



Quiz

quiz.vu.edu.pk



Quiz Start Time: 10:19 PM, 17 Jun 2022

at 10:28:33 PM, 17 June 2022

Total

$x = 3\cos\theta$, $y = 3\sin\theta$, $0 \leq \theta \leq \pi$, is a _____ form of a curve in the plane.

m

Retired Mark

explicit

parametric

parametric vector

implicit



100% (10/10) Correct

If a vector of magnitude '4' is making angle 30-degree with Y-axis then its component vector along x-axis is -----.

Select the correct option:

- | | |
|----------------------------------|--------------|
| ☒ | 2 |
| ☐ | $-2\sqrt{3}$ |
| ☐ | $2\sqrt{3}$ |
| ☐ | -2 |

x +

2a2f253-9ff5-2531-a5da-2753f5d0185

Qn

$\vec{r}(t) = 3\cos t \vec{i} + 3\sin t \vec{j}$, $0 \leq t \leq \pi$, is a _____ form of a curve in the plane.

explicit

implicit

parametric

symmetric system



If a vector of magnitude '4' is making angle 30-degree with Y-axis then its component vector along x-axis is -----.

Select the correct option

- | | | |
|----------------------------------|--------------|--|
| ☒ | $2\sqrt{3}$ |  |
| ☐ | -2 | |
| ☐ | 2 | |
| ☐ | $-2\sqrt{3}$ | |

If $f(x, y, z) = \frac{1}{2}x^4y^{-2} - z$ then f_x , f_y and f_z are

$$f_x = 2x^3y^{-2}, f_y = x^4y^{-3} \text{ and } f_z = -1$$

$$f_x = 4x^3y^{-2}, f_y = -2x^4y^{-3} \text{ and } f_z = -1$$

$$f_x = 4x^3y^{-2}, f_y = -x^4y^{-3} \text{ and } f_z = -1$$

$$f_x = 2x^3y^{-3}, f_y = -x^4y^{-3} \text{ and } f_z = -1$$



MTH201-Quiz#1

Question # 5 of 10 (Start time: 11:52:42 PM, 17 June 2022)

The surface $z=f(x,y)$ falls (decreases) most rapidly at any point in the _____ of (Gradient).

Select the correct option



Opposite to the direction



Direction



Arbitrary direction



Direction perpendicular to





17025535-9301-4157-9346-65741E37116

Ques

1)

The volume of a rectangular parallelepiped is given by the formula $V = xyz$ then $dV =$

$$dV = xdz + ydz + xdy$$

$$dV = ydz + xdy + xdz$$

$$dV = xdy + xdz + ydz$$

$$dV = ydz + xdz + xdy$$



Click to Save Answer & Move

1/10

1)

The volume of a rectangular parallelepiped is given by the formula $V = xyz$ then $dV =$

$dV = xdz + ydz + xdy$

$dV = ydz + xdy + xdz$

$dV = ydz + xdy + xdz$

$dV = ydz + xdy + xdz$



Gradient of a scalar function always results in a.....function.

Select the correct option

- | | |
|-----------------------|---------------|
| ☐ | continuous |
| ☐ | discontinuous |
| ☐ | scalar |
| ☐ | vector |

not sour



quiz.vu.edu.pk/QuizQue:

3



DC20041003K ABDUL LATIF

Time Left 00:00

MTH201-Quiz#1

Quiz Start Time: 10:45 PM, 17 June 2022

Question 4 of 10 (Start Time: 11:01:15 PM, 17 June 2022)

Total Marks: 1

Gradient of a Temperature of any geographical region on earth results into a-----

Select the correct option



Vector quantity



Scalar quantity

Submit Answer | Flag Question

WhatsApp Business 11:00 pm

Math 201

+92 313 7636753 A



REPLY

MARK AS READ

Let $f(x, y, z)$ be a function with continuous second order partial derivatives. Its value is 0 at a critical point (x_0, y_0, z_0) . Let $H = f_{xx}(x_0, y_0, z_0)f_{zz}(x_0, y_0, z_0) - f_{xz}(x_0, y_0, z_0)^2$. If $H > 0$ and $f_{xx}(x_0, y_0, z_0) > 0$, then (x_0, y_0, z_0) is a local minimum.

What is the correct answer?

- ☐ (x_0, y_0, z_0) is a saddle point at (x_0, y_0, z_0)
- ☒ The only known can be known.
- ☐ $f(x, y, z)$ has a relative maximum at (x_0, y_0, z_0)
- ☐ $f(x, y, z)$ has a relative minimum at (x_0, y_0, z_0)



quiz.vu.edu.pk/QuizQue:

3



BC200410033/ ABDUL LATIF

Time Left 17 min

MTN201 Quiz 1

Quiz Start Time: 10:45 PM, 17 June 2022

Question # 6 of 10 (Start time: 10:56:37 PM, 17 June 2022)

Total Marks: 1

Let f be a function of two variables at a critical point $(0, 2)$, $f_{xx}(0, 2) = -2$, $f_{yy}(0, 2) = -2$ and $f_{xy}(0, 2) = -2$
 $\det D^2 f = f_{xx}(0, 2)f_{yy}(0, 2) - f_{xy}^2(0, 2) = 0$

Select the correct option

⚡ Hint: Hessian Equations

☐

then f has a saddle point at $(0, 2)$.

☐

then f has a relative maximum at $(0, 2)$.

☐

then no conclusion can be drawn.

☐

then f has a relative minimum at $(0, 2)$.

not sour



73% 10:57 pm



quiz.vu.edu.pk/QuizQue:

3



EC209410020: ABDOU LATIF

Time Left 17

MTN201-Quiz#1

Quiz Start Time: 10:45 PM, 17 June 2022

Question # 8 of 10 (Start time: 10:57:28 PM, 17 June 2022)

Total Marks: 1

The absolute maximum is also called local maximum.

Select the correct option

True



False



Submit Answer & Continue to Next Question

WTH001/20001

Question 4 of 10 (Total Score: 10000/10000) 37 June 2023

Let $f(x, y)$ be a function with continuous second-order partial derivatives in some neighborhood of a critical point (x_0, y_0) and let $D^2f = \begin{bmatrix} f_{xx}(x_0, y_0) & f_{xy}(x_0, y_0) \\ f_{xy}(x_0, y_0) & f_{yy}(x_0, y_0) \end{bmatrix}$.

Select the correct option.



$f(x, y)$ has a relative minimum at (x_0, y_0) .



$f(x, y)$ has a relative maximum at (x_0, y_0) .



$f(x, y)$ is a saddle point at (x_0, y_0) .



$f(x, y)$ has a relative maximum at (x_0, y_0) .



AD ALI

Time Left

Quiz Start Time: 10:44 PM,

Time: 10:54:18 PM, 17 June 2022)

$f(x_0, y_0)$ is an absolute minimum of $f(x, y)$ on domain D , if -----

Reload

$$f(x_0, y_0) > f(x, y) \quad \text{for all } (x, y) \in D$$

$$f(x_0, y_0) \geq f(x, y) \quad \text{for all } (x, y) \in D$$

$$f(x_0, y_0) \leq f(x, y) \quad \text{for all } (x, y) \in D$$



$$f(x_0, y_0) = f(x, y) \quad \text{for all } (x, y) \in D$$

Time: 10:54:18 PM, 17 June 2022



Quiz

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ECONOMICS: MUHAMMAD ALI

Time Left 00:00:00

MCQ Quiz 1

Quiz Start Time: 10:44 PM, 17 June 2022

Question 4 of 10 (Your time: 10:52:49 PM, 17 June 2022)

Total Marks: 4

Cross product of equal and opposite non-zero vectors (parallel or anti-parallel) is a-----.

