

Question # 1 of 5 ( Start time: 11:06:36 AM, 03 March 2022 )

Total Marks: 1

Kinetic energy  $T$  of a rigid body in a planar motion, is defined by

Select the correct option

[Reload Math Equations](#)

$$T = \frac{1}{2} I_0 \omega^2$$



$$T = \frac{1}{2} m v_c^2 + \frac{1}{2} I_c \omega^2$$



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The Moment of inertia of a hollow sphere having mass M and radius a is given by

Select the correct option

 Reload Math Equations

- |                                  |                       |
|----------------------------------|-----------------------|
| <input type="radio"/>            | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/>            | $I = Ma^2$            |
| <input type="radio"/>            | $I = \frac{2}{5}Ma^2$ |
| <input checked="" type="radio"/> | $I = \frac{2}{3}Ma^2$ |

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Question # 2 of 5 ( Start time: 11:07:32 AM, 03 March 2022 )

Total Marks: 1

If the center of mass is at origin then the coordinate axes (xyz axes) and the principal axes of the rigid body are.....

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Select the correct option

[Reload Math Equations](#)

<input type="radio"/>	coincident
<input type="radio"/>	perpendicular

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Question # 4 of 5 ( Start time: 11:09:44 AM, 03 March 2022 )

Total Marks: 1

Consider a right circular cone of density  $\rho$ , radius  $a$  and height  $h$  is composed of elementary circular discs of small thickness each parallel to the base of the cone. Choose the z-axis as the axis of symmetry and consider a typical disc of radius  $r$  and width  $\delta z$  then mass of the disc is

Select the correct option

[Reload Math Equations](#)

- |                       |                                    |
|-----------------------|------------------------------------|
| <input type="radio"/> | $\delta m = \rho 2\pi r \delta z$  |
| <input type="radio"/> | $\delta m = \rho \pi r^2 \delta z$ |
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## Usman Peer Zada

11 photos

Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

<input type="radio"/>	$I = Ma^2$
<input type="radio"/>	$I = \frac{1}{2}Ma^2$
<input type="radio"/>	$I = \frac{2}{5}Ma^2$

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Module 136

← 12:10 PM



66%

12:05 pm

pg150

MTH622:Quiz#2

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Question # 1 of 10 ( Start time: 09:03:47 PM, 23 February 2021 )

The Moment of inertia of a hollow sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

<input type="radio"/>	$I = Ma^2$
<input type="radio"/>	$I = \frac{1}{2}Ma^2$
<input type="radio"/>	$I = \frac{2}{5}Ma^2$
<input type="radio"/>	$I = \frac{2}{3}Ma^2$

Module 155,  
pg106

MTH622:Quiz#2

Question # 9 of 10 ( Start time: 03:06:21 PM, 23 February 2021 )

The mass of a cylindrical shell of density  $\rho$ , height  $h$  thickness  $dr$  and radi



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MTH622:Quiz#2

Question # 9 of 10 ( Start time: 03:06:21 PM, 23 February 2021 )

The mass of a cylindrical shell of density  $\rho$ , height  $h$  thickness  $dr$  and radius  $r$  is

Select the correct option

- |                       |                     |
|-----------------------|---------------------|
| <input type="radio"/> | $2\pi\rho r dr h$   |
| <input type="radio"/> | $\pi r^2 \rho dr h$ |

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Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                       |
|-----------------------|-----------------------|
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| <input type="radio"/> | $I = \frac{2}{5}Ma^2$ |

7 of 212



Module 136





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Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass M and radius a is given by

Select the correct option

- |                       |                       |
|-----------------------|-----------------------|
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| <input type="radio"/> | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> | $I = \frac{2}{3}Ma^2$ |

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## Quiz#2

Question # 7 of 10 ( Start time: 02:53:13 PM, 23 February 2021 )

Uniform solid sphere

8 of 212



The Moment of inertia of a hollow sphere having mass  $M$  and radius  $a$  is given by

