f the system is impressed upon by a _____ force and there is no damping force then there is no transient term in the solution.

ect the correct option

- ( ) gravitational
- ( ) periodic
- ( ) friction
- (●) applied

▶ Click to Save Answer & Move to Next Qu

Question # 2 of 10 (Start time: 03:29:58 PM, 08 February 2022)   **Total Ma**

The equation, $(x^2 + 1)\dfrac{d^2y}{dx^2} + 2x\dfrac{dy}{dx} + 6y = 0$, has the singular point(s) at $x = $ _____.

Select the correct option

Reload Math Equatio

◯	(I) ± 1
◉	(IV) Both (II) and (III).
◯	(III) $-i$
◯	(II) i

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 03:30:44 PM, 08 February 2022)

The _____ force is proportional to the instantaneous velocity

$$\frac{dx}{dt}$$

.

Select the correct option

Reload M

○ restoring

○ umdamped

○ retarding

◉ damped

Click to Save Answer & Move to Ne

The infinite series $\sum_{n=1}^{\infty} \frac{(-1)^{n+2}}{n^3}(x+3)^n$. is a power series in x centered at

Select the correct option

Reload Math Equ

- ◉ 3
- ○ 2
- ○ -2
- ○ -3

Click to Save Answer & Move to Next Ques

Question # 5 of 10 (Start time: 03:32:22 PM, 08 February 2022)   **Total N**

Auxiliary equation of the differential equation

$$fx^2\frac{d^2y}{dx^2} + gx\frac{dy}{dx} + hy = k(x)$$

is

Select the correct option

Reload Math Equa

○ $fm + (g - f)m^2 + h = 0$

○ $fm^2 - (g - f)m + h = 0$

◉ $fm^2 + (g - f)m + h = 0$

○ none of them

Click to Save Answer & Move to Next Quest

In the study of mechanics, cosider the damping force acting on a body i.e. $-\beta\left(\dfrac{dx}{dt}\right)^2$, where β is a damping constant and negative sign indicates that the damping force acts in a direction _____ to the direction of motion.

Select the correct option

    🔄 Reload Math Equ

○   same

◉   opposite

Click to Save Answer & Move to Next Que

Question # 7 of 10 (Start time: 03:34:06 PM, 08 February 2022)

The singular points need not to be _____ number.

Select the correct option

○	whole
○	natural
⦿	real
○	complex

Click to Save Answer & Move to Ne

MTH401 – Differential Equations (Quiz#3)   Quiz Start Time: 03:28 PM

Question # 8 of 10 (Start time: 03:35:10 PM, 08 February 2022)

Consider a power series

$$1 - \frac{x^2}{2} + \frac{x^4}{24} - \ldots.$$

represents _____.

Select the correct option

🔘 Reloa

⦿ cos x

◯ e

◯ sin x

◯ ln x

Click to Save Answer & Move t

The power series, $\sum_{n=0}^{\infty} \dfrac{x^n}{n!}$, _____ $x = 1$ to the number e.

Select the correct option

- converges

- diverges

Click to Save Answer & Move

A function f is said to be analytic at a point 'a' if it can be represented by a power series in (x-a) with a _____ radius of convergence.

Select the correct option

○ negative

● positive

Savir