Select the correct option

☐ Zero scalar

☒ Zero vector



Save & Submit Your Answer

Let f be a function of two variables with continuous 2nd ordered partial derivatives in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$.

[Return to Question](#)

if $D > 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .

if $D > 0$ and $f_{xx}(x_0, y_0) < 0$, then f has a relative minimum at (x_0, y_0) .

if $D = 0$, then no conclusion can be drawn.

if $D < 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .

PM, 17 June 2022)

If $f(x, y, z) = x^2 + 2y - 3z^2$ then f_x , f_y and f_z are

$$f_x = 2x, f_y = 2y \text{ and } f_z = -6z$$

$$f_x = 2x, f_y = 2 \text{ and } f_z = -6z$$

$$f_x = 2x, f_y = 2y \text{ and } f_z = 6z$$



$$f_x = 2x, f_y = 2 \text{ and } f_z = 6z$$

not sour

Quiz Start

10:48:39 PM, 17 June 2022

$x = 3 \cos \theta$, $y = 3 \sin \theta$; $0 \leq \theta \leq \pi$, is a _____ form of a curve in the plane.

parametric vector

implicit

explicit

parametric



Quiz Submitted Successfully

Time: 10:47:50 PM, 17 June 2022)

$y = \sqrt{9 - x^2}$, $-3 \leq x \leq 3$, is a _____ form of a curve in the plane.

parametric



implicit

parametric vector

explicit

Submit Answer



76% 10:46 pm



quiz.vu.edu.pk/QuizQue:

2



SC200410030: ABDUL LATIF

Time Left 05:00

MTN201: Quiz#1

Quiz Start Time: 10:45 PM, 17 June 2022

Question # 2 of 10 (Start time: 10:46:52 PM, 17 June 2022)

Total Marks: 1

The volume of a rectangular parallelepiped is given by the formula $V = xyz$ then $dV =$

Select the correct option

Select More Equations

- | | |
|----------------------------------|---------------------------------|
| ☐ | $dV = x y dz + x y dy + x y dx$ |
| ☒ | $dV = y dz + x dy + x dx$ |
| ☐ | $dV = x y dz + x dy + y dx$ |
| ☐ | $dV = y dz + x dy + y dx$ |

Previous Question Next Question

(29 PM, 17 June 2022)

If $f(x, y, z) = \frac{1}{2}x^4y^{-2} - z$ then f_x , f_y and f_z are

$$f_x = 2x^3y^{-2}, f_y = -x^4y^{-3} \text{ and } f_z = -1$$

$$f_x = 4x^3y^{-2}, f_y = -x^4y^{-3} \text{ and } f_z = -1$$

$$f_x = 4x^3y^{-2}, f_y = -2x^4y^{-3} \text{ and } f_z = -1$$



$$f_x = 2x^3y^{-2}, f_y = x^4y^{-3} \text{ and } f_z = -1$$



quiz.vu.edu.pk/QuizQue:

2



EC200410030: ABDUL LATIF

Time Left 30
00:00

MTH201-Quiz1

Quiz Start Time: 10:40 PM, 17 June 2022

Question 8 of 10 (Start time: 10:40:48 PM, 17 June 2022)

Total Marks: 1

The function increases most rapidly at $(0, 1)$ in the direction of

Select the correct option:

Reveal More Equations



$$\nabla f = \langle \nabla f \rangle_{\cos 1}$$



$$\nabla f = \langle \nabla f \rangle_{\cos \frac{\pi}{4}}$$



$$\nabla f = \langle \nabla f \rangle_{\cos 0}$$



$$\nabla f = \langle \nabla f \rangle_{\cos \pi}$$



Question 4 (2 of 10) (Start time: 10:45:17 PM, 17 June 2022)

Total Marks: 1

A differentiable function of a single variable might have a _____ point.

Select the correct option

- | | |
|----------------------------------|------------|
| ☐ | inflection |
| ☒ | initial |
| ☐ | saddle |
| ☐ | final |



If the velocity components of a bicycle are 3m/s towards east and 4m/s towards north then the speed(magnitude of velocity) is _____ m/s .

Select the correct option

- | | |
|----------------------------------|----|
| ☒ | 5 |
| ☐ | 12 |
| ☐ | 1 |
| ☐ | 7 |



Quiz

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qn # 10 of 10 (Start time: 10:45:24 PM, 17 June 2022)

Total Marks

Let f be a function of two variables with continuous 2nd ordered partial derivatives in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$.

The correct option

Return Math Equations

(if $D = 0$), then no conclusion can be drawn.



(if $D > 0$ and $f_{xx}(x_0, y_0) < 0$), then f has a relative minimum at (x_0, y_0) .

(if $D > 0$ and $f_{xx}(x_0, y_0) > 0$), then f has a relative maximum at (x_0, y_0) .

(if $D < 0$ and $f_{xx}(x_0, y_0) > 0$), then f has a relative maximum at (x_0, y_0) .

Submit Answer

The critical point which is neither minimum nor maximum is called —————

Select the correct option:



stationary point.



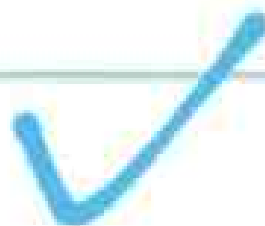
saddle point.



extreme point.



initial point.





BC390402248 AP022 UM N2A

Time Left 02:00

MTH201-Quiz P1

Quiz Start Time: 10:25 PM, 17 June 2022

Question 8 of 10 (Start Time: 10:43:18 PM, 17 June 2022)

Total Marks: 1

A differentiable function of a single variable might have a _____ point.

Select the correct option :

- | | |
|----------------------------------|------------|
| ☐ | inflection |
| ☐ | final |
| ☒ | saddle |
| ☐ | initial |





Cross product of equal and opposite non-zero vectors (parallel or anti-parallel) is a——.

Select the correct option:

☐ Zero scalar

☒ Zero vector





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MT11201 Quiz#1

Quiz Start Time: 10:32 PM, 17 June 2022

Question 4 of 10 (Quiz time: 10:42:43 PM, 17 June 2022)

Total Marks: 1

In order to find the critical points, we need to put f_x and f_y equal to.....

Select the correct option

[Return Math Equation](#)



2



0



1



-1



100% (1/1) Correct Answers

A _____ need not be the highest point on the entire graph.

Select the correct option:

- ☐ relative minimum
- ☒ relative maximum
- ☐ absolute minimum
- ☐ absolute maximum

Let f be a function of two variables at a critical point $(9, 2)$, $f_{xx}(9, 2) = 4$, $f_{yy}(9, 2) = 9$ and $f_{xy}(9, 2) = 1$
 and $D^2 f = f_{xx}(9, 2)f_{yy}(9, 2) - f_{xy}^2(9, 2) = -10$

Select the correct option

Save or Mark Question

- ☐ then no conclusion can be drawn.
- ☐ then f has a saddle point at $(9, 2)$.
- ☐ then f has a relative maximum at $(9, 2)$.
- ☒ then f has a relative minimum at $(9, 2)$.





