

The default category for questions shared in context 'MTH105'.
Multiple Choice Questions (MCQs)

MCQ1

Given these propositions

I. Garri is from yam and $8+1=6$

II. Garri is from maize and $2+4=8$

III. Garri from cassava and $3+4=9$

IV. Garri is from cassava and $4+5=9$

The only proposition is

i

0.00000000

ii

0.00000000

iii

0.00000000

iv

1.00000000

MCQ2

Given that $p \rightarrow q$ this means the symbols speak about

Conjunction $p \wedge q$

1.00000000

Disjunction $p \vee q$

0.00000000

Conjunction $p \vee q$

0.00000000

Disjunction p/q

0.00000000

MCQ3

If P is a given negation, its negation is _____

$\neg p$

0.00000000

$\vee p$

0.00000000

$\sim p$

1.00000000

$/ p$

0.00000000

MCQ4

Conditional statement is of the form $\text{If } P \text{ then } Q.$ then the symbolical representation is

$p \rightarrow q$

0.00000000

$p \rightarrow q$

1.00000000

$p \vee q$

0.00000000

$p \sim q$

0.00000000

MCQ5

Bi-conditional statement can be symbolically represented as ____

$p \rightarrow q$

0.00000000

$p \rightarrow q$

0.00000000

$p \rightarrow q$

1.00000000

$p \vee q$

0.00000000

MCQ6

Given that $(p \vee q) \vee r = p \vee (q \vee r)$

Commutative

0.00000000

Idempotent

0.00000000

Associative

1.00000000

Distributive

0.00000000

MCQ7

If $p \vee (q \rightarrow r) = (p \vee q) \rightarrow (p \vee r)$ then it is a(an) ____

Identity

0.00000000

Commutative

0.00000000

Distributive

1.00000000

Associative

0.00000000

MCQ8

If $A = \begin{bmatrix} 2 & 0 & 0 & 5 & 0 & 0 & 1 \end{bmatrix}$ then A is matrix

Square

0.00000000
Diagonal

1.00000000
Transpose

0.00000000
Symmetric

0.00000000
MCQ9
Given $A = \begin{bmatrix} 12 & 32 & 42 \end{bmatrix}$ and $B = \begin{bmatrix} 10 & 42 & 13 \end{bmatrix}$ find $A+B$

$\begin{bmatrix} 10 & 42 & 12 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 12 & 64 & 53 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 22 & 74 & 55 \end{bmatrix}$

1.00000000
 $\begin{bmatrix} 21 & 75 & 45 \end{bmatrix}$

0.00000000
MCQ10
If $A = \begin{bmatrix} 21 & 33 & 12 \end{bmatrix}$ and $B = \begin{bmatrix} 21 & 21 & 22 \end{bmatrix}$ then $2A+B=$

$\begin{bmatrix} 42 & 84 & 33 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 63 & 87 & 46 \end{bmatrix}$

1.00000000
 $\begin{bmatrix} 63 & 75 & 56 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 63 & 87 & 56 \end{bmatrix}$

0.00000000
MCQ11
Given that $A = \begin{bmatrix} 12 & 34 & 57 \end{bmatrix}$ and $B = \begin{bmatrix} 12 & 43 & 65 \end{bmatrix}$ find AB

$\begin{bmatrix} 27 & 23 & 66 & 58 \end{bmatrix}$

1.00000000
 $\begin{bmatrix} 23 & 66 & 27 & 58 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 66 & 58 & 23 & 27 \end{bmatrix}$

0.00000000
 $\begin{bmatrix} 23 & 27 & 66 & 58 \end{bmatrix}$

0.00000000
MCQ12
Find the determinant of $A = \begin{bmatrix} 4 & 3 & 6 & 5 \end{bmatrix}$

20

0.00000000

18

0.00000000

5

0.00000000

2

1.00000000

MCQ13

Find the determinant of 12-47

15

1.00000000

12

0.00000000

9

0.00000000

6

0.00000000

MCQ14

Find det X, given that $X = \begin{pmatrix} 1 & 2 & 3 & 3 & 2 & 1 & 4 & 1 & 1 \end{pmatrix}$

15

0.00000000

12

0.00000000

-12

1.00000000

-15

0.00000000

MCQ15

Given that 3×1 is a singular matrix, find X.

