

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

0.0000000

ii

0.0000000

iii

0.0000000

iv

1.0000000

MCQ2

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

Conjunction $p \wedge q$

1.0000000

Disjunction $p \vee q$

0.0000000

Conjunction $p \vee q$

0.0000000

Disjunction p/q

0.0000000

MCQ3

If P is a given negation, its negation is _____

? p

0.0000000

v p

0.0000000

~ p

1.0000000

/ p

0.0000000

MCQ4

Conditional statement is of the form "if P then Q." then the symbolical representation is

p ? q

0.0000000

p à q

1.0000000

p v q

0.0000000

p ~ q

0.0000000

MCQ5

Bi-conditional statement can be symbolically represented as ____

p ? q

0.0000000

p à q

0.0000000

p ó q

1.0000000

p v q

0.0000000

MCQ6

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

Commutative

0.0000000
Idempotent

0.0000000
Associative

1.0000000
Distributive

0.0000000
MCQ7
If $p \vee (q \wedge r) = (p \vee q) \wedge (p \vee r)$ then it is a(an) _____

Identity

0.0000000
Commutative

0.0000000
Distributive

1.0000000
Associative

0.0000000
MCQ8
If $A = \begin{bmatrix} 2 & 0 & 0 & 5 & 0 & 0 & 0 & 1 \end{bmatrix}$ then A is matrix

Square

0.0000000
Diagonal

1.0000000
Transpose

0.0000000
Symmetric

0.0000000
MCQ9
Given $A = \begin{bmatrix} 1 & 2 & 3 & 2 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 & 4 & 2 & 1 & 3 \end{bmatrix}$ find $A+B$

$\begin{bmatrix} 1 & 0 & 4 & 2 & 1 & 2 \end{bmatrix}$

0.0000000
 $\begin{bmatrix} 1 & 2 & 6 & 4 & 5 & 3 \end{bmatrix}$

0.0000000

227455

1.0000000
217545

0.0000000
MCQ10

If $A = 213312$ and $B = 212122$ then $2A+B=$

428433

0.0000000
638746

1.0000000
637556

0.0000000
638756

0.0000000
MCQ11

Given that $A = 123457$ and $B = 124365$ find AB

27236658

1.0000000
23662758

0.0000000
66582327

0.0000000
23276658

0.0000000
MCQ12

Find the determinant of $A = 4365$

20

0.0000000
18

0.0000000
5

0.0000000

2

1.0000000

MCQ13

Find the determinant of 12-47

15

1.0000000

12

0.0000000

9

0.0000000

6

0.0000000

MCQ14

Find det X, given that X= 123321411

15

0.0000000

12

0.0000000

-12

1.0000000

-15

0.0000000

MCQ15

Given that 32×1 is a singular matrix, find X.

$21/2$

0.0000000

$11/2$

1.0000000

1

0.0000000

$\frac{1}{2}$

0.0000000

MCQ16

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

$21/2$

0.0000000

$31/2$

0.0000000

$41/2$

0.0000000

$51/2$

1.0000000

MCQ17

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

$2/5, 6/5$

1.0000000

$6/5, 2/5$

0.0000000

$-6/5, 2/5$

0.0000000

$6/5, -2/5$

0.0000000

MCQ18

Given that co-factor matrix $M = \begin{bmatrix} 16 & -12 & -4 & -5 & -3 \\ 3 & -12 & -3 & 12 & -4 \\ 3 & -12 & -5 & -12 & 16 \end{bmatrix}$ find the Adj M

$\begin{bmatrix} 16 & -5 & -5 & -12 & -3 \\ 12 & -4 & -3 & 12 & -16 \\ 3 & -12 & -5 & -12 & 16 \end{bmatrix}$

1.0000000

$\begin{bmatrix} 16 & -12 & -5 & -12 & -3 \\ 12 & -4 & -3 & 12 & -16 \\ 3 & -12 & -5 & -12 & 16 \end{bmatrix}$

0.0000000

$\begin{bmatrix} 16 & -5 & -5 & -12 & -3 \\ 12 & -4 & -3 & 12 & -16 \\ 3 & -12 & -5 & -12 & 16 \end{bmatrix}$

