3$

Option 1 ✓

$\sqrt{3}\,x + Y = 3$

Option 2

$\sqrt{3}\,x + Y + 3 = 0$

Option 3

$\sqrt{3}\,x + Y = 0$

Option 4

✓ 1/1

Find the value of $\sin\left[\frac{\pi}{2} - \sin^{-1}\left\{-\frac{\sqrt{3}}{2}\right\}\right]$

- 1/3
- 1/2 ✓
- 3/2
- 1/4

✓ 1/1

If $2\sin 40^{\upsilon}.\cos 10^{\upsilon} = \sin A + \sin B$ then A=.... and B ....

- 50 degree and 30 degree ✓
- 30 degree and 50 degree
- 50 degree and 40 degree
- none

✓ 1/1

If $\tan^{-1}(1)+\tan^{-1}(x) = 0$ then x =....

- 1
- 2
- 3
- (●) -1 ✓

✗ 0/1

find value of $\cos^{-1}[\frac{-1}{2}]-\sin^{-1}[\frac{1}{2}]$

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

✗ 0/1

Simplify $\frac{sin2A}{sinA} - \frac{cos2A}{cosA}$

- secA
- cosA
- sinA
- tanA

✓ 1/1

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

- (●) -2 ✓
- 2
- 3
- 4

✗ 0/1

Find variance of the following data.

xi	27	28	29
fi	2	7	1

- ○ 0.19
- ○ 0.49
- ◉ 0.40 ✗
- ○ 0.29

✓ Find the area of triangle whose vertices are (3,1),(1, 3)and(2,3).using detrminant method. 1/1

- ○ 10 unit
- ○ 11unit
- ○ 12unit
- ◉ 14 unit ✓

✓ 1/1

An Auditorium is in cubical form having sides 10 metres. How many

Students can accommodate if each student requires 2.5 meter cube of space?

- 300
- 400 ✓
- 500
- 600

✗ Find the distance between two parallel lines 5x-12y+1=0,10x-24y-1=0 0/1

- -3/26 unit
- 3/26 unit
- 13/26 unit ✗
- 23/26 unit

0/1

If $A = \begin{bmatrix} 4 & 3 \\ 3 & 2 \end{bmatrix}$, find Adjoint of matrix

$\begin{bmatrix} 2 & 3 \\ -3 & 4 \end{bmatrix}$

Option 1

$\begin{bmatrix} 2 & -3 \\ -3 & 4 \end{bmatrix}$

Option 2

$\begin{bmatrix} 2 & 3 \\ 3 & 4 \end{bmatrix}$

Option 3

$\begin{bmatrix} 0 & 3 \\ 3 & 4 \end{bmatrix}$

Option 4

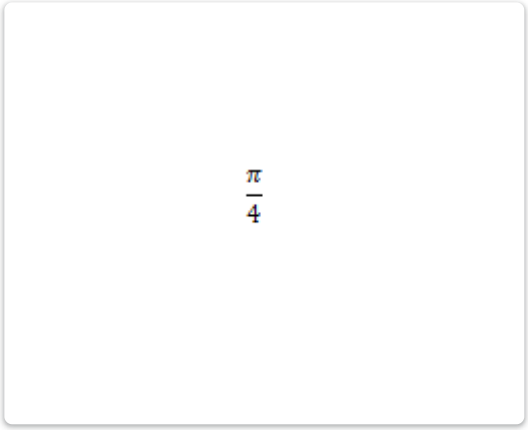
✓ If mean is 82 and standard deviation is 7, find the coefficient of variance 1/1

- (●) 8.537 ✓
- ( ) 9.53
- ( ) 10.4
- ( ) 7.54

✓ 1/1

Find the value of $\tan^{-1}(\frac{1}{2}) + \tan^{-1}(\frac{1}{3})$

- ( ) 1
- ( ) 0
- ( ) NONE
- (●) Option 3 ✓



✓ 1/1

A rectangular piece of paper is 22 cm long and 12 cm wide. A cylinder is Formed by rolling the paper along its length. Find the volume of the cylinder.