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DC200602640: MUHAMMAD NAJIBUL AHJUM

Time Left 37
Seconds

MTS1001-Quiz#1

Quiz Start Time: 10:30 PM, 17 June 2022

Questions 8 of 10 (Start time: 10:30:31 PM, 17 June 2022)

Total Marks: 1

The function decreases most rapidly in the direction of

Select the correct option

Report Mark by option

☐	$-\nabla f$
☐	$-\nabla f$
☐	∇f
☐	$\nabla f = 0$

11/17/2022, 10:30 PM

Gradient of a Temperature of any geographical region on earth results into a-----

Select the correct option



Vector quantity



Scalar quantity



Question # 7 of 10 (Start time: 10:30:05 PM, 17 June 2022)

Total Marks: 1

The value $f(x_0, y_0)$ is an absolute maximum of $f(x, y)$ on domain D , if _____

Select the correct option

Submit Mark (1) option

- | | |
|----------------------------------|---|
| ☐ | $f(x_0, y_0) = f(x, y)$ for all $(x, y) \in D$ |
| ☐ | $f(x_0, y_0) > f(x, y)$ for all $(x, y) \in D$ |
| ☒ | $f(x_0, y_0) \geq f(x, y)$ for all $(x, y) \in D$ |
| ☐ | $f(x_0, y_0) = f(x, y)$ for all $(x, y) \in D$ |



Quiz
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For the function $y = f(x)$, the differential dy is equal to

0/100

Advanced Math Equa

$$f'(x)$$

$$f'(x)dx$$

$$f'(x) x$$

$$f'(x)dy$$



QUESTIONS REMAINING

10:30

all call 

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VU001 Quiz

5/

Question 10 of 10: **QUESTION: MULTIPLE CHOICE, 11 points total**

Let $f(x, y) = 2x^2 + 3y^2 + 4xy$ be a function of two variables. Find the value of $f(1, 2)$.

Select the correct option

☐	$f(1, 2)$ has a value of 10.
☐	$f(1, 2)$ has a value of 12.
☐	$f(1, 2)$ has a value of 14.
☐	$f(1, 2)$ has a value of 16.



Next

The value $f(x_0, y_0)$ is a relative maximum of $f(x, y)$ on domain D , if there exists an open disc $B \subset D$ with center (x_0, y_0) and radius r such that

Select the correct option

Answered Correctly

☒	$f(x, y) \leq f(x_0, y_0) \quad \text{for all } (x, y) \in B$
☐	$f(x, y) \geq f(x_0, y_0) \quad \text{for all } (x, y) \in B$
☐	$f(x, y) < f(x_0, y_0) \quad \text{for all } (x, y) \in B$
☐	$f(x, y) = f(x_0, y_0) \quad \text{for all } (x, y) \in B$



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DC2048E264D: MUHAMMAD NADJEE ANJUM

Time Left: 37
seconds

MTS10201/Quiz1

Quiz Start Time: 10:20 PM, 17 June 2022

Question 7 of 10 (Start time: 10:20:28 PM, 17 June 2022)

Total Marks: 1

A discontinuous function on a closed and bounded set need not have any _____.

Select the correct option



relative extrema



absolute extrema



10/10/2022 10:20:28 PM

The del operator is defined as

correct option

 Save Math Equ

$$\nabla = \frac{\partial}{\partial x}i + \frac{\partial}{\partial y}j + \frac{\partial}{\partial z}k$$



$$\nabla = \frac{\partial}{\partial x}k + \frac{\partial}{\partial y}j + \frac{\partial}{\partial z}i$$

$$\nabla = -\frac{\partial}{\partial x}i + \frac{\partial}{\partial y}j + \frac{\partial}{\partial z}k$$

$$\nabla = \frac{\partial}{\partial x} + \frac{\partial}{\partial y} + \frac{\partial}{\partial z}$$

Save Math Equ



Quiz
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Question 1 of 10

Start time: 10:32:34 PM, 17 June 2022

Question 1 of 10 (Start time: 10:32:34 PM, 17 June 2022)

Total Marks:

The volume of a rectangular parallelepiped is given by the formula $V = xyz$ then $dV =$

pick the correct option

Return Math Equations



$$dV = yzdx + xzdy + xzdz$$



$$dV = xzdx + xzdy + xzdz$$



$$dV = yzdx + xzdy + xzdz$$



$$dV = xzdx + xzdy + xzdz$$

Submit Answer

Question 4 of 10 (Start time: 18:17:25 PM, 17 June 2023)

Total Marks: 1

The value $f(x_0, y_0)$ is a relative minimum of $f(x, y)$ in domain D , if there exists an open disc $K \subset D$ with centre (x_0, y_0) and radius r such that

Select the correct option

view next question

☐ $f(x_0, y_0) \geq f(x, y) \quad \text{for all } (x, y) \in K$

☐ $f(x_0, y_0) = f(x, y) \quad \text{for all } (x, y) \in K$

☒ $f(x_0, y_0) \leq f(x, y) \quad \text{for all } (x, y) \in K$

☐ $f(x_0, y_0) < f(x, y) \quad \text{for all } (x, y) \in K$



Question 1 of 10 (Start time: 10:35:35 PM, 17 June 2022)

Total Marks: 1

The value of the projection of $\vec{a}$ on $\vec{b}$ is determined as

Select the correct option

Select Mark Equation

- | | |
|----------------------------------|---|
| ☐ | $ \vec{a} \times \vec{b} \vec{a} \cos \theta$ |
| ☒ | $ \vec{a} \cdot \vec{b} = \vec{a} \vec{b} \cos \theta$ |
| ☐ | $ \vec{a} \cdot \vec{b} \vec{a} \cos \theta$ |
| ☐ | $ \vec{a} \cdot \vec{b} = \vec{a} \cos \theta$ |



Two vectors of magnitudes [4,5] making an angle of 30degree, then the area of parallelogram associated with these two vectors is ----- square units.

Select the correct option

- | | |
|-----------------------|---------------------|
| ☐ | $10 \cdot \sqrt{3}$ |
| ☐ | 10 |
| ☐ | $10 \cdot \sqrt{2}$ |
| ☐ | $20 \cdot \sqrt{2}$ |
- 



Quiz

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Quiz #1

Quiz Start Time: 10:20 PM

1 of 10 (Start time: 10:20:40 PM, 17 June 2022)

Let f be a function of two variables at a critical point $(0, 2)$, $f_{xx}(0, 2) = -2$, $f_{yy}(0, 2) = -1$ and $f_{xy}(0, 2) = 0$
as $D = f_{xx}(0, 2)f_{yy}(0, 2) - f_{xy}^2(0, 2) = 2$

correct option

🔄 Repeat

then f has a relative maximum at $(0, 2)$.

then f has a relative minimum at $(0, 2)$.

then f has a saddlepoint at $(0, 2)$.

then no conclusion can be drawn.