0.0000000

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

0.0000000

MCQ19

Find the magnitude of $3i - 4j$

3

0.0000000

4

0.0000000

5

1.0000000

7

0.0000000

MCQ20

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

$x= 2, y=3, z=2$

0.0000000

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

0.0000000

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

1.0000000

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

0.0000000

MCQ21

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

$1/5(4i - 3j)$

1.0000000

$1/5(4i + 3j)$

0.0000000

$1/5(3i - 4j)$

0.0000000
 $\frac{1}{5}(3i + 4j)$

0.0000000
MCQ22
If $Z_1 = 3+i$ and $Z_2 = 4+3i$, find Z_1+Z_2

$12+3i$

0.0000000
 $7+4i$

1.0000000
 $12-3i$

0.0000000
 $7-4i$

0.0000000
MCQ23
Given that $Z_1 = 3-2i$ and $Z_2 = 5+3i$, find $Z_1 - Z_2$

$2+4i$

0.0000000
 $2-4i$

0.0000000
 $2+4i$

0.0000000
 $-2-4i$

1.0000000
MCQ24
If $Z_1 = 2-2i$ and $Z_2 = 5-3i$, find Z_1/z_2

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

1.0000000
 $\frac{(2-2i)(5-3i)}{34}$

0.0000000
 $\frac{(2+2i)(5+3i)}{34}$

0.0000000
 $\frac{(2+2i)(5-3i)}{34}$

0.0000000

MCQ25

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

-63

0.0000000

-62

0.0000000

63

0.0000000

62

1.0000000

MCQ26

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

90o

0.0000000

60o

0.0000000

45o

1.0000000

30o

0.0000000

MCQ27

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

104

0.0000000

105

0.0000000

106

1.0000000

107

0.0000000

MCQ28

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

8

0.0000000
6

1.0000000
4

0.0000000
2

0.0000000
MCQ29

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

$\frac{2}{3}$

0.0000000
 $\frac{3}{2}$

0.0000000
 $\frac{1}{2}$

1.0000000
 $\frac{2}{2}$

0.0000000
MCQ30

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

36

0.0000000
25

0.0000000
61

1.0000000
51

0.0000000
MCQ31

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

$5x+4y= -2$

0.0000000
 $5x-4y= -2$

1.0000000

$5x+4y= 2$

0.0000000

$5x-4y= 2$

0.0000000

MCQ32

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

$x+2y= 6$

0.0000000

$x-2y= 6$

0.0000000

$y-2x= 6$

0.0000000

$y+2x= 6$

1.0000000

MCQ33

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

1, 1

1.0000000

1, -1

0.0000000

-1, 1

0.0000000

-1, -1

0.0000000

MCQ34

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

-1 and -1/2

1.0000000

1 and 1/2

0.0000000

-1 and 1/2

0.0000000

1 and $-1/2$

0.0000000

MCQ35

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

-1, -2

0.0000000

1, -1

0.0000000

-1, 2

0.0000000

1, 2

1.0000000

MCQ36

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

$5x-2y=4$

0.0000000

$5x-2y= -4$

1.0000000

$2x-5y= -10$

0.0000000

$2x+5y =10$

0.0000000

MCQ37

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

$M1 \neq M2$

0.0000000

$M1 < M2$

0.0000000

$M2 < M1$

0.0000000

$M1 = M2$

1.0000000

MCQ38

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

$3x+2y= 3$

0.0000000

$3y+2x= 3$

0.0000000

$3x+2y= -3$

1.0000000

$3y+2x= -3$

0.0000000

MCQ39

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

$2x-3y= 8$

0.0000000

$2x+3y= -8$

1.0000000

$2x-3y= -8$

0.0000000

$2x+3y= 8$

0.0000000

MCQ40

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

$12, 5$

1.0000000

$5, 12$

0.0000000

$-12, -5$

0.0000000

$-5, -12$

0.0000000

MCQ41

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

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

0.0000000

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

0.0000000

$(12, 3), r = 7$

1.0000000

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

0.0000000

MCQ42

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

10

0.0000000

12

0.0000000

14

0.0000000

16

1.0000000

MCQ43

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

11 and 12

0.0000000

13 and 14

0.0000000

15 and 16

1.0000000

17 and 18

0.0000000

MCQ44

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

37

0.0000000
47

0.0000000
57

1.0000000
67

0.0000000
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

1.0000000
4, 3

0.0000000
4, 5

0.0000000
4, 7

0.0000000
MCQ46

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

2

0.0000000
3

1.0000000
4

0.0000000
5

0.0000000
