Question 1

Complete

Mark 3.00 out of 3.00

Find the continued product of all the value of $i^{2/3}$

Select one:

- a. -1
- b. 0
- c. 2
- d. 1

The correct answer is: -1

Question 2

Complete

Mark 2.00 out of 2.00

If A is a square Matrix then which of the following is correct

1.Rank of A =Rank of $\overline{A}$

2.Rank of A <Rank of $\overline{A}$

3.Rank of A >Rank of $\overline{A}$

4Rank of A $\neq$ Rank of $\overline{A}$

Select one:

- 2
- 3
- 4
- 1

The correct answer is: 1

Question 3

Complete

Mark 2.00 out of 2.00

$f(x, y) = x^2 + y^3$; $X = t^2 + t^3$; $y = t^3 + t^9$ Find $^{df}/_{dt}$ at t=1.

Select one:

- a. -1
- b. 1
- c. 164
- d. 0

The correct answer is: 164

Question 4

Complete

Mark 2.00 out of 2.00

If $x = r\cos\theta, y = r\sin\theta$ *then* $\partial(r,\theta)/(\partial(x,y)$ *is equal to*

Select one:

- a. r
- b. 1/r
- c. 1
- d. 0

The correct answer is: 1/r

Question 5

Complete

Mark 3.00 out of 3.00

Solve the following equation by Jacobi's iteration method. (up to 4 decimal places with out roundoff) : 10x+y+z=12, x+10y+z=12, x+y+10z=12

1st iteration:

x= 1.2000

y= 1.2000

z= 1.2000

2nd iteration:

x= 0.9600

y= 0.9600

z= 0.9600

Question 6

Complete

Mark 3.00 out of 3.00

Solve the following equation by Gauss Seidal iteration method. (up to 4 decimal places with out roundoff) : 15x+y+z=17, 2x+15y+z=18, x+2y+15z=18

1st iteration:

x= 1.1333

y= 1.0488

z= 0.9846

2nd iteration:

x= 0.9977

y= 1.0013

z= 0.9999

Question 7

Complete

Mark 3.00 out of 3.00

Are the following vectors linearly dependent? If so, find the relation between them.

$X_1 = [1\ 2\ 4],\ X_2 = [2\ -1\ 3\ ], X_3 = [0\ 1\ 2]$

After solving this homogeneous system AX = 0

Rank of matrix A is 3

Whether r = no. of variables?

- (•) Yes
- ( ) No

The correct answer is: Yes

Hence system will have

- (•) Only trivial solution
- ( ) Infinite non-trivial solutions
- ( ) No solution

The correct answer is: Only trivial solution

Hence given set of vectors are linearly

- (•) Independent
- ( ) Dependent

The correct answer is: Independent

Question 8

Complete

Mark 2.00 out of 2.00

$$\left(\frac{1}{\sqrt{2}}+\frac{i}{\sqrt{2}}\right)^{4/3}+\left(\frac{1}{\sqrt{2}}-\frac{i}{\sqrt{2}}\right)^{4/3}=$$

Select one:

- a. 0
- b. 2
- c. 1
- d. -2

The correct answer is: 1