[Reload Math Equations](#)

$$I = \frac{1}{2}Ma^2$$



$$I = Ma^2$$



$$I = \frac{2}{5}Ma^2$$



$$I = \frac{2}{3}Ma^2$$







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### MTH622 Quiz#2

Question # 4 of 10 ( Start time: 02:50:38 PM, 23 February 2021 )

The Moment of inertia of a solid cylinder having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                                                                                                      |                       |
|-----------------------|------------------------------------------------------------------------------------------------------|-----------------------|
| <input type="radio"/> |                                                                                                      | $I = Ma^2$            |
| <input type="radio"/> |  Module 152, pg99 | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> |                                                                                                      | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> |                                                                                                      | $I = \frac{2}{3}Ma^2$ |

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## MTH622-Quiz#2

Question # 1 of 10 ( Start time: 02:57:34 PM, 23 February 2021 )

The Moment of inertia of a hollow cylindrical shell having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                                                                                                     |                       |
|-----------------------|-----------------------------------------------------------------------------------------------------|-----------------------|
| <input type="radio"/> |  Module 142, pg81 | $I = Ma^2$            |
| <input type="radio"/> |                                                                                                     | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> |                                                                                                     | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> |                                                                                                     | $I = \frac{2}{3}Ma^2$ |

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## Quiz#2

3 of 10 ( Start time: 03:00:19 PM, 23 February 2021 )

Three particles of masses  $m$ ,  $2m$  and  $3m$  are held in a rigid light framework at points  $(0, 1, 1)$ ,  $(1, 1, 1)$ ,  $(1, 1, 1)$ . Find  $I_{xy}$ 

Correct option

10 of 212

m



Question # 5 of 5 ( Start time: 11:11:12 AM, 03 March 2022 )

Total Marks: 1

If a rigid body is rotating about a fixed point on ground then its kinetic energy  $T$  is defined by

Select the correct option

Reload Math Equations

<input type="radio"/>	$T = \frac{1}{2}mv_c^2 + \frac{1}{2}I_c\omega^2$
<input type="radio"/>	$T = \frac{1}{2}I_0\omega^2$



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1



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Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass M and radius a is given by

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Select the correct option

- |                       |                       |
|-----------------------|-----------------------|
| <input type="radio"/> | $I = Ma^2$            |
| <input type="radio"/> | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> | $I = \frac{2}{3}Ma^2$ |

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Quiz#2

Question # 7 of 10 ( Start time: 02:53:13 PM, 23 February 2021 )

Uniform solid sphere

8 of 212





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MTH622:Quiz#2

Question # 9 of 10 ( Start time: 03:06:21 PM, 23 February 2021 )

The mass of a cylindrical shell of density  $\rho$ , height  $h$  thickness  $dr$  and radius  $r$  is

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Select the correct option

<input type="radio"/>	$2\pi\rho r dr h$
<input type="radio"/>	$\pi r^2 \rho dr h$

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Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

<input type="radio"/>	$I = Ma^2$
<input type="radio"/>	$I = \frac{1}{2}Ma^2$
<input type="radio"/>	$I = \frac{2}{5}Ma^2$

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Module 136





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Question # 5 of 10 ( Start time: 03:02:20 PM, 23 February 2021 )

The Moment of inertia of a solid sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |            |                       |
|-----------------------|------------|-----------------------|
| <input type="radio"/> |            | $I = Ma^2$            |
| <input type="radio"/> |            | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> | Module 136 | $I = \frac{2}{5}Ma^2$ |
- 7 of 212
- ← 12:10 PM



pg150

MTH622:Quiz#2

Question # 1 of 10 ( Start time: 09:03:47 PM, 23 February 2021 )

The Moment of inertia of a hollow sphere having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                   |                       |
|-----------------------|-------------------|-----------------------|
| <input type="radio"/> |                   | $I = Ma^2$            |
| <input type="radio"/> |                   | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> |                   | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> | Module 155, pg106 | $I = \frac{2}{3}Ma^2$ |

MTH622:Quiz#2

Question # 9 of 10 ( Start time: 03:06:21 PM, 23 February 2021 )

The mass of a cylindrical shell of density  $\rho$ , height  $h$  thickness  $dr$  and radi