10:20:40 PM 17/06/2022

10:17 PM

... 13.7K/s 4G H+ 38%



Quiz
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EC20W02080: HANSEN KAPQUE

Time Left 07 min

MTH201 Quiz1

Quiz Start Time: 10:05 PM, 17 June 2022

Question # 10 of 10 (Started: 10:14:24 PM, 17 June 2022)

Total Marks: 1

The gradient of a scalar function is defined as

Select the correct option

Return Math Questions



$$\text{grad} f = \nabla f$$



$$\text{grad} f = -\nabla f(x, y, z)$$



$$\text{grad} f = -\nabla f(x, y, z)$$



$$\text{grad} f = \nabla f(x, y, z)$$

Submit Answer

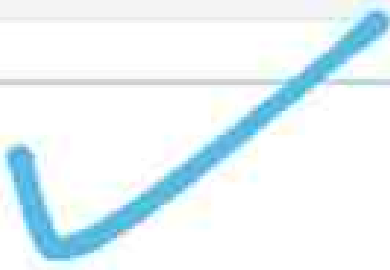
Question 2 of 10 (Start Time: 10:17:54 PM, 17 June 2022)

Total Marks: 1

If the velocity components of a bicycle are 3m/s towards east and 4m/s towards north then the speed (magnitude of velocity) is _____ m/s .

Select the correct option

☐	5
☐	7
☐	1
☐	12



A _____ need not be the highest point on the entire graph.

Select the correct option

☐	relative minimum
☐	absolute maximum
☐	absolute minimum
☐	relative maximum



not sour



Quiz

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EC200482080 HASSEB RAFTQUE

Time Left 10:00

MTN201-Quiz#1

Quiz Start Time: 10:00 PM, 17 June 2022

Question 4 of 10 (Start time: 10:00:26 PM, 17 June 2022)

Total Marks: 3

Let m be the slope and c be y -intercept. One slope intercept form of the equation of a line is _____

Select the correct option

Reveal All Equations



$$y = mx + c$$



$$y = mx + m(x - x_0)$$



$$y = mx + c$$



$$y = mx + m(x - x_0)$$



Submit Answer / Submit All Answers

10:11 PM

... 11.6K/s 4G H+ 39%

Quiz
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EC20462281: HASEEB RAHQUE

Time Left 37 min

MTH221: Quiz 1

Quiz Start Time: 10:09 PM, 17 June 2022

Question 2 of 10 (Start time: 10:14:27 PM, 17 June 2022)

Total Marks: 1

Let f be a function of two variables at a critical point $(1, 0)$, $f_{xx}(1, 0) = 4$, $f_{yy}(1, 0) = 2$ and $f_{xy}(1, 0) = 0$.
 $\Delta D = f_{xx}(1, 0)f_{yy}(1, 0) - f_{xy}^2(1, 0) = 8$

Select the correct option.

+ Show More Options

☒	then f has a relative maximum at $(1, 0)$.
☐	then f has a relative minimum at $(1, 0)$.
☐	then f has a relative maximum at $(1, 0)$.
☐	then no conclusion can be drawn.

Previous Next

10:10 PM

... 22.0K/s  H+   39%



Quiz
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EC204020801 HASBEE KAM KURE

Time Left 17
min(s)

MTH201/Quiz1

Quiz Start Time: 10:09 PM, 17 June 2022

Question 4 of 10 (Start time: 10:10:11 PM, 17 June 2022)

Total Marks: 1

For the function $y = f(x)$, the differential dy is equal to _____

Select the correct option

[Return Math Questions](#)

- | | |
|-----------------------|-----------|
| ☐ | $f'(x)dx$ |
| ☐ | $f(x)dx$ |
| ☐ | $f'(x)dy$ |
| ☐ | $f(x)$ |



[Return to Question List](#)

10:09 PM

22.1K/s 4G H+ 39%



Quiz
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EC20042080 HASSEB RAFIQUE

Time Left 00:00

MT4221-Quiz1

Quiz Start Time: 10:00 PM, 17 June 2022

Question 4 of 10 (Start time: 10:12:00 PM, 17 June 2022)

Total Marks: 1

The function decreases most rapidly in the direction of

Select the correct option.

Answer Math Equation

☐	$-\nabla f$	
☐	∇f	
☐	$-\nabla f$	
☐	$-\nabla f + c$	

Previous Question Next Question

10:00 PM

20.00/3.91 MB 100% 02%



Quiz

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DC200462680 HASSEB TAQIUE

Time Left 00:00

MTH201 Quiz 1

Quiz Start Time: 10:00 PM, 17 June 2022

Question 3 of 10 (Story view: 10:10:47 PM, 17 June 2022)

Total Marks: 1

$\vec{r}(t) = 3\cos t\vec{i} + 2\sin t\vec{j}$, $0 \leq t \leq \pi$, is a _____ series of a curve in the plane.

Select the correct option.

Answer Math Expression

☐	implicit
☒	parametric vector
☐	explicit
☐	parametric

Previous Next

10:07 PM

... 5.85K/s 5G H+ 39%

Quiz
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002004632060 HANESSI RAFIQUE

Time Left 36 seconds

MTH201 Quiz 1

Quiz Start Time: 10:00 PM, 17 June 2022

Question # 2 of 10 (Start time: 10:10:00 PM, 17 June 2022)

Total Marks: 1

The function increases most rapidly when $\cos \theta = 1$ in the direction of

Select the correct option

Select Main Equation

- | | |
|-----------------------|---|
| ☐ | $D_{\theta}f = \nabla f \cos 1$ |
| ☐ | $D_{\theta}f = \nabla f \cos \theta$ |
| ☐ | $D_{\theta}f = \nabla f \cos \pi$ |
| ☐ | $D_{\theta}f = \nabla f \cos \frac{\pi}{2}$ |

Previous Question Next Question

Question #1 of 10 (Quiz Start: 10:05:01 PM, 17 June 2022)

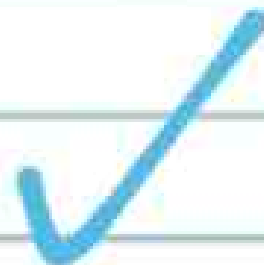
Total Marks: 1

The value $\beta(x, y)$ has relative minimum at (x, y) on domain D , if there exists an open disc $B(x, y)$ with center (x, y) and radius r such that

Select the correct option.

Select Multiple Options

☐	$\beta(x, y) \leq \beta(x, y) \quad \text{for all } (x, y) \in B$
☐	$\beta(x, y) \leq \beta(x, y) \quad \text{for all } (x, y) \in B$
☐	$\beta(x, y) \geq \beta(x, y) \quad \text{for all } (x, y) \in B$
☐	$\beta(x, y) = \beta(x, y) \quad \text{for all } (x, y) \in B$



Question 4 of 10 (Started: 10:51:28 PM, 17 June 2022)

Total Marks: 1

The surface: $z=f(x,y)$ falls (decreases) most rapidly at any point in the ————— of Gradient(z).

Select the correct option:



Direction perpendicular to



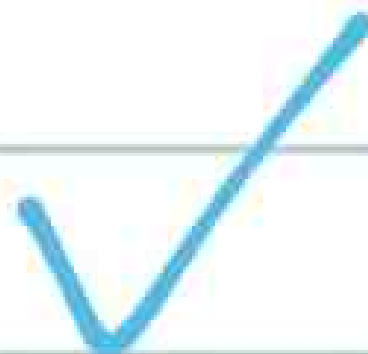
Arbitrary direction



Opposite to the direction



Direction



ANSWERED

Account for future overhead.

