





Section [Unit 1] 1 of 6 Question : 3 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% ① ③ General Instructions

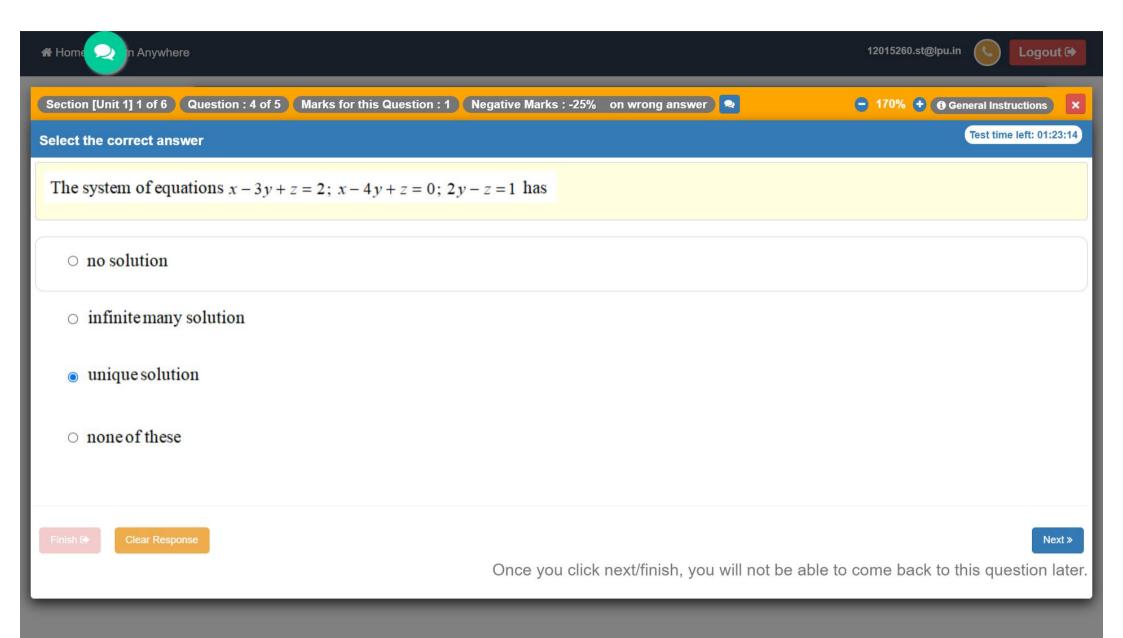
Test time left: 01:25:12

Select the correct answer

The three vectors $V_1 = (2, -1, 2), V_2 = (-2, 1, -2), V_3 = (1, -2, -1)$ are

- Linearly dependent
- Linearly independent
- both (a) and (b)
- o none of these

Next »







Section [Unit 1] 1 of 6 Question : 5 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% 1 (3) General Instructions

Test time left: 01:22:18

Select the correct answer

If two Eigen values of $\begin{bmatrix} 1 & 2 & 1 \\ 6 & -1 & 0 \\ -1 & -2 & -1 \end{bmatrix}$ are 3 and -4, then the third value is

0 1

O -1

0 2

Next »





Section [Unit 2] 2 of 6 Question : 1 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 01:20:54

Select the correct answer

If $y = \log(\sin(e^x))$ then value of $\frac{dy}{dx}$ is

- $e^x \tan e^x$
- $\circ \frac{e^x}{\sin e^x}$
- $e^x \cot e^x$
- none of these

Next »



Section [Unit 2] 2 of 6 Question : 2 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% 🛨 📵 General Instructions

Select the correct answer

Test time left: 01:15:13

The value of $\frac{dy}{dx}$ for $x^3 + x^2y + y^2 = 29$ is

$$0 \frac{3x^2 + 2xy}{x^2 + 2y}$$

$$-\frac{3x^2+2xy}{x^2+2y}$$

$$0 \frac{3x^2 - 2x^2y}{x^2 + 2y}$$

$$\frac{3x^2 + 2xy}{x^2 + 2y^2}$$

Section [Unit 2] 2 of 6 Question : 3 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 01:14:25

Select the correct answer

The value of integral $\int (x^2 + 1)e^x dx$ is

$$(x^2-x+3)+c$$

$$(x^2 + x + 1) + c$$

$$(x^2-2x+3)+c$$

o none of these

Next »

Section [Unit 2] 2 of 6 Question : 4 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% ● (3 General Instructions)

Test time left: 01:12:43

Select the correct answer

The value of integral $\int \frac{1}{e^x - 1} dx$ is

$$0 x - e^{-x} + c$$

$$\log(e^x-1)+c$$

none of these

Next »