Question # 5 of 5 ( Start time: 11:11:12 AM, 03 March 2022 )

Total Marks: 1

If a rigid body is rotating about a fixed point on ground then its kinetic energy  $T$  is defined by

Select the correct option

Reload Math Equations



$$T = \frac{1}{2}mv_c^2 + \frac{1}{2}I_c\omega^2$$



$$T = \frac{1}{2}I_0\omega^2$$



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1

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## MTH622-Quiz#2

Question # 1 of 10 ( Start time: 02:57:34 PM, 23 February 2021 )

The Moment of inertia of a hollow cylindrical shell having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                                                                                                        |                       |
|-----------------------|--------------------------------------------------------------------------------------------------------|-----------------------|
| <input type="radio"/> |  Module 142,<br>pg81 | $I = Ma^2$            |
| <input type="radio"/> |                                                                                                        | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> |                                                                                                        | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> |                                                                                                        | $I = \frac{2}{3}Ma^2$ |

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## Quiz#2

3 of 10 ( Start time: 03:00:19 PM, 23 February 2021 )

Three particles of masses  $m$ ,  $2m$  and  $3m$  are held in a rigid light framework at points  $(0, 1, 1)$ ,  $(1, 1, 1)$  and  $(1, 1, 0)$  respectively. Find  $I_{yy}$ .

Correct option

10 of 212

m







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37 minutes ago

1



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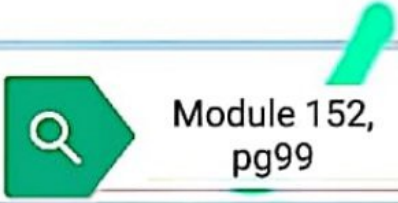


## MTH622:Quiz#2

Question # 4 of 10 ( Start time: 02:50:38 PM, 23 February 2021 )

The Moment of inertia of a solid cylinder having mass  $M$  and radius  $a$  is given by

Select the correct option

- |                       |                                                                                                            |                       |
|-----------------------|------------------------------------------------------------------------------------------------------------|-----------------------|
| <input type="radio"/> |                                                                                                            | $I = Ma^2$            |
| <input type="radio"/> | <br>Module 152,<br>pg99 | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/> |                                                                                                            | $I = \frac{2}{5}Ma^2$ |
| <input type="radio"/> |                                                                                                            | $I = \frac{2}{3}Ma^2$ |

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Question # 1 of 5 ( Start time: 11:06:36 AM, 03 March 2022 )

Total Marks: 1

Kinetic energy  $T$  of a rigid body in a planar motion, is defined by

Select the correct option

[Reload Math Equations](#)

- |                                  |                                                      |
|----------------------------------|------------------------------------------------------|
| <input type="radio"/>            | $T = \frac{1}{2} I_0 \omega^2$                       |
| <input checked="" type="radio"/> | $T = \frac{1}{2} m v_c^2 + \frac{1}{2} I_c \omega^2$ |

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

The Moment of inertia of a hollow sphere having mass M and radius a is given by

Select the correct option

[Reload Math Equations](#)

- |                                  |                       |
|----------------------------------|-----------------------|
| <input type="radio"/>            | $I = \frac{1}{2}Ma^2$ |
| <input type="radio"/>            | $I = Ma^2$            |
| <input type="radio"/>            | $I = \frac{2}{5}Ma^2$ |
| <input checked="" type="radio"/> | $I = \frac{2}{3}Ma^2$ |

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



Question # 4 of 5 ( Start time: 11:09:44 AM, 03 March 2022 )

Total Marks: 1

Consider a right circular cone of density  $\rho$ , radius  $a$  and height  $h$  is composed of elementary circular discs of small thickness each parallel to the base of the cone. Choose the  $z$ -axis as the axis of symmetry and consider a typical disc of radius  $r$  and width  $\delta z$  then mass of the disc is

Select the correct option

[Reload Math Equations](#)

- |                                  |                                    |
|----------------------------------|------------------------------------|
| <input type="radio"/>            | $\delta m = \rho 2\pi r \delta z$  |
| <input checked="" type="radio"/> | $\delta m = \rho \pi r^2 \delta z$ |

