

Lamy's Theorem can be applied if a body is in state of horizontal equilibrium only under the action of three concurrent coplanar forces.

Select the correct option



False



True



If a force of 6 N acts at an angle of 60 degrees with the horizontal, then the horizontal component of the force is..... N.

Select the correct option:

☒	3
☐	0
☐	5.20
☐	6



If the resultant force acts along the line $y=x$, then the resultant makes an angle of ----- degrees with +ve x-axis.

Select the correct option



135



0



90



45



Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If X is -ve and Y is +ve , then the Resultant of the forces act in the-----

Select the correct option



fourth quadrant



third quadrant



second quadrant



first quadrant



If a particle is in equilibrium under the action of coplanar Forces then removing a horizontal force makes the particle in----

Select the correct option



horizontal equilibrium only



vertical equilibrium only



Both horizontal and vertical equilibrium



neither horizontal equilibrium nor vertical equilibrium

If the resultant force acting on the particle is $(3\mathbf{i}+4\mathbf{j})\text{N}$, then what additional single must be applied to make the particle in Equilibrium

Select the correct option



$(3\mathbf{i}-4\mathbf{j})\text{N}$



$(-3\mathbf{i}+4\mathbf{j})\text{N}$



$(-7\mathbf{i}-7\mathbf{j})\text{N}$



$(-3\mathbf{i}-4\mathbf{j})\text{N}$



Trigonometric ratios are applicable on-----.

Select the correct option

☐ obtuse-angled triangle only

☐ any triangle

☒ right-angled triangle only

☐ acute-angled triangle only



Lamy's Theorem cannot be applied if a body is in state of vertical equilibrium only under the action of three concurrent coplanar forces.

Select the correct option



True



False



Question # 10 of 10 (Start time: 11:08:06 PM, 06 July 2022)

Total Marks: 1

Lamy's Theorem cannot be applied if angle between any two forces is.....

Select the correct option

☐

180 degrees

☐

100 degrees

☐

40 degrees

☐

70 degrees

The branch of mechanics which deals with the bodies at rest is called-----

Select the correct option



kinematics



statics



dynamics



kinetics

If a body is in equilibrium under the action of coplanar forces and upward forces are trebled, then to keep the body in equilibrium, downward forces need to be....

Select the correct option



doubled



unchanged



trebled



halved



Question # 3 of 10 (Start time: 10:59:34 PM, 06 July 2022)

Total Marks: 1

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle then magnitude of Resultant force acting on the particle is given by

Select the correct option

 Reload Math Equations

☐

$$R = X + Y$$

☐

$$R = \sqrt{X^2 - Y^2}$$

☐

$$R = X - Y$$

☐

$$R = \sqrt{X^2 + Y^2}$$



If a body is moving at $(2\mathbf{i}+3\mathbf{j})\text{m/s}$, then $(2\mathbf{i}+3\mathbf{j})\text{m/s}$ is the of the body.

Select the correct option



acceleration



force



velocity



speed



Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=4\text{N}$ and $Y=0\text{N}$ then the angle made by the Resultant with with +ve x-axis is ----

Select the correct option

☐	90 degrees
☐	270 degrees
☐	180 degrees
☐	0 degrees



In Lamy's Theorem sum of the three angles used must be.... degrees.

Select the correct option

☐	270
☐	360
☐	180
☐	90



Trigonometric ratios are applicable on-----.

Select the correct option



any triangle



acute-angled triangle only



right-angled triangle only



obtuse-angled triangle only

Law of Sines is applicable on-----.

Select the correct option



Any triangle



Right-angled only



Obtuse-angled triangle only



Acute-angled triangle only

Three forces $(2i+3j)N$, $(4i-2j)N$ and $(-5i+4j)N$ are acting on a body. What single force must be applied on the body to make it in complete equilibrium?

Select the correct option

☐ $-i+5j$

☐ $-i-5j$

☒ $i+5j$

☐ $i-5j$



If a particle is in equilibrium under the action of three coplanar concurrent forces, then each force has a magnitude proportional to the ----of the angle between the other two.

Select the correct option

☐	cosine
☐	secant
☐	sine
☐	tangent



Question # 7 of 10 (Start time: 10:33:07 PM, 06 July 2022)

Total Marks: 1

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=0\text{N}$ and $Y=3\text{N}$ then the angle made by the Resultant with with +ve x-axis is ----

Select the correct option

- | | |
|-----------------------|-------------|
| ☐ | 90 degrees |
| ☐ | 180 degrees |
| ☐ | 270 degrees |
| ☐ | 0 degrees |
- 

While using Lamy's Theorem which of the following can be angle between any two forces?