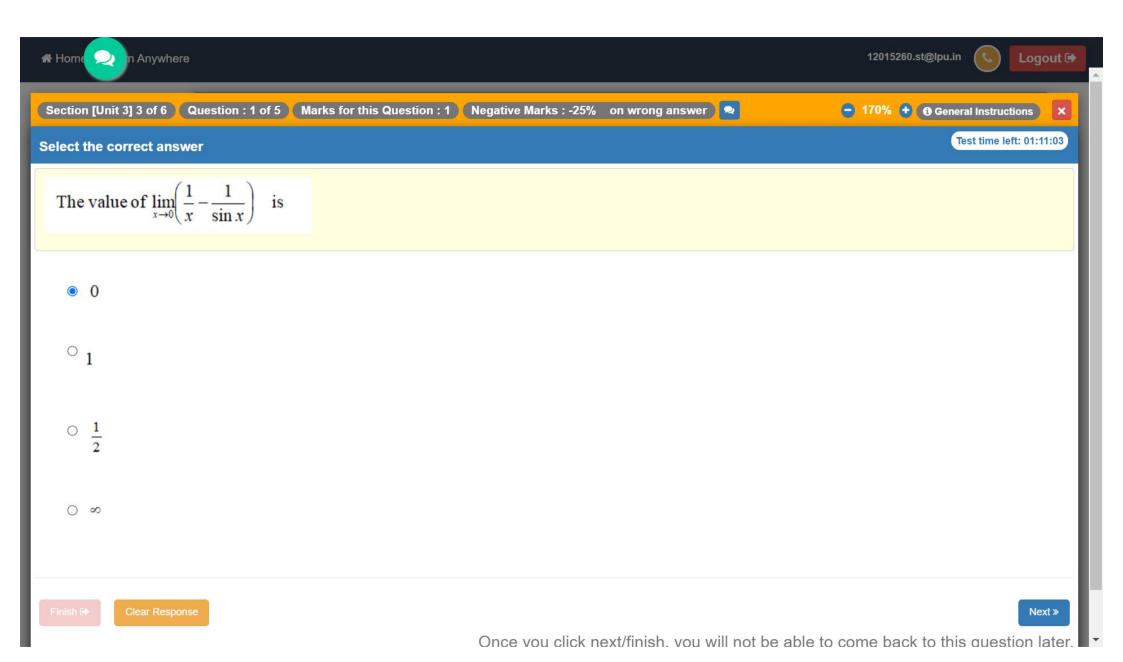


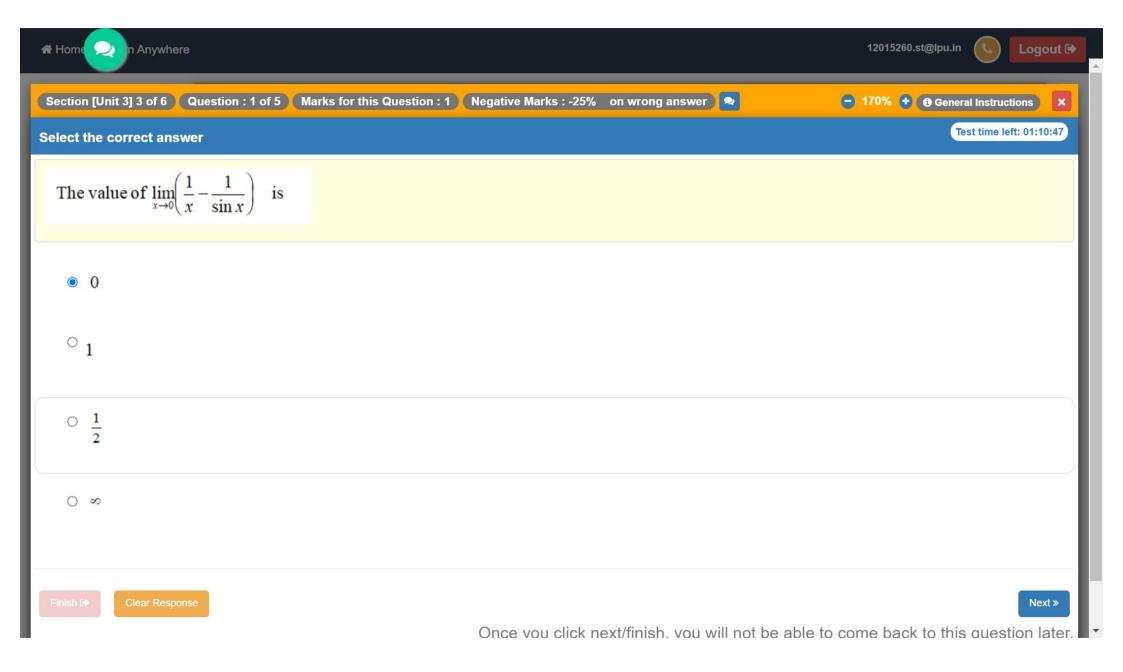
Section [Unit 2] 2 of 6 Question : 5 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 01:11:54

Select the correct answer

The value of integral $\int_{0}^{\pi/2} \frac{\cos x}{\cos x + \sin x} dx$ is







Section [Unit 3] 3 of 6 Question : 2 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% ● (6) General Instructions

Test time left: 01:06:27

Select the correct answer

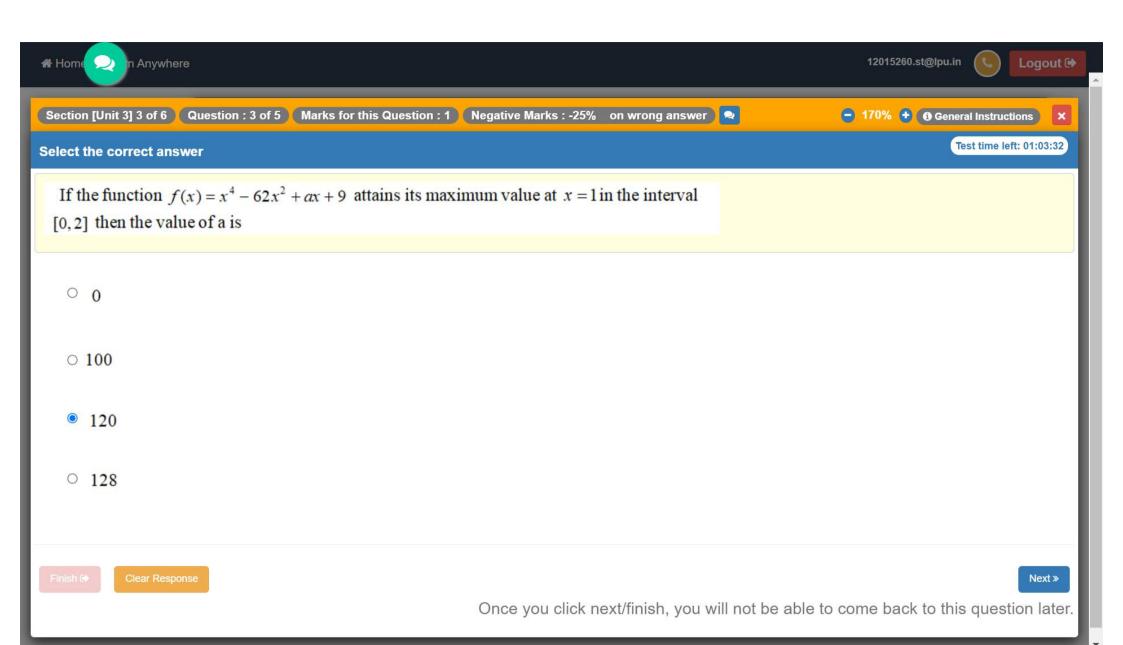
The Taylor's series expansion of log(1+x) is

