



MC210203259: ALI HAIDER

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 1 of 10 (Start time: 01:03:54 PM, 24 February 2022)

Dynamics deals with the forces acting on any object and relationship fundamentally to the motion.

Select the correct option

false



true



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MTH622 – Vectors and Classical Mechanics (QUIZ NO.2)

Question # 5 of 10 (Start time: 01:23:59 PM, 24 February 2022)

If angular momentum $\Omega = 2\omega \sin \omega t$ then the torque τ is

Select the correct option

☒	$2\omega^2 \cos \omega t$ Ans
☐	$-2 \cos \omega t$

Done

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AA



BC210426123: QAISER ABBAS

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:

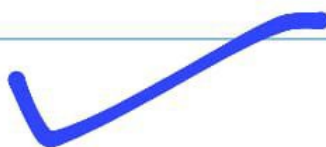
Question # 9 of 10 (Start time: 01:29:26 PM, 24 February 2022)

The product of inertia of a particle about x and y-axes is

Select the correct option



☒ $I_{xy} = -mxy$



☐ $I_{xy} = m(x^2 + y^2)$

Click to Save Answer & M



Done

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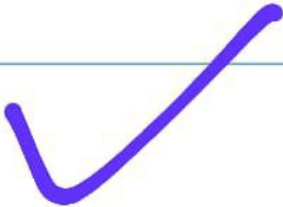
Quiz Start Time

Question # 7 of 10 (Start time: 01:27:40 PM, 24 February 2022)

The torque acting on a particle is proportional to the time rate of change in its angular acceleration.

Select the correct option

☐	true
☐	false



Click to Save Answer



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MTH622 – Vectors and Classical Mechanics (QUIZ NO.2)

Question # 10 of 10 (Start time: 01:30:41 PM, 24 February 2022)

If a body rotates about some external fixed point it is called revolution

Select the correct option

☒	revolution
☐	spin

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Done

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BC210425203: MUHAMMAD SHOAIB

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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

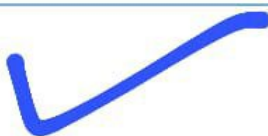
Quiz Start Time: 01:32 PM, 24

Question # 3 of 10 (Start time: 01:33:20 PM, 24 February 2022)

If angular momentum $\Omega = 2\omega \sin \omega t$ then the torque τ is

Select the correct option

Reload M

☐ $-2 \cos \omega t$ ☒ $2\omega^2 \cos \omega t$ Ans

Click to Save Answer & Move to Ne



MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 2 of 10 (Start time: 01:20:55 PM, 24 February 2022)

Dynamics deals with the forces acting on any object and relationship fundamentally to the motion.

Select the correct option

☐	false
☒	true

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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 7 of 10 (Start time: 01:36:25 PM, 24 February 2022)

The position vector of the center of mass of a system of particles is

Select the correct option

- | | |
|----------------------------------|---|
| ☐ | $\vec{r}_c = \frac{\sum_i m_i \vec{r}_i}{\sum_i r_i}$ |
| ☒ | $\vec{r}_c = \frac{\sum_i m_i \vec{r}_i}{\sum_i m_i}$ |
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Question # 5 of 10 (Start time: 01:35:03 PM, 24 February 2022)

For inertia matrix, along principal axes

Select the correct option

☒	the off diagonal elements are zero
☐	the diagonal elements are zero



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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 4 of 10 (Start time: 01:05:35 PM, 24 February 2022)

For inertia matrix, along principal axes

Select the correct option



the diagonal elements are zero



the off diagonal elements are zero





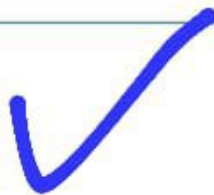
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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 3 of 10 (Start time: 01:04:59 PM, 24 February 2022)

If angular momentum $\Omega = 2\omega \sin \omega t$ then the torque τ is

Select the correct option

☐ $-2 \cos \omega t$ ☒ $2\omega^2 \cos \omega t$ Ans



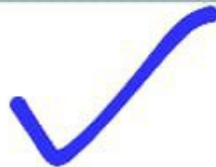
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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 9 of 10 (Start time: 01:08:20 PM, 24 February 2022)

For an elastic body, the distance between two particles.....under the action of applied force

Select the correct option

☐ remains constant☒ Is changed



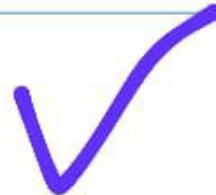
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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 8 of 10 (Start time: 01:07:50 PM, 24 February 2022)

If an object explodes, the center of mass will

Select the correct option

☐ come into rest☒ continue its previous motion

Done

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Time Left 84 sec(s)

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:32 PM, 24 February 2022

Question # 6 of 10 (Start time: 01:35:39 PM, 24 February 2022)

Total Marks: 1

What is the moment of inertia I of a hemisphere of mass M about an axis through its center given the corresponding radius of gyration is $K = \sqrt{\frac{2}{3}}a$.