- (●) 462 cubic cm ✓
- ( ) 400 cubic cm
- ( ) 362 cubic cm
- ( ) 299 cubic cm

✓ 1/1

The diameter of a road roller of length 120 cm is 84 cm. To level a Playground it takes 500 complete revolutions. Find the cost of levelling a playground at the cost of Rs.2 per square metre.

- ( ) 3200 rs
- ( ) 3000rs
- (●) 3168 rs ✓
- ( ) 4000rs

✓ Find the capacity of a cylindrical water tank whose radius is 2.1m and length is 5m. 1/1

- ○ 88.6 cu.m
- ○ 77 cu. m
- ◉ 69.3 cu. m ✓
- ○ 100 cu.m

✗ if tan[A]=1/2 and tan[B]=1/3 then find tan[2A+B] 0/1

- ○ 3
- ○ 2
- ○ 1
- ◉ 0 ✗

✓ If A and B are two square matrices, then |A.B| is same as which of the following? 1/1

- ◉ |A|.|B| ✓
- ○ A.B
- ○ A
- ○ B

✓ 1/1

If $A=\begin{bmatrix}2 & 3 & -1\\ 4 & 5 & 0\end{bmatrix}$ and B $=\begin{bmatrix}-1 & 2 & 4\\ 1 & 3 & 0\end{bmatrix}$ Then find $[A+B]^T$=....

$\begin{bmatrix}1 & -5\\ 5 & 8\\ 3 & 0\end{bmatrix}$

Option 1

$\begin{bmatrix}1 & 5\\ 5 & 8\\ 3 & 0\end{bmatrix}$

Option 2 ✓

$\begin{bmatrix}1 & -5\\ 5 & -8\\ 3 & 0\end{bmatrix}$

Option 3

$\begin{bmatrix}1 & -5\\ 5 & -8\\ 4 & 0\end{bmatrix}$

Option 4

✗ SinA = 5/13 then cosA= .....if angle A lie in 2nd quadrant 0/1

- -[12/13]
- 13/12 ✗
- -[15/12]
- 0

✗ The point [3,4] lies on the line kx + y +3 -k = 0 ,find k 0/1

- 7/2
- -7/2
- 2/7
- -2/7

✗ Resolve into partial fraction and Find A and B 0/1

$$\frac{1}{x^2-x} = \frac{A}{X} + \frac{B}{X-1}$$

- A=-1 AND B=2 ✗
- A=2 AND B=1
- A=1 AND B=-1
- A=-1 AND B=1

0/1

If $A = \begin{bmatrix} 1 & -5 \\ 6 & 4 \end{bmatrix}$ and B $= \begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ Find AB − 2I where I is identity matrix

$\begin{bmatrix} -1 & 5 \\ 6 & -6 \end{bmatrix}$

Option 1

$\begin{bmatrix} 1 & 5 \\ 6 & -6 \end{bmatrix}$

Option 2

$\begin{bmatrix} 1 & 5 \\ 6 & 6 \end{bmatrix}$

Option 3

$\begin{bmatrix} 2 & 5 \\ 6 & 6 \end{bmatrix}$

Option 4

✗ 0/1

If $A = \begin{bmatrix} -2 & 0 & 1 \\ 1 & 2 & 3 \end{bmatrix}$; $B = \begin{bmatrix} 0 & 1 \\ 2 & 3 \\ 1 & 1 \end{bmatrix}$ then $|AB|$

- 21
- 20
- 17
- (●) 0 ✗

✓ 1/1

Find the value of x if $log_3[x + 6] = 2$

- 4
- 1
- (●) 3 ✓
- 5

✗ Find p if the lines 3x+ 4py+8=0 and 3py-9x+10=0 are perpendicular to each other 0/1

- ○ 3/2
- ◉ -3/2 ✗
- ○ 5/2 and -3/2
- ○ 3/2 and -3/2