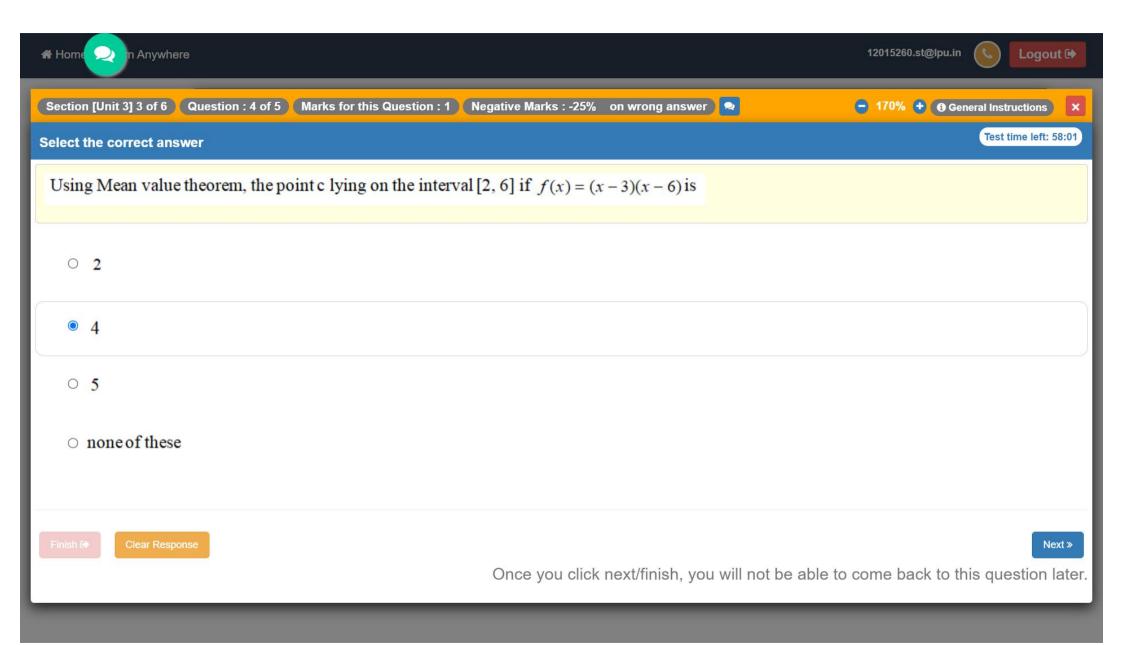
$$x + \frac{x^3}{3} + \frac{2}{15}x^5 + ---$$

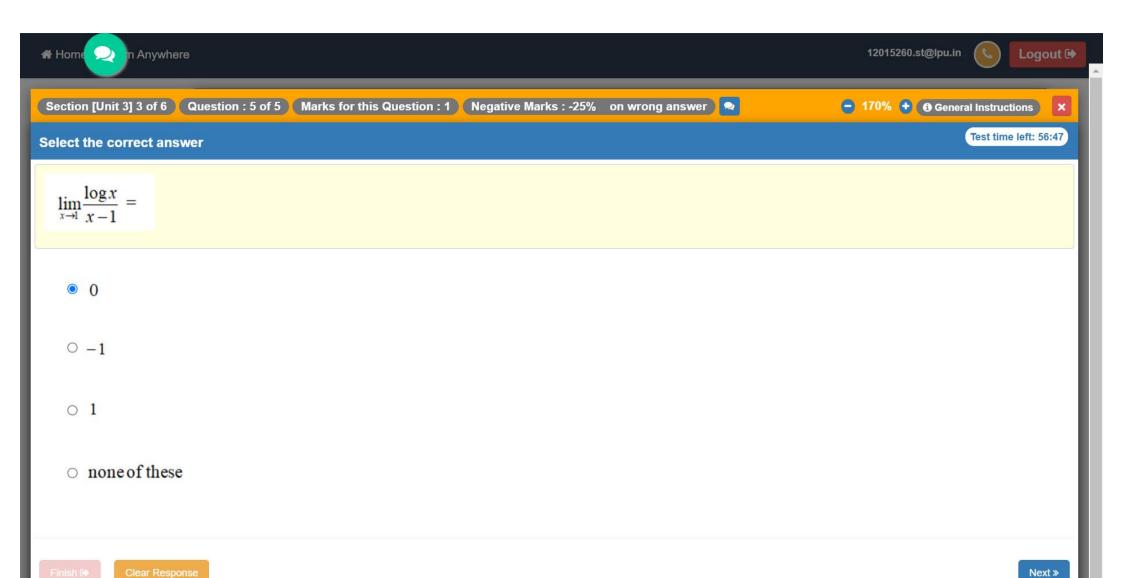
$$x - \frac{x^3}{3} + \frac{2}{15}x^5 + ---$$

$$x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + ---$$

$$-x-\frac{x^2}{2}-\frac{x^3}{3}-\frac{x^4}{4}+---$$









★ Home n Anywhere

Section [Unit 3] 3 of 6 Question : 5 of 5 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 56:34

Select the correct answer

$$\lim_{x \to 1} \frac{\log x}{x - 1} =$$

- 0 0
- \circ -1
- \circ 1
- o none of these

Next »

Test time left: 54:54

Select the correct answer

The value of
$$\lim_{(x,y)\to(0,0)} \frac{x-y}{\sqrt{x^2+y^2}}$$
 is

- does not exist
- o none of these.