Answer: 10000

Question 17 of 17 (100% correct, 10000 Pts, 11 mins 00.00)

Let us let the origin and $P(0,0)$ be the point of required free-flow traffic. Also let us

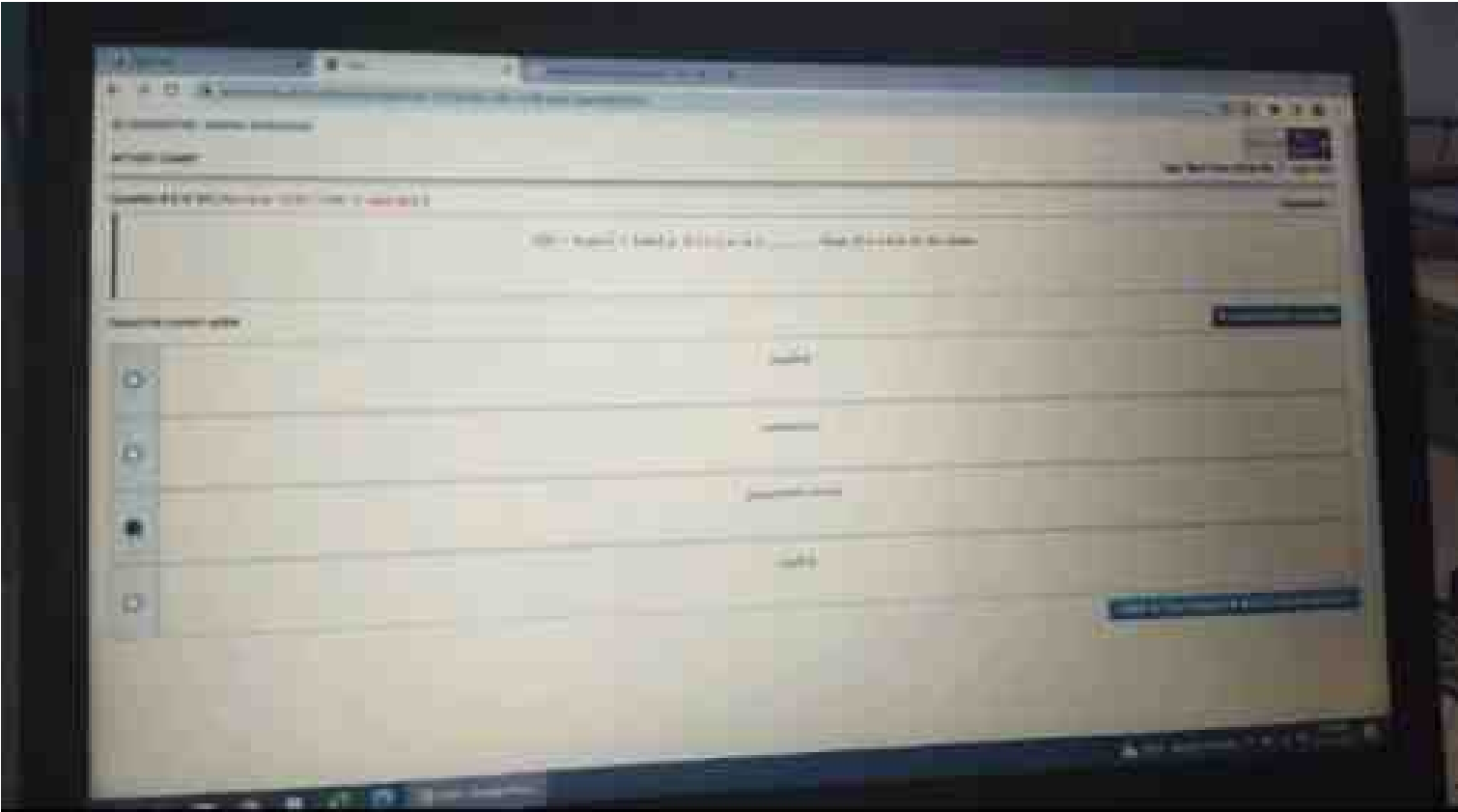
Select the correct answer:

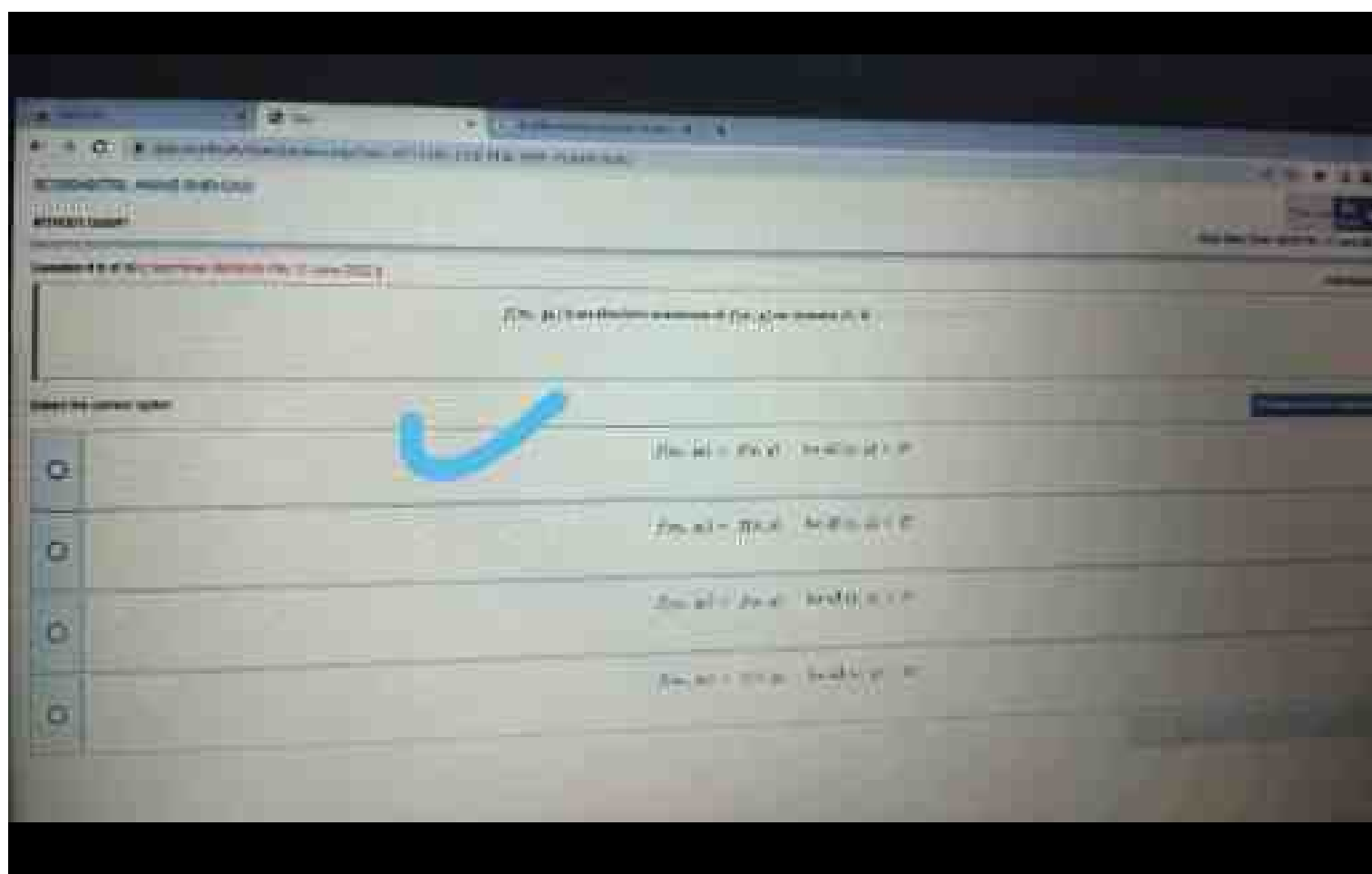
☒ $y = 2x + 1000$

☐ $y = 2x + 1$

☐ $y = 2x + 10$

☐ $y = 2x + 10000$





QUESTION: PART 1 (10 MARKS)