Select the correct option

Reload Math Equations

☒	$I = \frac{2}{3}Ma^2$
☐	$I = \frac{5M}{2a^2}$

Click to Save Answer & Move to Next Question





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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz

Question # 10 of 10 (Start time: 01:08:47 PM, 24 February 2022)

The torque acting on a particle is proportional to the time rate of change in its angular acceleration.

Select the correct option

true



false



Click to See





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Time Left 87 sec(s)

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:03 PM, 24 February 2022

Question # 5 of 10 (Start time: 01:06:00 PM, 24 February 2022)

Total Marks: 1

What is the moment of inertia I of a hemisphere of mass M about an axis through its center given the corresponding radius of gyration is $K = \sqrt{\frac{3}{5}} a$.

Select the correct option

Reload Math Equations

☐ $I = \frac{5M}{2a^2}$

☒ $I = \frac{3}{5}Ma^2$



Click to Save Answer & Move to Next Question





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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 2 of 10 (Start time: 01:04:28 PM, 24 February 2022)

For the conservative force field $\vec{F} = -2\hat{j}y$ the scalar potential V will be

Select the correct option

☒	$y^2 + c$
☐	$xy + c$





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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 7 of 10 (Start time: 01:07:21 PM, 24 February 2022)

If the axis of rotation passes through the center of mass of the rigid body then it is called

Select the correct option

revolution



spin



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MTH622 – Vectors and Classical Mechanics (QUIZ NO.2)

Question # 8 of 10 (Start time: 01:37:02 PM, 24 February 2022)

Dynamics deals with the forces acting on any object and relationship fundamentally to the motion.

Select the correct option

☒	true
☐	false

Done

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TH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:32 P

Question # 4 of 10 (Start time: 01:34:00 PM, 24 February 2022)

The torque acting on a particle is proportional to the time rate of change in its angular acceleration.

Select the correct option

☐	true
☒	false

Click to Save Answer & Move



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MTH622 – Vectors and Classical Mechanics (QUIZ NO.2)

Question # 8 of 10 (Start time: 01:28:21 PM, 24 February 2022)

If the axis of rotation passes through the center of mass of the rigid body then it is called

Select the correct option

☒	spin
☐	revolution

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Done

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Time Left 87 sec(s)

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:32 PM, 24 February 2022

Question # 1 of 10 (Start time: 01:32:28 PM, 24 February 2022)

Total Marks: 1

If a particle of mass 4 moving with velocity $4\hat{i}$ collides another particle of mass 5 with velocity $3\hat{i}$. Then what will be the velocity of first particle after collision if the velocity of second particle after collision is $2\hat{i}$.

Select the correct option

Reload Math Equations

☐	$\frac{15}{4}\hat{i}$
☒	$\frac{21}{4}\hat{i}$

Click to Save Answer & Move to Next Question



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MTH622 – Vectors and Classical Mechanics (QUIZ NO.2)

Question # 4 of 10 (Start time: 01:22:58 PM, 24 February 2022)

For an elastic body, the distance between two particles.....under the action of applied force

Select the correct option

☐	remains constant
☒	is changed

Done

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Time Left 88 sec(s)

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Quiz Start Time: 01:20 PM, 24 February 2022

Question # 1 of 10 (Start time: 01:20:08 PM, 24 February 2022)

Total Marks: 1

If a particle of mass 4 moving with velocity $4\hat{i}$ collides another particle of mass m with velocity $3\hat{i}$. If after collision the velocity of first particle is $5\hat{i}$ and that of second particle is $2\hat{i}$, find m .

Select the correct option

Reload Math Equations

☐	4
☐	3

Click to Save Answer & Move to Next Question





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+92 306 0870768: Yup

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REPLY

MARK AS REA

MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 5 of 10 (Start time: 01:06:09 PM, 24 February 2022)

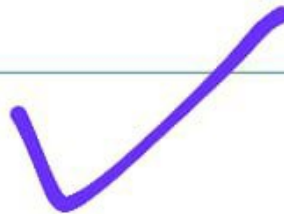
What is the moment of inertia I of a hemisphere of mass M about an axis through its center of mass?

$$K = \sqrt{\frac{2}{5}} a.$$

Select the correct option

☐ $I = \frac{5M}{2a^2}$

☒ $I = \frac{2}{5} Ma^2$





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MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 1 of 10 (Start time: 01:03:54 PM, 24 February 2022)

Dynamics deals with the forces acting on any object and relationship fundamentally to the motion.

Select the correct option

☐	false
☒	true



MTH622 - Vectors and Classical Mechanics (QUIZ NO.2)

Question # 3 of 10 (Start time: 01:21:38 PM, 24 February 2022)

For inertia matrix, along principal axes

Select the correct option

- | | |
|----------------------------------|------------------------------------|
| ☒ | the off diagonal elements are zero |
| ☐ | the diagonal elements are zero |

Question # 6 of 10 (Start time: 01:24:39 PM, 24 February 2022)

Angular momentum can be defined as

Select the correct option

- | | |
|-----------------------|-----------------------|
| ☐ | $L = r \times \omega$ |
| ☐ | $L = p \times \omega$ |
| ☐ | $L = r \times v$ |
| ☐ | $L = r \times p$ |

✓
Rashid
Hussain