Test time left: 53:12

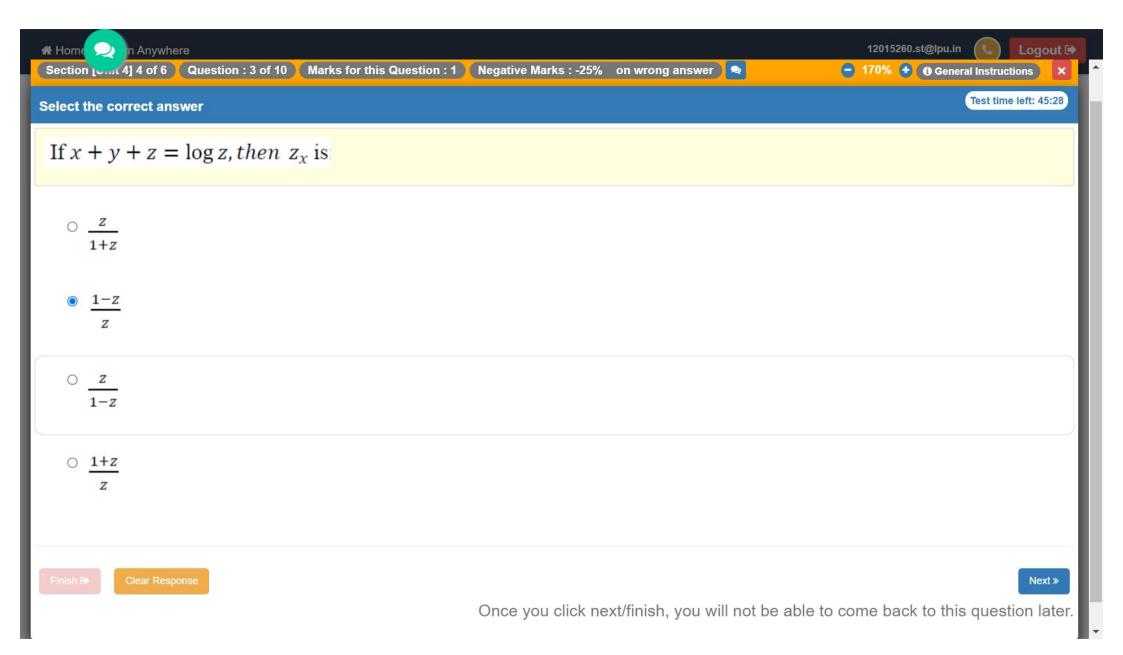
Section [Unit 4] 4 of 6 Question : 2 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

170% 1 (1) General Instructions

Select the correct answer

If $u = log (x^2 + y^2 + z^2)$, then the value of $x u_x + y u_y + z u_z$ is equal to

- 0 0
- 2 e^u
- 2u



Select the correct answer

Section [Unit 4] 4 of 6 Question : 4 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

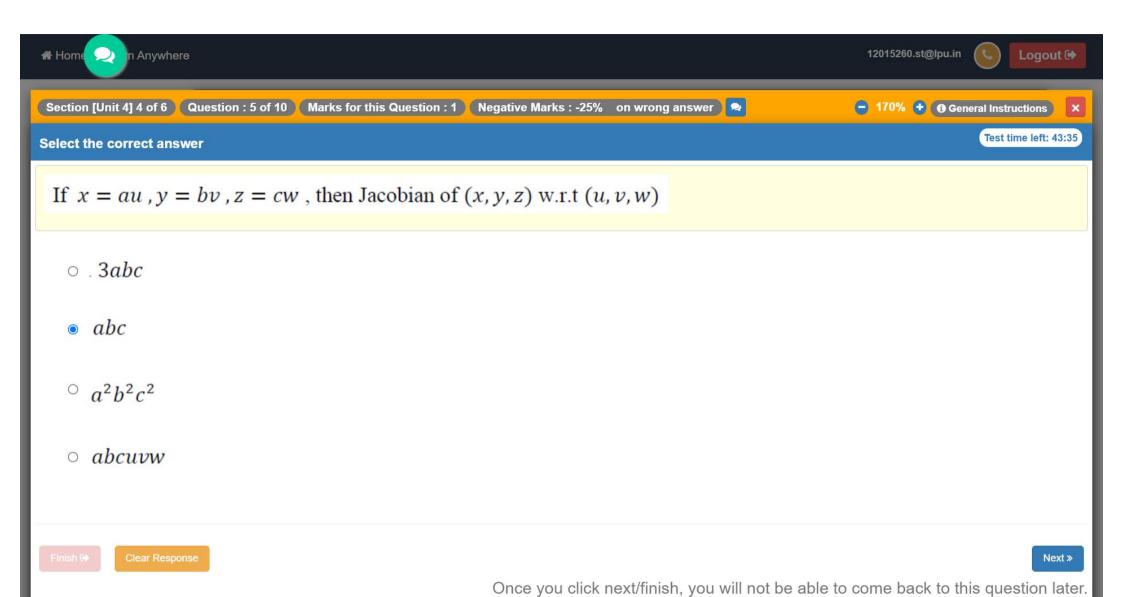
■ 170% ● (3 General Instructions)

Test time left: 45:07

If
$$z = \tan^{-1} \left(\frac{x^2 - y^2}{x^2 + y^2} \right)$$
 then $x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y}$ is

- \circ 2z
- \circ 3z

Next »



Section [Unit 4] 4 of 6 Question: 6 of 10 Marks for this Question: 1 Negative Marks: -25% on wrong answer