QUESTION

Question 7 of 10 (Total Marks: 10.00) (7.00/10.00)

$$f(x, y, z) = x^2 + y^2 + z^2 \text{ over } D, \text{ where } D = \{(x, y, z) \mid x^2 + y^2 + z^2 \leq 1\}$$

Select the correct option

☐

$$f(x, y, z) = 1 \text{ over } D = 1$$

☐

$$f(x, y, z) = 1 \text{ over } D = 1$$

☐

$$f(x, y, z) = 1 \text{ over } D = 1$$

☒

$$f(x, y, z) = 1 \text{ over } D = 1$$

Accounting 101: Chapter 10: The Accounting Cycle

Question 1 of 10: What is the correct order of the accounting cycle?

1. Analyze the transaction
2. Journalize the transaction
3. Post to the ledger
4. Prepare the trial balance
5. Adjust the accounts
6. Prepare the financial statements
7. Close the accounts

Select the correct order:

☒ 1, 2, 3, 4, 5, 6, 7
☐ 2, 1, 3, 4, 5, 6, 7
☐ 1, 3, 2, 4, 5, 6, 7
☐ 1, 2, 4, 3, 5, 6, 7

Question 4 10 of 10 (Start time: 09:57:16 PM, 11 June 2022)

Total Marks: 1

In order to find the critical points, we need to put f_x and f_y equal to $\dots\dots\dots$

Select the correct option

Ⓢ Select Math Equation

- | | |
|-----------------------|---|
| ☐ | 0 |
| ☐ | 1 |
| ☐ | 1 |
| ☐ | 2 |

Click on the question to see the correct answer

Question 2.4 of 10 (10/20/2018 11:11 AM, 2018)

Let f be a function of the variables x and y . Suppose f has a local extremum at (a, b) . Then the value of f at (a, b) is called a local extremum of f . Which of the following is true?

Select the correct option.

☐

$f(a, b) = \max\{f(x, y) \mid (x, y) \text{ is in the domain of } f\}$ (This is a global maximum of f .)

☒

$f(a, b) = f(x, y)$ for all (x, y) in the domain of f .

☐

$f(a, b) = \min\{f(x, y) \mid (x, y) \text{ is in the domain of } f\}$ (This is a global minimum of f .)

☐

$f(a, b) = \max\{f(x, y) \mid (x, y) \text{ is in the domain of } f\}$ (This is a global maximum of f .)

A differentiable function of two variables might have a _____ point.

Select the correct option

- ☐ final
- ☐ inflection
- ☒ saddle
- ☐ initial



Gradient of a scalar function always results in a.....function.

Select the correct option



discontinuous



vector



scalar



continuous



Question # 7 of 18 (Quiz time: 09:53:18 PM, 10 June 2022)

Total Marks: 1

Let $P_0(x_0, y_0, z_0)$ be any point on the surface $f(x, y, z) = 0$. If $f(x, y, z)$ is differentiable at $P_0(x_0, y_0, z_0)$ then the normal line at $P_0(x_0, y_0, z_0)$ has the equation

Select the correct option

Submit Your Question

☐

$$x = x_0 + f_x(P_0)t, y = y_0 + f_y(P_0)t, z = z_0 + f_z(P_0)t$$

☐

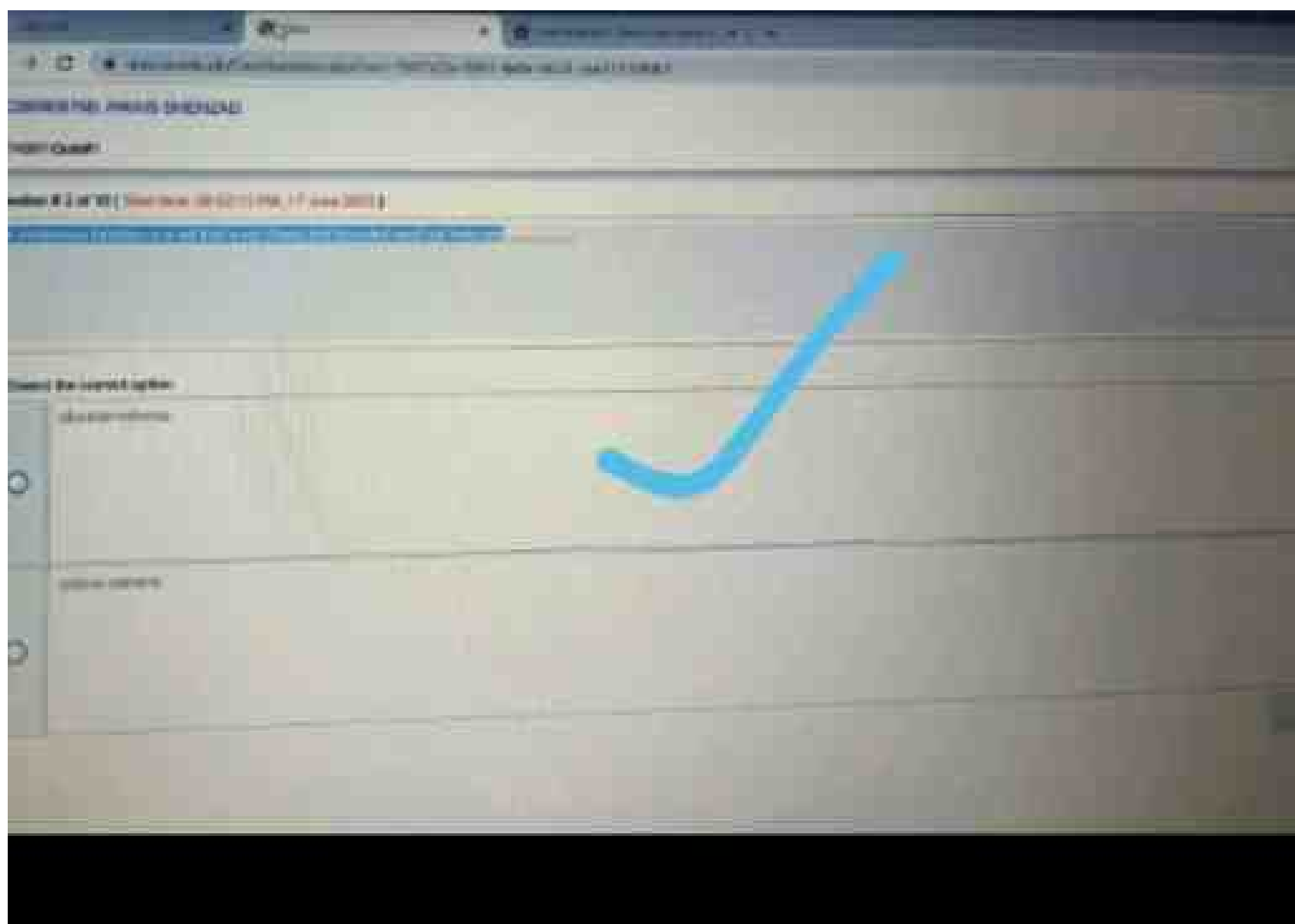
$$x = x_0 + f_x(x_0)t, y = y_0 + f_y(y_0)t, z = z_0 + f_z(z_0)t$$

☒

$$x = x_0 + f_x(P_0)t, y = y_0 + f_y(P_0)t, z = z_0 + f_z(P_0)t$$

☐

$$x = x_0 + f_x(P_0)t, y = y_0 + f_y(P_0)t, z = z_0 + f_z(P_0)t$$



A _____ need not be the highest point on the entire graph.