Select the correct option

☐ 360 degrees

☐ 0 degrees

☐ 80 degrees

☐ 180 degrees



If two forces p and q act at an angle

 α

then the angle

 θ

made by the resultant with force p is given by

Select the correct option

Reload M



$$\tan \theta = \frac{p \sin \alpha + q}{p \cos \alpha}$$



$$\tan \theta = \frac{p \sin \alpha - q}{p \cos \alpha}$$



$$\tan \theta = \frac{p \sin \alpha}{q - p \cos \alpha}$$



$$\tan \theta = \frac{p \sin \alpha}{q + p \cos \alpha}$$



Three forces $(2\mathbf{i}-\mathbf{j})\text{N}$, $(4\mathbf{i}+3\mathbf{j})\text{N}$ and $(-3\mathbf{i}+2\mathbf{j})\text{N}$ are acting on a body. What is the magnitude of single force that must be applied on the body to make it in complete equilibrium?

Select the correct option

☐ 3N

☒ 5N

☐ 2N

☐ 4N



Question # 1 of 10 (Start time: 10:27:03 PM, 06 July 2022)

Total I

Law of cosines is applicable on-----.

Select the correct option



acute-angled triangle only



any triangle



right-angled triangle only



obtuse-angled triangle only

In Lamy's Theorem sum of the three angles used must be.... degrees.

Select the correct option



90



180



360



270

Question # 10 of 10 (Start time: 10:21:01 PM, 06 July 2022)

Total Marks: 1

Lamys theorem applies if a particle is in ----.

Select the correct option

☐ non-equilibrium state☒ equilibrium state

In Lamy's Theorem sum of the three angles used must be. degrees.

Select the correct option



270



360



180



90

Question # 9 of 10 (Start time: 20:19:58 PM, 06 July 2022)

Total Marks: 1

According to Lamy's theorem

Select the correct option

- ☐ The three forces must be equal
- ☐ The three forces must be at 120° to each other
- ☒ If the three forces acting at a point are in equilibrium, then each force is proportional to the sine of the angle between the other two
- ☐ none of these

Question # 8 of 10 (Start time: 10:15:17 PM, 06 July 2022)

Total Marks: 1

If the mass of a particle is 8 kg, then its weight will be ____ N

Select the correct option

☐	0.8
☐	80
☐	800
☐	8



Question # 6 of 10 (Start time: 10:14:29 PM, 06 July 2022)

Total Marks: 1

_____ is used in Lamy's Theorem.

Select the correct option

- ☐ Integration
- ☒ Trigonometry
- ☐ Differentiation
- ☐ None of the given



Question # 7 of 10 (Start Time: 10:15:21 PM, 06 July 2022)

Total Marks: 1

Greatest resultant of forces 3N and 5N is —.

Select the correct option



8N



5N



3N



2N

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=0\text{N}$ and $Y=3\text{N}$ then the angle made by the Resultant with the +ve x-axis is —

Select the correct option



180 degrees



0 degrees



90 degrees



270 degrees



Question #5 of 10 (Start time: 10:13:15 PM, 04 July 2022)

Total Marked: 11

If a force of 10 N acts at an angle of 30 degrees with the horizontal, then the Vertical component of the force is..... N.

SELECT THE CORRECT OPTION

- 10

- 00

- 5

- 8.66



Question # 4 of 10 (Start time: 10:11:16 PM, 06 July 2022)

Total Marks: 1

Greatest Resultant of two forces p and q is possible when angle between the two forces is— degrees.

Select the correct option

☐

180

☐

270

☐

90

☐

0



A body of mass 20kg is placed on an inclined plane which is lying at an angle 60 degrees to the horizontal. Then the Normal component of force acting on the body is —N.

Select the correct option



17.3



100



10



173

In Lamy's theorem forces are..... to the sine of the angle between the other two.

Select the correct option



proportional



not proportional

Question # 3 of 10 (Start time: 10:10:02 PM, 06 July 2022)

Total Marks: 1

If a body is hanging in equilibrium by a light inextensible string with tension 20N, then the mass of the body is——

Select the correct option



5kg



2kg



20kg



10kg

Question # 2 of 10 (Start time: 10:09:15 PM, 06 July 2023)

Total Mark

A body is hanging in equilibrium by a light in-extensible string.If the mass of the body is doubled, then tension in the string must be——.

Select the correct option

☐

doubled

☐

none of these

☐

trebled

☐

halved

Question # 1 of 10 (Start time: 10:08:11 PM, 06 July 2022)

If the resultant force acts along the line $y=x$, then the resultant makes an angle of — degrees with +ve x-axis:

Select the correct option



45



0



90



135

A particle is moving in two-dimensional plane with speed 5m/s. Which of the following is NOT the possible velocity of the particle?