Select the correct answer

Test time left: 38:26

The maximum value of the function $f(x, y, z) = x^2 + y^2 + z^2$, where lx+my+nz = p is

$$\frac{l^2 + m^2 + n^2}{p^2}$$

$$\bigcirc \frac{p^2}{l^2+m^2+n^2}$$

$$\bigcirc \frac{3p^2}{l^2+m^2+n^2}$$

Section [Unit 4] 4 of 6 Question : 6 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 38:16

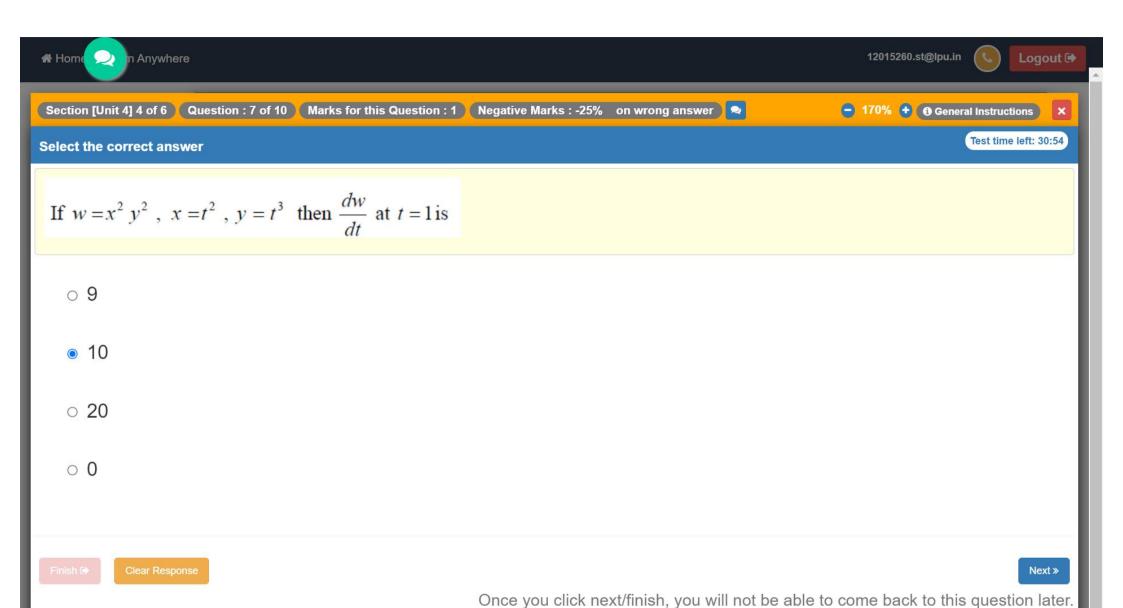
Select the correct answer

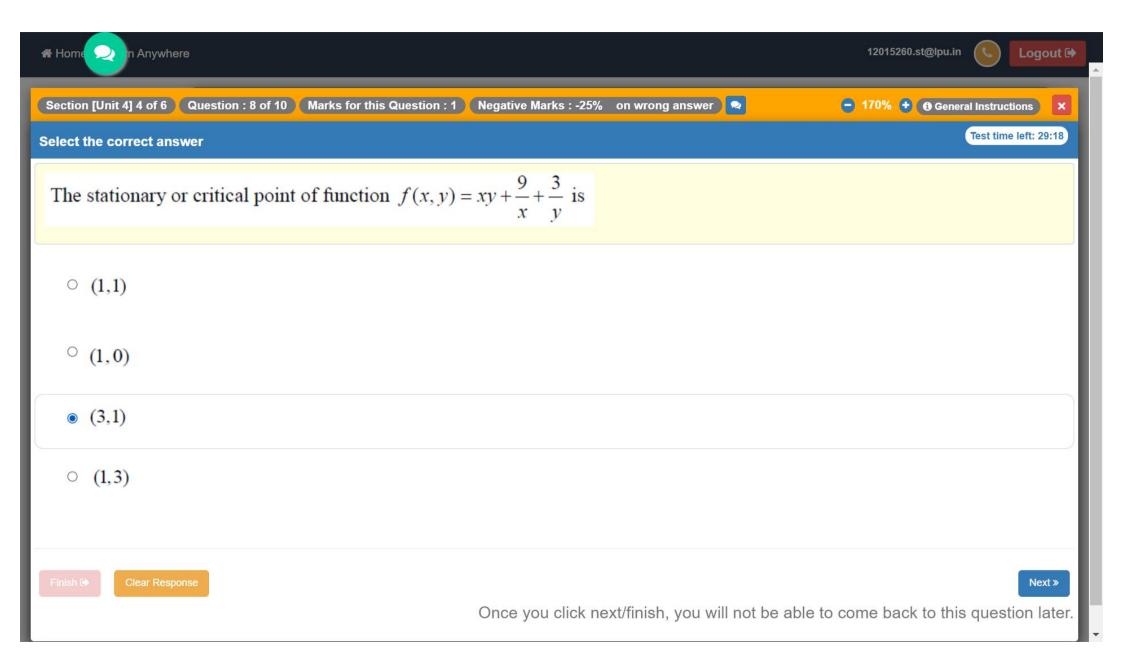
The maximum value of the function $f(x, y, z) = x^2 + y^2 + z^2$, where lx+my+nz = p is

$$\begin{array}{c}
0 & \frac{l^2 + m^2 + n^2}{p^2}
\end{array}$$

$$0 \frac{3p^2}{l^2+m^2+n^2}$$

$$0 \frac{l^2+m^2+n^2}{3p^2}$$









Section [Unit 4] 4 of 6 Question: 9 of 10 Marks for this Question: 1 Negative Marks: -25% on wrong answer