$21/2$

0.00000000

$11/2$

1.00000000

1

0.00000000

0

0.00000000

MCQ16

Given that $M = \begin{pmatrix} 2 & 2 & 1 & + & 6 & 2 & - & X & 2 & 1 & 3 \end{pmatrix}$ find X, for M to be singular

$21/2$

0.00000000

$31/2$

0.00000000
41/2

0.00000000
51/2

1.00000000
MCQ17
Solve for x and y in $x+3y=4$ and $3x+4y=6$

2/5, 6/5

1.00000000
6/5, 2/5

0.00000000
-6/5, 2/5

0.00000000
6/5, -2/5

0.00000000
MCQ18
Given that co-factor matrix $M = \begin{pmatrix} 16 & -12 & -4 & -5 & -33 & -12 & -3 \\ -12 & 5 & -5 & -12 & -3 & 12 & -43 \\ -5 & -12 & 5 & -12 & -3 & 12 & -43 \\ -3 & -12 & -5 & -12 & -3 & 12 & -43 \\ -33 & -12 & -3 & 12 & -43 & 12 & -43 \\ -12 & -3 & 12 & -43 & 12 & -43 & 12 \\ -3 & 12 & -43 & 12 & -43 & 12 & -43 \end{pmatrix}$ find the Adj M

16-5-5-12-312-43-3

1.00000000
16-12-5-12-312-412-3

0.00000000
16-5-5-1212-3-43-3

0.00000000
16-3-5-121212-4-12-3

0.00000000
MCQ19
Find the magnitude of $3\mathbf{i} + 4\mathbf{j}$

3

0.00000000
4

0.00000000
5

1.00000000
7

0.00000000
MCQ20
Let x, y, z be the heights assigned to A, B, C such that $x+2y+3z= 11$, $2x+4y+5z= 21$ and $x+2y+3z= 11$

x= 2, y=3, z=2

0.00000000

x=2, y=-3, z=1

0.00000000

x=2, y=3, z=1

1.00000000

x=2, y=3, z=-2

0.00000000

MCQ21

Find the unit vector in the direction of the vector $4i - 3j$

$\frac{1}{5}(4i - 3j)$

1.00000000

$\frac{1}{5}(4i + 3j)$

0.00000000

$\frac{1}{5}(3i - 4j)$

0.00000000

$\frac{1}{5}(3i + 4j)$

0.00000000

MCQ22

If $Z_1 = 3+i$ and $Z_2 = 4+3i$, find Z_1+Z_2

$12+3i$

0.00000000

$7+4i$

1.00000000

$12+3i$

0.00000000

$7+4i$

0.00000000

MCQ23

Given that $Z_1 = 3+2i$ and $Z_2 = 5+3i$, find $Z_1 - Z_2$

$2+4i$

0.00000000

$2+4i$

0.00000000

$2+4i$

0.00000000

$-2+4i$

1.00000000

MCQ24

If $Z_1 = 2+2i$ and $Z_2 = 5+3i$, find Z_1/z_2

$\frac{(2-2i)(5+3i)}{34}$

1.00000000
 $(2-2i)(5-3i)$ 34

0.00000000
 $(2+2i)(5+3i)$ 34

0.00000000
 $(2+2i)(5-3i)$ 34

0.00000000
MCQ25
Find the distance between A (5, -3) and B (-1, 3)

-63

0.00000000
-62

0.00000000
63

0.00000000
62

1.00000000
MCQ26
Find the angle of inclination if A (2, -3) and B (4, 5)

90o

0.00000000
60o

0.00000000
45o
1.00000000
30o

0.00000000
MCQ27
Find the distance between A (0, 1) and B (9, 6)

104

0.00000000
105

0.00000000
106

1.00000000
107

0.00000000
MCQ28
Find the distance between A (6, 3) and (6, 9)

8

0.00000000
6

1.00000000
4

0.00000000

2

0.00000000

MCQ29

Find the gradient of the straight line A (-2, 0) and B (6, -4)