Select the correct option



$2i+3j$



$5j$



$3i+4j$



$5i$

If a body is moving at 2m/s , then 2m/s is the of the body.

Select the correct option



force



velocity



acceleration



speed



In Lamy's theorem forces are proportional to the sine of the _____.

Select the correct option:

- ☒ angle between the other two 
- ☐ sum the angle between the other two
- ☐ difference of the angle between the other two
- ☐ angle adjacent to it

Three forces $(2\mathbf{i}-\mathbf{j})\text{N}$, $(4\mathbf{i}+3\mathbf{j})\text{N}$ and $(-3\mathbf{i}+2\mathbf{j})\text{N}$ are acting on a body. What is the magnitude of single force that must be applied on the body to make it in complete equilibrium?

Select the correct option

☐

4N

☐

3N

☐

2N

☐

5N



If the resultant force acting on the particle is $(3\mathbf{i}+4\mathbf{j})\text{N}$, then what additional single force must be applied to make the particle in Equilibrium

What is the correct option

☐ $(-3\mathbf{i}+4\mathbf{j})\text{N}$

☐ $(-7\mathbf{i}-7\mathbf{j})\text{N}$

☐ $(3\mathbf{i}-4\mathbf{j})\text{N}$

☒ $(-3\mathbf{i}-4\mathbf{j})\text{N}$



Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle then magnitude of Resultant force acting on the particle if $Y=0$ is given by—.

Select the correct option

- | | |
|-----------------------|--------|
| ☐ | $R=2X$ |
| ☐ | $R=X$ |
| ☐ | $R=2Y$ |
| ☐ | $R=Y$ |
- 

Law of Sines is applicable on——.

Select the correct option

- ☐ Right-angled only
- ☒ Any triangle
- ☐ Acute-angled triangle only
- ☐ Obtuse-angled triangle only



Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=0\text{N}$ and $Y=-5\text{N}$ then the angle made by the horizontal with +ve x-axis is —

Select the correct option

☐ 180 degrees

☐ 0 degrees

☐ 270 degrees

☐ 90 degrees



Law of cosines is applicable on-----.

Select the correct option



any triangle



obtuse-angled triangle only



right-angled triangle only



acute-angled triangle only

Question # 6 of 10 (Start time: 09:40:00 PM, 06 July 2022)

Total Marks: 1

The branch of science which deals with the behavior of physical bodies when subjected to forces or displacements is called.....

Select the correct option

☐	physics
☐	mechanics
☐	mathematics
☐	chemistry



Law of Sines is applicable on-----.

Select the correct option



Right-angled only



Acute-angled triangle only



Obtuse-angled triangle only



Any triangle



If a body is moving at $(2\mathbf{i}+3\mathbf{j})\text{m/s}$, then $(2\mathbf{i}+3\mathbf{j})\text{m/s}$ is the of the body.

Select the correct option



force



velocity



acceleration



speed



Lamys theorem applies if a particle is in ----.

Select the correct option



non-equilibrium state



equilibrium state



Question # 4 of 10 (Start time: 09:37:22 PM, 06 July 2022)

Total Marks: 1

Three forces $(2i-j)N$, $(4i+3j)N$ and $(-3i+2j)N$ are acting on a body. What is the magnitude of single force that must be applied on the body to make it in complete equilibrium?

Select the correct option

- | | |
|-----------------------|----|
| ☐ | 3N |
| ☐ | 4N |
| ☐ | 5N |
| ☐ | 2N |
- 

If a body doesn't change its position with respect to its surrounding then it is said to be in state of.....

Select the correct option



motion



rest



If a force of 10 N acts at an angle of 30 degrees with the horizontal, then the Vertical component of the force is..... N.

Select the correct option

☐	8.66
☐	10
☐	0
☐	5



If a particle is in equilibrium under the action of coplanar forces, then which of the following is always true?

Select the correct option



Sum of Rightward forces = Sum of Leftward forces



Sum of Rightward forces = Sum of Upward forces



Sum of Rightward forces = Sum of Downward forces



Sum of Rightward forces $\neq$ Sum of Leftward force

Question # 6 of 10 (Start time: 09:04:06 PM, 06 July 2022)

Total Marks: 1

Greatest resultant of forces 3N and 5N is ---.

Select the correct option



5N



2N



3N



8N



If the mass of a particle is 8 kg, then its weight will be____ N

Select the correct option



0.8



8



80



800



Lamys theorem applies to -----coplanar concurrent forces.