Select the correct option

☐ absolute maximum

☒ relative maximum



☐ absolute minimum

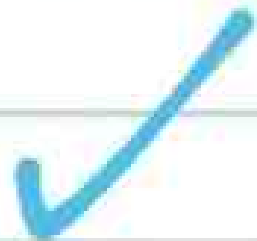
☐ relative minimum

If f is a function of x and y then the gradient of f is defined as

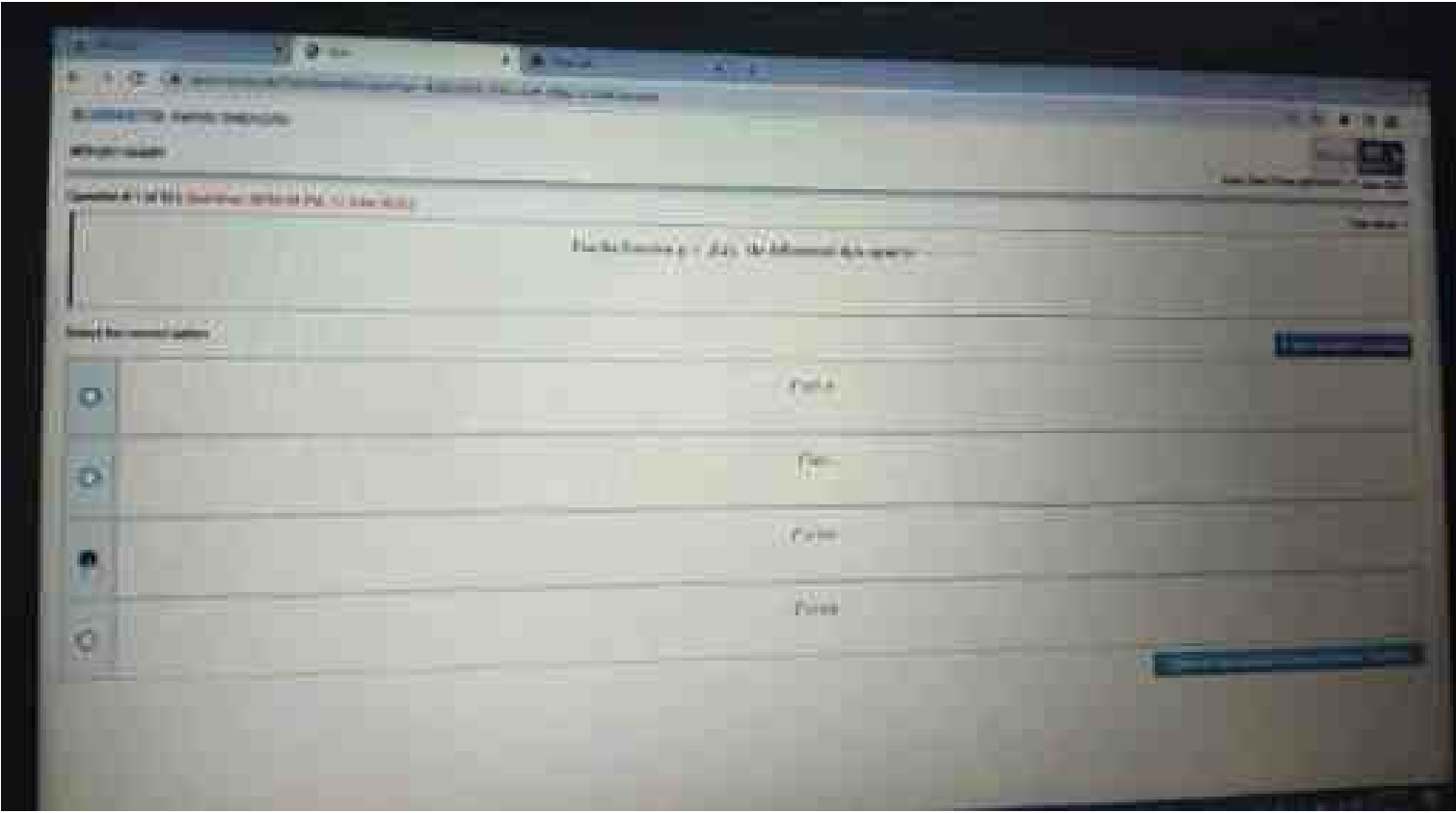
Select the correct option

Reveal Marking Scheme

☐	$\nabla f(x, y) = f_x(x, y) - f_y(x, y)$
☐	$\nabla f(x, y) = f_x(x, y) + f_y(x, y)$
☐	$\nabla f(x, y) = f_x(x, y) + f_y(x, y)$
☐	$\nabla f(x, y) = f_x(x, y) - f_y(x, y)$



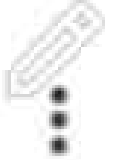
not sour



9:51



Quiz
quiz.vu.edu.pk



For the function $z = f(x, y)$, the total differential dz is equal to

Select the correct option:

Submit



$$f_x(x)dy + f_y(x)dx$$



$$f_x(x)dy - f_y(x)dx$$



$$f_x(x)dx + f_y(x)dy$$



$$f_x(x)dx - f_y(x)dy$$

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Question 4 5 of 10 (Start time: 10:50:19 PM, 17 June 2022)

Total Marks: 1

Let f be a function of two variables at a critical point $(0, 2)$, $f_{xx}(0, 2) = -2$, $f_{yy}(0, 2) = -4$ and $f_{xy}(0, 2) = 0$.
 $\Delta D = f_{xx}(0, 2)f_{yy}(0, 2) - f_{xy}^2(0, 2) = 2$

Select the correct option

Return this question

- | | |
|----------------------------------|---|
| ☐ | then no conclusion can be drawn. |
| ☐ | then f has a saddlepoint at $(0, 2)$. |
| ☒ | then f has a relative maximum at $(0, 2)$. |
| ☐ | then f has a relative minimum at $(0, 2)$. |

Time taken: 00:00:00 / 00:00:00

Question 2 of 10 (Start time: 04:45:15 PM, 17 June 2022)

Total Marks: 1

Let m be the slope and $P_1(x_1, y_1)$ be the point of required line, then point - slope form is _____

Select the correct option

[Return With Questions](#)

- | | |
|----------------------------------|------------------------|
| ☐ | $y - y_1 = m(x - x_1)$ |
| ☒ | $y - y_1 = m(x + x_1)$ |
| ☐ | $y = mx + c$ |
| ☐ | $y = mx + c$ |

Submit Answer

Cross product of two non zero vectors results into a vector lying-----.