2/3

0.00000000

3/2

0.00000000

1/2

1.00000000

2/2

0.00000000

MCQ30

Find the distance between A (6, 9) and B (11, 15)

36

0.00000000

25

0.00000000

61

1.00000000

51

0.00000000

MCQ31

Find the equation of a line with A (2, 3) and B (6, 8)

$5x+4y= -2$

0.00000000

$5x-4y= -2$

1.00000000

$5x+4y= 2$

0.00000000

$5x-4y= 2$

0.00000000

MCQ32

Find the equation of a line, which passes through the points A (0, 3) and (6, 0)

$x+2y= 6$

0.00000000

$x-2y= 6$

0.00000000

$y-2x= 6$

0.00000000

$y+2x= 6$

1.00000000

MCQ33

Find the coordinate of the point of intercept of the equations $2x+3y= 5$ and $x+2y= 3$.

1, 1

1.00000000

1, -1

0.00000000

-1, 1

0.00000000

-1, -1

0.00000000

MCQ34

Find the gradients of these equations $x+y= 5$ and $x+2y= 6$ respectively

-1 and $-1/2$

1.00000000

1 and $1/2$

0.00000000

-1 and $1/2$

0.00000000

1 and $-1/2$

0.00000000

MCQ35

Find the coordinate of the meeting points of equations $x+y= 3$ and $x+2y= 5$

-1, -2

0.00000000

1, -1

0.00000000

-1, 2

0.00000000

1, 2

1.00000000

MCQ36

Find the equation of a line that is perpendicular to $2x+5y= 10$

$5x-2y=4$

0.00000000

$5x-2y= -4$

1.00000000

$2x-5y= -10$

0.00000000

$2x+5y =10$

0.00000000

MCQ37

Given that two (2) lines with gradients M1 and M2 are parallel, then_____

M1 ? M2

0.00000000

M1 < M2

0.00000000

M2 < M1

0.00000000

M1 = M2

1.00000000

MCQ38

Find the equation of the line which is parallel to $3x+2y= 5$ and passes through the point $(3, -6)$.

$3x+2y= 3$

0.00000000

$3y+2x= 3$

0.00000000

$3x+2y= -3$

1.00000000

$3y+2x= -3$

0.00000000

MCQ39

Find the equation of the line which is perpendicular to $2x+3y= 6$ and passes through the point $(2, -4)$

$2x+3y= 8$

0.00000000

$2x+3y= -8$

1.00000000

$2x+3y= -8$

0.00000000

$2x+3y= 8$

0.00000000

MCQ40

Given $x^2+y^2+24x+10+60= 0$, find the coordinate of the centre.

12, 5

1.00000000

5, 12

0.00000000

-12, -5

0.00000000

-5, -12

0.00000000

MCQ41

Find the coordinate of the centre and radius of circle of the equation $x^2+y^2+24x+6y+86= 0$

$(-12, -3), r = 7$

0.00000000

$(12, -3), r = 7$

0.00000000

$(12, 3), r = 7$

1.00000000

$(-12, 3), r = 7$

0.00000000

MCQ42

Given that n th term of a Sequence $4, 6, 8, \dots$ is $a_n = a + (n-1)d$, find the 7th term

10

0.00000000

12

0.00000000

14

0.00000000

16

1.00000000

MCQ43

Given the two (2) sequences $1, 3, 5, \dots$ and $2, 4, 6, \dots$ the 8th terms of the two (2) sequences are \dots .