Select the correct option

☐	three
☐	two
☐	five
☐	four



Question # 4 of 10 (Start time: 09:01:16 PM, 06 July 2022)

Total Marks: 1

If a body is in Vertical equilibrium only, then which of the following is true?

Select the correct option

 Reload Math Equations

☒

$$\sum F_X \neq 0, \sum F_Y = 0$$

☐

$$\sum F_X = 0, \sum F_Y \neq 0$$

☐

$$\sum F_X = 0, \sum F_Y = 0$$

☐

$$\sum F_X \neq 0, \sum F_Y \neq 0$$

Question # 8 of 10 (Start time: 09:05:59 PM, 06 July 2022)

Total Marks: 1

If a body doesn't change its position with respect to its surrounding then it is said to be in state of.....

Select the correct option

☐

motion

☒

rest



Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If X is -ve and Y is +ve , then the Resultant of the forces act in the-----

Select the correct option



fourth quadrant



second quadrant



third quadrant



first quadrant



Question # 6 of 10 (Start time: 08:47:20 PM, 06 July 2022)

Total Marks: 1

Speed is the magnitude of ----.

Select the correct option



force



acceleration



energy



velocity



Question # 5 of 10 (Start time: 08:37:18 PM, 06 July 2022)

Total Marks: 1

----- is used in Lamy's Theorem.

Select the correct option

- | | |
|-----------------------|-------------------|
| ☐ | None of the given |
| ☐ | Trigonometry |
| ☐ | Differentiation |
| ☐ | Integration |
- 

Question # 9 of 10 (Start time: 08:41:48 PM, 06 July 2022)

Total Marks: 1

Lamy's Theorem cannot be applied if a body is in state of vertical equilibrium only under the action of three concurrent coplanar forces.

Select the correct option

☐

True

☐

False



Question # 4 of 10 (Start time: 08:36:28 PM, 06 July 2022)

Total Marks: 1

The branch of mechanics which deals with the bodies at rest is called-----

Select the correct option



statics



dynamics



kinematics



kinetics

Question # 5 of 10 (Start time: 08:37:45 PM, 06 July 2022)

Total Marks: 1

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=0\text{N}$ and $Y=-5\text{N}$ then the angle made by the horizontal with +ve x-axis is -----

Select the correct option



180 degrees



0 degrees



270 degrees



90 degrees



Question # 9 of 10 (Start time: 08:19:46 PM, 06 July 2022)

Total Marks: 1

If a body is in Vertical equilibrium only, then which of the following is true?

Select the correct option

[Reload Math Equations](#)☒

$$\sum F_x = 0, \sum F_y \neq 0$$

☐

$$\sum F_x = 0, \sum F_y = 0$$

☐

$$\sum F_x \neq 0, \sum F_y = 0$$

☐

$$\sum F_x \neq 0, \sum F_y \neq 0$$

Question # 10 of 10 (Start time: 08:21:40 PM, 06 July 2022)

Total Marks: 1

If a particle is in equilibrium under the action of coplanar Forces then removing a horizontal force makes the particle in----

Select the correct option

- ☐ neither horizontal equilibrium nor vertical equilibrium
- ☒ vertical equilibrium only
- ☐ Both horizontal and vertical equilibrium
- ☐ horizontal equilibrium only

Question # 10 of 10 (Start time: 08:22:20 PM, 06 July 2022)

Total Marks: 1

In Lamy's theorem forces are..... to the sine of the angle between the other two.

Select the correct option



proportional



not proportional

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

Question # 7 of 10 (Start time: 05:15:15 PM, 06 July 2022)

Total Marks: 1

If a body is placed on a horizontal table and the Normal component of the contact force is 100N, then the mass of the body will be kg.

Select the correct option:

☐	100
☐	1
☐	10
☐	0.1



Question # 10 of 10 (Start time: 08:04:40 PM, 06 July 2022)

Total Marks: 1

Three forces $(2i-j)N$, $(4i+3j)N$ and $(-3i+2j)N$ are acting on a body. What is the magnitude of single force that must be applied on the body to make it in complete equilibrium?

Select the correct option



4N



3N



2N



5N



The property of matter that resists changes in its motion is called.....

Select the correct option



weight



force



mass



inertia

Question # 10 of 10 (Start time: 04:18:49 PM, 06 July 2022)

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle then the angle that Resultant force makes with +ve x-axis is given by

Select the correct option

Reload



$$\theta = \tan^{-1}\left(\frac{X}{Y}\right)$$



$$\theta = \tan^{-1}(Y + X)$$



$$\theta = \tan^{-1}\left(\frac{Y}{X}\right)$$



$$\theta = \tan^{-1}(YX)$$

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=4\text{N}$ and $Y=0\text{N}$ then the angle made by the Resultant with with +ve x-axis is ——

Select the correct option

☐	180 degrees
☐	90 degrees
☐	270 degrees
☐	0 degrees



Acceleration is a quantity.