■ 170% ● (6) General Instructions

Test time left: 27:32

Select the correct answer

If
$$f(x,y) = \begin{cases} \frac{xy^2}{x^2 + y^2} &, & (x,y) \neq (0,0) \\ 0 &, & (x,y) = (0,0) \end{cases}$$
 then value of $f_x(0,0)$ is

0

 \circ 0

does not exist

Next »

Clear Response



Section [Unit 4] 4 of 6 Question : 10 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 23:48

Select the correct answer

If $f(x, y, z) = (x^2 + y^2 + z^2)^{-1/2}$ then $f_x(1,1,1)$ is

$$\bigcirc \quad \frac{1}{(3)^{3/2}}$$

$$\frac{1}{(3)^{2/3}}$$

$$-\frac{1}{2(3)^{2/3}}$$

$$^{\circ}$$
 $-\frac{1}{(3)^{3/2}}$



Section [Unit 5] 5 of 6 Question : 1 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% ● (6 General Instructions)

Test time left: 20:55

Select the correct answer

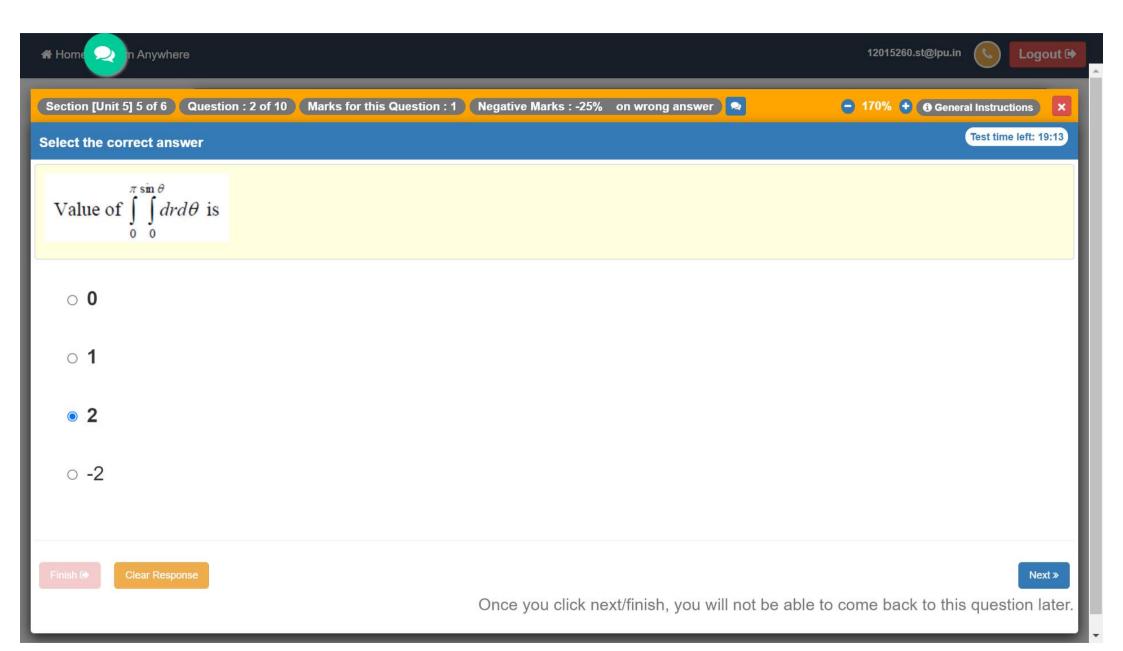
The area bounded by cylinder $x^2 + y^2 = 1, 0 \le z \le 4$ is

$$\int_{0}^{4} \int_{0}^{1} \int_{0}^{\sqrt{1-x^2}} dy dx dx$$

$$\begin{array}{ccc}
& \int_{0}^{4} \int_{-1-\sqrt{1-x^2}}^{1-\sqrt{1-x^2}} dy dx dz
\end{array}$$

$$\oint_{0}^{4} \int_{0}^{\sqrt{1-y^{2}}} \int_{-\sqrt{1-x^{2}}}^{\sqrt{1-x^{2}}} dy dx dz$$

$$\bigcirc \int_{0}^{4} \int_{0}^{1} \int_{0}^{\sqrt{1-x^2}} dy dx dz$$





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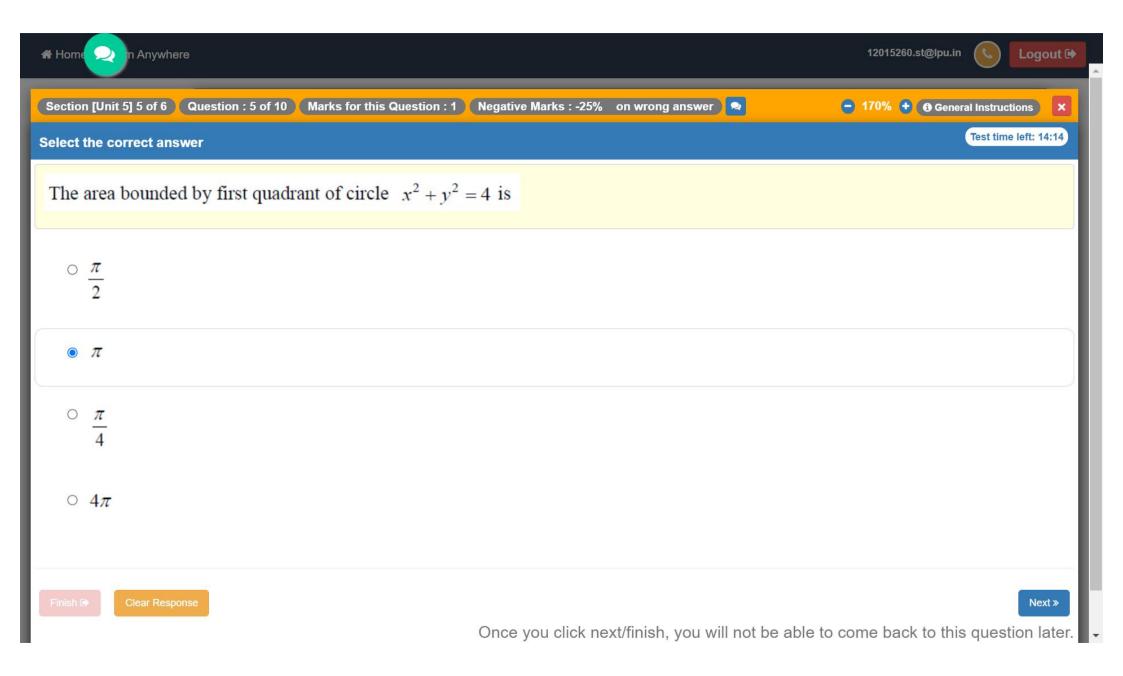
Section [Unit 5] 5 of 6 Question : 4 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 15:30