11 and 12

0.00000000

13 and 14

0.00000000

15 and 16

1.00000000

17 and 18

0.00000000

MCQ44

Find the 16th term of an A.P whose first term is 102 and common difference -3.

37

0.00000000

47

0.00000000

57

1.00000000

67

0.00000000

MCQ45

The 4th and 9th terms of an A.P are 10 and 20 respectively; find the first term and the common difference.

4, 2

4, 3

4, 5

4, 7

0.00000000

MCQ46

Find the common ratio of the following 6, 18, 54

2

3

4

5

0.00000000

MCQ47

Find the common ratio of $\frac{1}{32}, \frac{1}{16}, \frac{1}{8}$

4

2

 $1/2$ $1/4$

0.00000000

MCQ48

Find the limit of $5x+1$ as $x \rightarrow 8$

0

1

5

6

0.00000000

MCQ49

The derivative of $5x^3+3x+2/x$

$$15x^2 + 3 + 2/x^2$$
$$15x^2 - 3 + 2/x^2$$

0.00000000
15x²+3-2/x²

1.00000000
15x²-3-2/x²

0.00000000
MCQ50
If $y = \sin^{-1}x$, find dy/dx

1/1-x²

0.00000000
1/1+x²

0.00000000
1/1-x²

1.00000000
1/1+x²

0.00000000
Fill in the Blank (FBQs)
FBQ1
A matrix, which has the same number of rows and columns is called _____

square matrix
1.00000000

0.00000000
FBQ2
_____ is a matrix in which all its diagonal elements are one

identify matrix
1.00000000
FBQ3
The disjunction of X and Y is denoted by _____

$X \vee Y$
1.00000000

0.00000000
FBQ4
_____ is the conjunction of X and Y

$(X \wedge Y)$
1.00000000

0.00000000
FBQ5
The statement of the form $m \leftrightarrow n$ If and only If n or $m \leftrightarrow n$ If n is denoted by _____

$m \leftrightarrow n$
1.00000000
FBQ6
Let a be she is tall and b be she is nice. The state in symbolic is written as _____

$(a \wedge b)$
1.00000000
FBQ7
Let a be she is fair or b be she is beautiful. The statement in symbolic form is

(a ? b)
1.00000000

FBQ8

If $\neg p$ is she is tall and $\neg q$ is she is beautiful. The statement that she is tall or short and beautiful can be symbolically represented as ____

(p ? ($\sim p \wedge q$))
1.00000000

0.00000000
FBQ9

If p and q stand for he is tall and handsome respectively, then ($\sim p \wedge \sim q$) is ____ ?

He is neither tall nor handsome
1.00000000

0.00000000
FBQ10

The equilibrium prices and quantities for two commodity market models $X_d = -2 + p + q$ and $X_s = -2 + q$ is ____

(2, 4)
1.00000000

FBQ11

The equation of the line passing through the points A (2,3) and B (4, 6) is ____?

$2y = 3x$
1.00000000

FBQ12

____ is defined to be the matrix obtained by replacing every number a_{ij} of the given matrix A by its cofactor in the determinant of A.

cofactor
1.00000000

FBQ13

Given that $A = 1425$, the determinant of A is ____

-3
1.00000000

0.00000000
FBQ14

The determinant of $A^2 + 2A$ is ____, Given that $A = 1221$

15
1.00000000

FBQ15

If $A = 200010203$ it is called ____?

diagonal matrix
1.00000000

FBQ16

The determinant of $1-11-223-121$ is

-3
1.00000000

FBQ17

The conditional statement of the form if $\neg a$ then $\neg b$ is ____

($a \rightarrow b$)
1.00000000

FBQ18

____ are the vectors with the same magnitude and directions.

equal vectors

1.00000000

FBQ19

Equal directions and magnitude means the vectors are ____

Parallel

1.00000000

0.00000000

FBQ20

If three or more points lie on a straight line, they are said to be ____

Collinear

1.00000000

FBQ21

The modulus $|a|$ is the same thing as ____

Magnitude

1.00000000

FBQ22

A complex variable Z is of the form $a + bi$ where a and b are called ____

real number

1.00000000

0.00000000

FBQ23

In a complex variable Z of the form $a + bi$, i is called ____

imaginary number

1.00000000

FBQ24

Two or more complex numbers Z_1 , Z_2 and Z_3 are said to be equal if their ____ are equal

