

(Virtual University)

Spring 2024

MTH301(Calculus II)

Final Term MCQ's 2024

Made by Default.

Warning: There is a chance that there are some wrong answers. All students are told to cross check these answers for better understanding of these concepts which will ultimately help you for the preparation of the Final Term Papers.

MTH301 - Calculus II (Quiz No.3) Quiz Start Time: 01:34 PM, 03 July 2024

Question # 1 of 10 (Start time: 01:34:46 PM, 03 July 2024) Total Marks: 1

The grad operator ∇ acts on a(an) _____ and gives a vector.

Select the correct option Reload Math Equations

<input type="radio"/>	unit vector
<input type="radio"/>	constant
<input type="radio"/>	scalar
<input checked="" type="radio"/>	vector

Click to Save Answer & Move to Next Question

MTH301 - Calculus II (Quiz No.3) Quiz Start Time: 01:34 PM, 03 July 2024

Question # 2 of 10 (Start time: 01:35:41 PM, 03 July 2024) Total Marks: 1

To evaluate a line integral, the integrand is expressed in terms of x, y, z with

Select the correct option Reload Math Equations

<input type="radio"/>	$dr = x + y + z$
<input type="radio"/>	$dr = xi + yj + zk$
<input type="radio"/>	$dr = dx + dy + dz$
<input checked="" type="radio"/>	$dr = dxi + dyj + dzk$

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 01:36:47 PM, 03 July 2024)

Total Marks: 1

Line integral is used to calculate -----

Select the correct option

- length
- force
- area
- volume

Click to Save Answer & Move to Next Question

Question # 4 of 10 (Start time: 01:37:55 PM, 03 July 2024)

Total Marks: 1

For line integral with respect to arc length, when x and y are expressed in parametric form,

$$I = \int_C f(x, y) ds = \int_{t_1}^{t_2} f(x, y) ds, \text{ where } ds = \text{-----}$$

Select the correct option

Reload Math Equations

- $\sqrt{\left(\frac{dx}{dt}\right)^2 + \left(\frac{dy}{dt}\right)^2} dt$
- $\sqrt{1 + \left(\frac{dy}{dx}\right)^2}$
- $\sqrt{\left(\frac{dx}{dt}\right)^2 - \left(\frac{dy}{dt}\right)^2} dt$
- $\sqrt{\left(\frac{dx}{dt}\right)^2 + \left(\frac{dy}{dt}\right)^2}$

Click to Save Answer & Move to Next Question

Question # 5 of 10 (Start time: 01:38:42 PM, 03 July 2024)

Total Marks: 1

One of the line integral properties is $\int_{AB} Pdx + Qdy = - \int_{BA} Pdx + Qdy$

Select the correct option

[Reload Math Equations](#)

True

False

[Click to Save Answer & Move to Next Question](#)

Question # 6 of 10 (Start time: 01:39:07 PM, 03 July 2024)

Total Marks: 1

Integration along two distinct paths joining the same two end points give the same results.

Select the correct option

always

not necessarily

[Click to Save Answer & Move to Next Question](#)

Question # 7 of 10 (Start time: 01:39:57 PM, 03 July 2024)

Total Marks: 1

Integration along two separate paths joining the same two end points does not necessarily give identical results.

Select the correct option

 False True[Click to Save Answer & Move to Next Question](#)

Question # 8 of 10 (Start time: 01:40:47 PM, 03 July 2024)

Total Marks: 1

In general, Divergence theorem (Gauss' theorem) states that the volume integral (triple integral) on the left-hand side can be expressed as a (an) _____ integral (double integral) on the right-hand side.

Select the correct option

 contour surface line indefinite[Click to Save Answer & Move to Next Question](#)

Question # 9 of 10 (Start time: 01:41:48 PM, 03 July 2024)

Total Marks: 1

The curl operator, $\nabla \times A$, acts on a(an) _____ and gives a vector as a result.

Select the correct option

[Reload Math Equations](#)

- | | |
|----------------------------------|-------------|
| <input type="radio"/> | unit vector |
| <input type="radio"/> | constant |
| <input type="radio"/> | scalar |
| <input checked="" type="radio"/> | vector |

[Click to Save Answer & Move to Next Question](#)

Question # 10 of 10 (Start time: 01:42:11 PM, 03 July 2024)

Total Marks: 1

Wallis sine formula when n is even

$$\int_0^{\frac{\pi}{2}} \cos^4 x dx =$$

Select the correct option

[Reload Math Equations](#)

- | | |
|----------------------------------|---|
| <input type="radio"/> | $\frac{4}{3} \cdot \frac{2}{1} \cdot \frac{\pi}{2}$ |
| <input type="radio"/> | $\frac{4}{5} \cdot \frac{2}{3}$ |
| <input checked="" type="radio"/> | $\frac{3}{4} \cdot \frac{1}{2} \cdot \frac{\pi}{2}$ |
| <input type="radio"/> | $\frac{3}{4} \cdot \frac{1}{2}$ |

[Click to Save Answer & Move to Next Question](#)