Select the correct answer

The area bounded by the lines x = 0, y = 0 and x + y = 1 is given as

 $\frac{3}{2}$



$$\int_{y=-2}^{2} \int_{x=\sqrt{2y}}^{0} f(x,y) dx dy$$

$$\int_{y=0}^{2} \int_{x=-\sqrt{2y}}^{\sqrt{2y}} f(x,y) dx dy$$

$$\int_{y=0}^{2} \int_{x=\sqrt{2y}}^{2} f(x,y) dx dy$$

o none of these

Test time left: 09:57

Select the correct answer

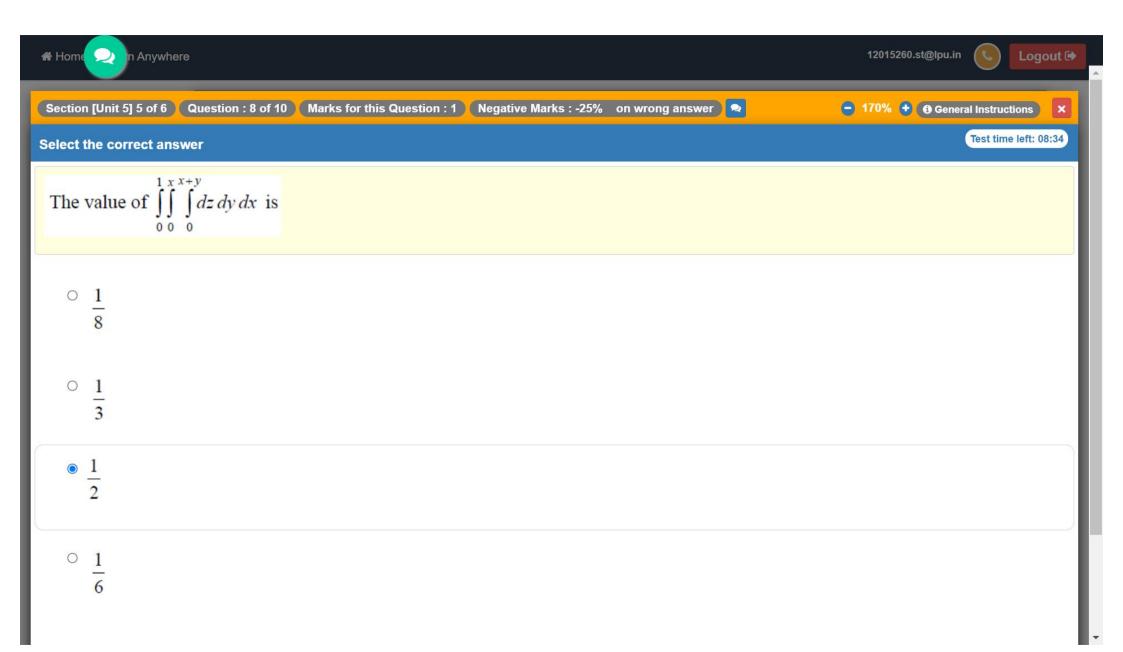
Volume of one octant of sphere $x^2 + y^2 + z^2 = 1$ is given as

$$\int_{0}^{\pi} \int_{0}^{1} \int_{0}^{r} r^{2} \sin\theta \, d\theta \, dr \, d\varphi$$

$$\bullet \int_{0}^{1} \int_{0}^{\pi/2} \int_{0}^{\pi/2} r^{2} \sin \theta \, dr \, d\theta \, d\varphi$$

$$\int_{0}^{1} \int_{0}^{\pi/4} \int_{0}^{\pi/2} r^{2} \sin \varphi dr d\theta d\varphi$$

o none of these



Polar form of the integral $\int_{-1}^{1} \int_{0}^{\sqrt{1-x^2}} (x^2 + y^2) dy dx$ is

$$\circ \int_{0}^{1} \int_{0}^{r} r^{3} d\theta dr$$

$$\int_{0}^{2\pi} \int_{0}^{1} r^2 dr d\theta$$

$$\int_{0}^{\pi} \int_{0}^{1} r^{3} dr d\theta$$

$$\int_{0}^{\pi} \int_{0}^{1} r^{2} dr d\theta$$



Next »

Section [Unit 6] 6 of 6 Question : 1 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

Test time left: 07:00

Select the correct answer

In the Fourier series expansion of $f(x) = \begin{cases} 1 & , -\pi < x < 0 \\ 0 & , 0 \le x \le \pi \end{cases}$, the value of Fourier coefficient a_2 is

- o none of these



Section [Unit 6] 6 of 6 Question : 3 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