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

Question # 2 of 5 ( Start time: 11:07:32 AM, 03 March 2022 )

Total Marks: 1

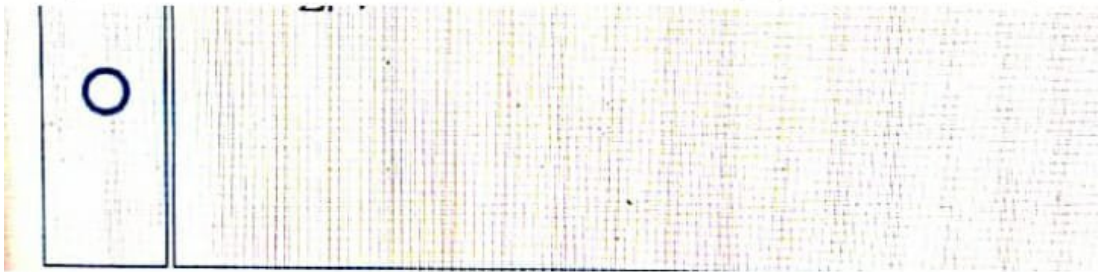
If the center of mass is at origin then the coordinate axes (xyz axes) and the principal axes of the rigid body are.....

Select the correct option

[Reload Math Equations](#)

- |                                  |               |
|----------------------------------|---------------|
| <input checked="" type="radio"/> | coincident    |
| <input type="radio"/>            | perpendicular |

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



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Question # 6 of 10 ( Start time: 09:54:50 AM, 05 August 2021 )

If a rigid body is rotating about a fixed point on ground then its kinetic energy  $T$  is defined by

Select the correct option

- $T = \frac{1}{2} I_0 \omega^2$  A
- $T = \frac{1}{2} m v_c^2 + \frac{1}{2} I_c \omega^2$

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The Moment of inertia of a hollow sphere having mass  $M$  and radius  $a$  is given by

[Reload Math Equations](#)

$$I = \frac{1}{2}Ma^2$$



$$I = Ma^2$$



$$I = \frac{2}{5}Ma^2$$



$$I = \frac{2}{3}Ma^2$$



Select the correct option

 the diagonal elements are zero the off diagonal elements are zero

B

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Question # 4 of 10 ( Start time: 11:45:47 AM, 05 August 2021 )

If the center of mass is at origin then the coordinate axes (xyz axes) and the principal axes of the rigid body are....

Select the correct option

 coincident

A

 perpendicular

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ATH622:Quiz 3

Quiz Start Time: 11:43 AM, 05 A

Question # 1 of 10 ( Start time: 11:43:47 AM, 05 August 2021 )

To

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

Select the correct option

  $\frac{15}{4}\hat{i}$ 

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Reload Math





### MTH622:Quiz 3

Question # 6 of 10 ( Start time: 11:47:02 AM, 05 August 2021 )

Kinetic energy  $T$  of a rigid body in a planar motion, is defined by



Select the correct option

- $T = \frac{1}{2} I_0 \omega^2$
- $T = \frac{1}{2} m v_c^2 + \frac{1}{2} I_c \omega^2$



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

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Question # 4 of 10 ( Start time: 12:57:36 PM, 05 August 2021 )

Tota

Consider a right circular cone of density  $\rho$ , radius  $a$  and height  $h$  is composed of elementary circular discs of small thickness each parallel to the base of the cone. Choose the z-axis as the axis of symmetry and consider a typical disc of radius  $r$  and width  $\delta z$  then mass of the disc is

Select the correct option

Reload Math

<input type="radio"/>	$\delta m = \rho 2\pi r \delta z$
<input type="radio"/>	$\delta m = \rho \pi r^2 \delta z$

B

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MTH622: Quiz 3

Quiz

Question # 3 of 10 ( Start time: 12:56:21 PM, 05 August 2021 )

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

Select the correct option

<input type="radio"/>	revolution
<input type="radio"/>	spin

Q71 of 212 A