MCQ47

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

4

0.0000000
2

1.0000000
1/2

0.0000000
1/4

0.0000000
MCQ48
Find the limit of $5x+1$ as $X \rightarrow 8$

0

0.0000000
1

0.0000000
5

1.0000000
6

0.0000000
MCQ49
The derivative of $5x^3+3x+2/x$

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

0.0000000
 $15x^2-3+2/x^2$

0.0000000
 $15x^2+3-2/x^2$

1.0000000
 $15x^2-3-2/x^2$

0.0000000
MCQ50
If $y=\sin^{-1}x$, find dy/dx

$1/1-x^2$

0.0000000
 $1/1+x^2$

0.0000000
 $1/1-x^2$

1.0000000

$1/1+x^2$

0.0000000

Fill in the Blank (FBQs)

FBQ1

A matrix, which has the same number of rows and columns is called _____

square matrix

1.0000000

0.0000000

FBQ2

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

identity matrix

1.0000000

FBQ3

The disjunction of X and Y is denoted by _____

$X \vee Y$

1.0000000

0.0000000

FBQ4

_____ is the conjunction of X and Y

$(X \wedge Y)$

1.0000000

0.0000000

FBQ5

The statement of the form 'm' If and only If 'n' or 'm' If 'n' is denoted by _____

$m \leftrightarrow n$

1.0000000

FBQ6

Let 'a' be she is tall and 'b' be she is nice. The state in symbolic is written as _____

$(a \wedge b)$

1.0000000

FBQ7

Let 'a' be she is fair or 'b' be she is beautiful. The statement in symbolic form is

$(a \vee b)$

1.0000000

FBQ8

If 'p' is she is tall and 'q' is she is beautiful. The statement that she is tall or short and beautiful can be symbolically represented as _____

$(p \rightarrow (\sim p \wedge q))$
1.0000000

0.0000000

FBQ9

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

He is neither tall nor handsome

1.0000000

0.0000000

FBQ10

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

(2, 4)

1.0000000

FBQ11

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

$2y = 3x$

1.0000000

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

1.0000000

FBQ13

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

-3

1.0000000

0.0000000

FBQ14

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

15

1.0000000

FBQ15

If $A = 200010203$ it is called _____?

diagonal matrix

1.0000000

FBQ16

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

-3

1.0000000

FBQ17

The conditional statement of the form if 'a' then 'b' is ____

($a \rightarrow b$)

1.0000000

FBQ18

____ are the vectors with the same magnitude and directions.

equal vectors

1.0000000

FBQ19

Equal directions and magnitude means the vectors are ____

Parallel

1.0000000

0.0000000

FBQ20

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

Collinear

1.0000000

FBQ21

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

Magnitude

1.0000000

FBQ22

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

real number

1.0000000

0.0000000

FBQ23

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

imaginary number

1.0000000

FBQ24

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

real parts

1.0000000

FBQ25

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

$$Z = a - bi$$

1.0000000

a-bi

1.0000000

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

1.0000000

FBQ27

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

tangent of an angle inclination

1.0000000

FBQ28

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

Slope

1.0000000

0.0000000

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

1.0000000

FBQ41

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

Slack

1.0000000

0.0000000

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

1.0000000

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

1.0000000

* coefficient of x and p respectively*

1.0000000

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

1.0000000

FBQ45

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

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

1.0000000

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

1.0000000

FBQ46

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

Opposite

1.0000000

FBQ47

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

Unit

1.0000000

FBQ48

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

same

1.0000000

FBQ49

a is equal to $-a$ If " a " is less than ____

Zero

1.0000000

0

1.0000000

FBQ50

a is equal to " a " If ' a ' is greater than ____

Zero

1.0000000

0

1.0000000Zero*

1.0000000
0
1.0000000