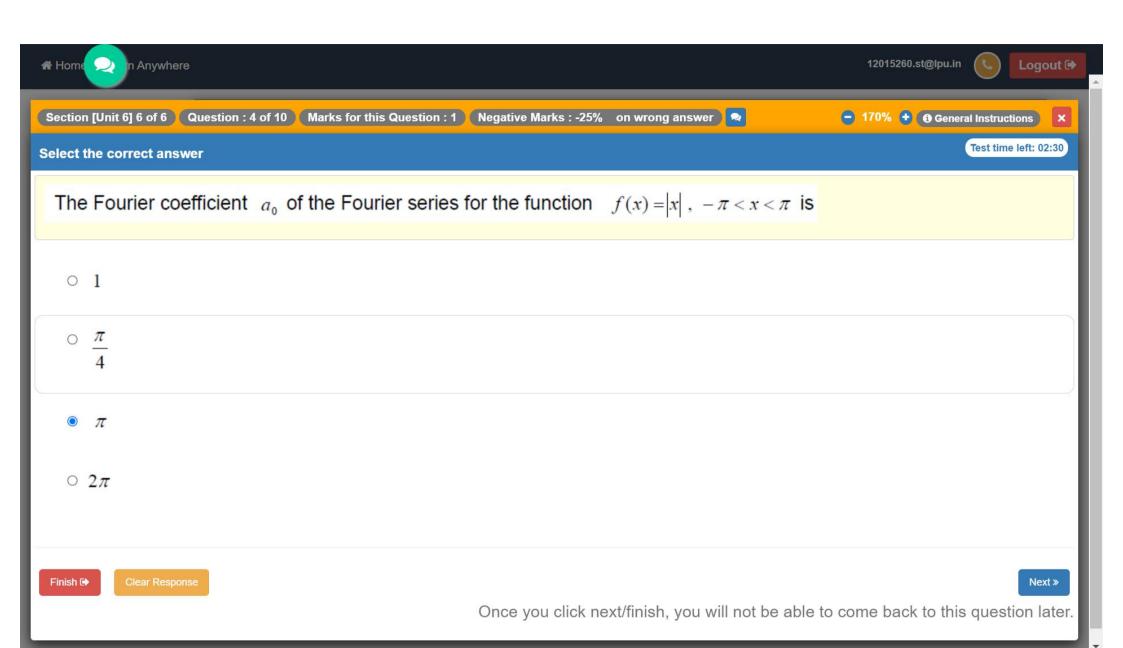
■ 170% ● (3 General Instructions)

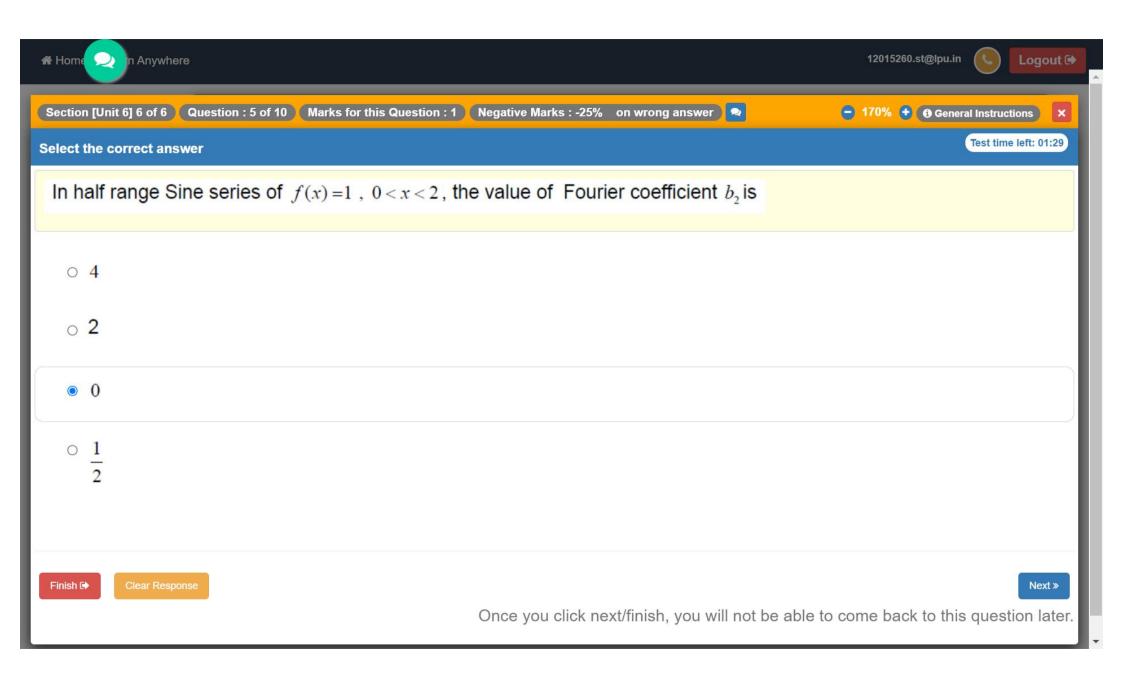
Test time left: 04:19

Select the correct answer

In the Fourier series expansion of $f(x) = \begin{cases} x & 0 < x < \pi \\ 0 & \pi \le x \le 2\pi \end{cases}$, the value of Fourier coefficient a_1 is

o none of these







Section [Unit 6] 6 of 6 Question: 7 of 10 Marks for this Question: 1 Negative Marks: -25% on wrong answer

■ 170% ● (3 General Instructions)

Test time left: 00:18

Select the correct answer

In the Fourier series expansion of $f(x) = \sqrt{\frac{1-\cos x}{2}}$, $0 < x < 2\pi$, the value of Fourier coefficient a_0 is

- \circ 0

Saved successfully.

Section [Unit 6] 6 of 6 Question : 8 of 10 Marks for this Question : 1 Negative Marks : -25% on wrong answer

■ 170% ● (6 General Instructions)

Select the correct answer

In the Fourier series expansion of $f(x) = 1 - \frac{x}{\pi}$, $-\pi < x < \pi$, the value of Fourier coefficient b_n is

- none of these