real parts

1.00000000

FBQ25

Given that a complex number $Z = a + bi$, then its conjugate is written as ____

$Z = a - bi$

1.00000000

$a - bi$

1.00000000

FBQ26

If $Z^n = r^n (\cos \theta + i \sin \theta) = r^n (\cos \theta + i \sin \theta)^n$, it is called ____

De Moivre's Theorem

1.00000000

FBQ27

The slope is the same thing as ____ of the line with x-axis

tangent of an angle inclination

1.00000000

FBQ28

The gradient of a line is the same as the ____ of that line, usually denoted by m .

Slope

1.00000000

0.00000000

FBQ29

The gradient or slope of any line can be determined by the ____ in y and/over that of x.

rate of change
1.0000000

0.0000000
FBQ30

The equation of a straight line $y = mx + c = 0$ has ____ and ____ as slope and the intercept on the y-axis.

m and c
1.0000000
FBQ31

The equation of a line that passes through the origin is ____

$y = mx$
1.0000000
FBQ32

The equation of a line given one point and the slope is generally written as ____

$y - y_1 = m(x - x_1)$
1.0000000
FBQ33

____ is the locus of curve equidistant from a point.

Circle
1.0000000
FBQ34

Differentiation is the inverse process of ____

Integration
1.0000000
FBQ35

If the value of turning point in ____ is negative then it is a maximum point.

second derivative
1.0000000
FBQ36

If the value of the turning point in the second derivation is positive, then it is a ____

minimum point
1.0000000
FBQ37

____ is the point at which curve is neither a maximum nor minimum.

point of inflexion
1.0000000
FBQ38

At point of inflexion, the turning points are equal and can be referred to as ____

double stationary points
1.0000000
FBQ39

At the point of inflexion, the value of the stationary point at the second derivation is ____

Zero
1.0000000
FBQ40

If a die is rolled, the probability of getting odd and prime number is ____

14

1.00000000

FBQ41

___ is the amount by which a resource is underutilized in optimization model.

Slack

1.00000000

0.00000000

FBQ42

Comparing straight line equations with business that is demand function, we have $y = mx + c$ and $q = mp + c$, where $y=q$ stands for ___

function of goods demanded

1.00000000

FBQ43

Comparing straight line equations with business that is demand function, we have $y = mx + c$ and $q = mp + c$, where $mx = mp$ then m stands for

gradient of x and p respectively

1.00000000

* coefficient of x and p respectively*

1.00000000

FBQ44

Comparing straight line equations with business that is demand function, we have $y = mx + c$ and $q = mp + c$, where $mx = mp$ then x and p stand for ___

variable price of the goods demanded

1.00000000

FBQ45

The equation of a line with two points and the slope is ___

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{y - y_1}{x - x_1}$

1.00000000

$m = \frac{y_1 - y_2}{x_2 - x_1} = \frac{y - y_2}{x - x_2}$

1.00000000

FBQ46

Give that $\vec{AB} = -\vec{BA}$ are vectors of the same magnitude but in _____ direction.

Opposite

1.00000000

FBQ47

If $\vec{AB} = 1$, then \vec{AB} and it is called a ___ vector

Unit

1.00000000

FBQ48

Given $\vec{AB} = -\vec{BA}$ are vectors of the ___ magnitude but in opposite direction.

same

1.00000000

FBQ49

a is equal to $0a$ If $0a$ is less than ___

Zero

1.00000000

0

1.00000000

FBQ50

a is equal to $0a$ If $0a$ is greater than ___

Zero

1.00000000

0

1.00000000Zero*
1.00000000
0
1.00000000