Select the correct option

☐

in the plane perpendicular to least one vector

☐

along one of the vector

☐

in the plane perpendicular to none of these two vectors

☐

in the plane perpendicular to both vectors





problem 4 of 4 (1st Question on Newton's 1st Law (2022))

Let $f(x, y)$ be a function with continuous second order partial derivatives in some neighborhood of a critical point (x_0, y_0) and let $D^2 f = \begin{bmatrix} f_{xx}(x_0, y_0) & f_{xy}(x_0, y_0) \\ f_{xy}(x_0, y_0) & f_{yy}(x_0, y_0) \end{bmatrix}$. If $D^2 f \neq 0$, then

describe your answer

☐	$f(x_0, y_0)$ has a relative maximum at (x_0, y_0)
☐	$f(x_0, y_0)$ has a saddle point at (x_0, y_0)
☐	$f(x_0, y_0)$ has a relative minimum at (x_0, y_0)
☐	No conclusion can be drawn



Problem 10.4.1 of the textbook (10.4.1) (10.4.1)

Let $f(x, y)$ be a function with continuous second-order partial derivatives at a point (a, b) and let $D^2 f(a, b) = \begin{pmatrix} f_{xx}(a, b) & f_{xy}(a, b) \\ f_{xy}(a, b) & f_{yy}(a, b) \end{pmatrix}$. If $D^2 f(a, b) = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$, then

What is the correct answer?

- ☐ $f(x, y)$ has a relative maximum at (a, b) .
- ☐ $f(x, y)$ has a saddle point at (a, b) .
- ☒ $f(x, y)$ has a relative minimum at (a, b) .
- ☐ The relationship may be unclear.



Question # 2 of 10 (Start time: 09:46:30 PM, 17 June 2022)

Total

Let f be a function of two variables with continuous 2nd order partial derivatives in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$.

of the correct option.

Reveal Answer

☐ If $D < 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .

☐ If $D > 0$ and $f_{xx}(x_0, y_0) < 0$, then f has a relative minimum at (x_0, y_0) .

☐ If $D > 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .

☒ If $D = 0$, then no conclusion can be drawn.



09:50:00 PM, 17 June 2022

Fri, 17 June 2022

$f(x_0, y_0)$ is an absolute minimum of $f(x, y)$ on domain D , if


$$f(x_0, y_0) \leq f(x, y) \quad \text{for all } (x, y) \in D$$

$$f(x_0, y_0) < f(x, y) \quad \text{for all } (x, y) \in D$$

$$f(x_0, y_0) > f(x, y) \quad \text{for all } (x, y) \in D$$

$$f(x_0, y_0) \geq f(x, y) \quad \text{for all } (x, y) \in D$$

$$x = x_0 + f_x(P_0)t, y = y_0 + f_y(P_0)t \text{ and } z = z_0 + f_z(P_0)t$$

$$x = x_0 + \int_0^t f_x(P_s) ds, y = y_0 + \int_0^t f_y(P_s) ds \text{ and } z = z_0 + \int_0^t f_z(P_s) ds.$$

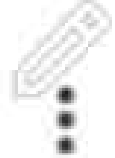
$$\vec{x} = x_0 + f_1(x_0)t, \vec{y} = y_0 + f_2(x_0)t \text{ and } \vec{z} = z_0 + f_3(x_0)t$$

$$x = x_0 + f_1(t)x_1 + \dots + f_n(t)x_n = x_0 + f_1(t)x_1$$



Quiz

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MTH201 QuizPT

Quiz Start Time: 09:44 PM, 17 Jun

Question # 1 of 10 | Start time: 09:44:59 PM, 17 June 2022 |

Total M

A discontinuous function on a closed and bounded set need not have any _____.

Select the correct option



absolute extrema



relative extrema

09:45:00 PM, 17 June 2022

A continuous function on a set that is not closed and bounded need not have any _____.

Select the correct option:



absolute extrema



relative extrema

Test

Math 101: Calculus I (Fall 2021) - Quiz 1 (2021-2022)

Math 101: Calculus I

2021

Quiz 1 (2021)

Q. 15 (Score: 0.43/0.43, 11/11/2021)

The value $f(x_0, y_0)$ is a relative minimum of $f(x, y)$ on domain D . If there exists an open disc $K \subset D$ with center (x_0, y_0) and radius r such that

correct option

$$f(x, y) \leq f(x_0, y_0) \quad \text{for all } (x, y) \in K$$

$$f(x, y) \geq f(x_0, y_0) \quad \text{for all } (x, y) \in K$$

$$f(x, y) > f(x_0, y_0) \quad \text{for all } (x, y) \in K$$

$$f(x, y) < f(x_0, y_0) \quad \text{for all } (x, y) \in K$$



x

+

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2)

The function increases most rapidly when $\cos \theta = 1$ in the direction of

$$D_u f = |\nabla f| \cos 1$$

$$D_u f = |\nabla f| \cos \frac{\pi}{2}$$

$$D_u f = |\nabla f| \cos \pi$$

$$D_u f = |\nabla f| \cos 0$$



If $f(x, y, z) = x^2 + 2y - 3z^2$ then f_x , f_y and f_z are

$$f_x = 2x, f_y = 2 \text{ and } f_z = -6z$$



$$f_x = 2x, f_y = 2 \text{ and } f_z = 6z$$

$$f_x = 2x, f_y = 2y \text{ and } f_z = -6z$$

$$f_x = 2x, f_y = 2y \text{ and } f_z = 6z$$

MTH201:Quiz#1

Question # 3 of 10 (Start time: 09:40:37 PM, 17 June 2022)

Gradient of a scalar function always results in a _____ function.

Select the correct option

- | | |
|----------------------------------|---------------|
| ☐ | continuous |
| ☒ | vector |
| ☐ | scalar |
| ☐ | discontinuous |

MTH201:Quiz#1

Question # 2 of 10 (Start time: 09:39:45 PM, 17 June 2022)

Cross product of equal and opposite non-zero vectors (parallel or anti-parallel) is a —

Select the correct option

☐	Zero scalar
☒	Zero vector

Let f be a function of two variables with continuous 2nd ordered partial derivatives in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$.

If $D > 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .



If $D = 0$, then no conclusion can be drawn.

If $D > 0$ and $f_{xx}(x_0, y_0) < 0$, then f has a relative minimum at (x_0, y_0) .

If $D < 0$ and $f_{xx}(x_0, y_0) > 0$, then f has a relative maximum at (x_0, y_0) .

Question 8 10 of 10 [10:35:10 PM, 11 June 2022]

Gradient of a Temperature of Any object (that reach at 100th result) will be

Select the correct option.

Correct (points)

☒

Incorrect (points)

☐



The volume of a rectangular parallelepiped is given by the formula $V = xyz$ then $dV =$

$$dV = x y dz + x dz y + x y dz$$

$$dV = y dz + x dz y + x y dz$$

$$dV = y dz + x y dz + x y dz$$

$$dV = y dz + x y dz + x y dz$$