Select the correct option

☐ none of the given

☒ vector

☐ scalar

☐ both vector and scalar



The branch of science which deals with the behavior of physical bodies when subjected to forces or displacements is called.....

Select the correct option

☐	chemistry
☐	physics
☐	mechanics
☐	mathematics



Three forces $(2\mathbf{i}+3\mathbf{j})\text{N}$, $(4\mathbf{i}-2\mathbf{j})\text{N}$ and $(-5\mathbf{i}+4\mathbf{j})\text{N}$ are acting on a body. What single force must be applied on the body to make it in complete equilibrium?

Select the correct option

☐	$\mathbf{i}-5\mathbf{j}$
☒	$\mathbf{i}+5\mathbf{j}$
☐	$-\mathbf{i}+5\mathbf{j}$
☐	$-\mathbf{i}-5\mathbf{j}$

Question # 4 of 10 (Start time: 03:53:26 PM, 06 July 2022)

Total Marks: 1

In Lamy's theorem forces are proportional to the sine of the -----.

Select the correct option



sum the angle between the other two



difference of the angle between the other two



angle between the other two



angle adjacent to it

Trigonometric ratios are applicable on-----.

Select the correct option



acute-angled triangle only



right-angled triangle only



obtuse-angled triangle only



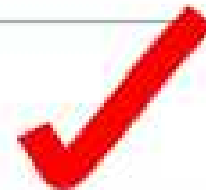
any triangle

Let X be the Sum of Horizontal forces and Y be the sum of Vertical Forces acting on a particle. If $X=4\text{N}$ and $Y=0\text{N}$ then the angle made by the Resultant with with +ve x-axis is ——

Select the correct option

☒

0 degrees

☐

180 degrees

☐

90 degrees

☐

270 degrees

Question # 7 of 10 (Start time: 08:49:58 PM, 06 July 2022)

Total Marks: 1

If a force of 10 N acts at an angle of 30 degrees with the horizontal, then the Vertical component of the force is..... N.

Select the correct option

☐	10
☒	5
☐	0
☐	8.66



While using Lamy's Theorem which of the following can be angle between any two forces?

Select the correct option



0 degrees



360 degrees



80 degrees



180 degrees



Question # 2 of 10 (Start time: 08:33:20 PM, 06 July 2022)

Total Marks: 1

If a body is moving at 2m/s , then 2m/s is the of the body.

Select the correct option



velocity



acceleration



force



speed



If a particle is in equilibrium under the action of three coplanar concurrent forces, then each force has a magnitude proportional to the ---- of the angle between the other two.

Select the correct option



tangent



secant



cosine



sine



Question # 9 of 10 (Start time: 07:36:55 PM, 06 July 2022)

Total Marks: 1

If the body is in horizontal equilibrium under the action of co-planar forces then the Resultant of the forces acts in the direction of ----

Select the correct option



horizontal axis



first quadrant



second quadrant



vertical axis

Question # 7 of 10 (Start time: 07:46:26 PM, 06 July 2022)

Total Marks: 1

A body is held in equilibrium by two parallel strings. Tension in each string is 50N. What is the mass of the body?

Select the correct option

☐	5kg
☐	50kg
☐	100kg
☐	10kg



Question # 5 of 10 (Start time: 07:33:32 PM, 06 July 2022)

Total Marks: 1

If the resultant force acting on the particle is $(3\mathbf{i}+4\mathbf{j})\text{N}$, then what additional single must be applied to make the particle in Equilibrium

Select the correct option

 $(-3\mathbf{i}+4\mathbf{j})\text{N}$  $(-7\mathbf{i}-7\mathbf{j})\text{N}$  $(-3\mathbf{i}-4\mathbf{j})\text{N}$  $(3\mathbf{i}-4\mathbf{j})\text{N}$ 

Question # 5 of 10 (Start time: 07:43:44 PM, 06 July 2022)

Total Marks: 1

The property of matter that resists changes in its motion is called.....

Select the correct option



force



weight



inertia



mass

If the body is in horizontal equilibrium under the action of co-planar forces then the Resultant of the forces acts in the direction of ---

Select the correct option

- | | |
|-----------------------|-----------------|
| ☐ | vertical axis |
| ☐ | first quadrant |
| ☐ | second quadrant |
| ☐ | horizontal axis |

