Q: Moment of inertia is the

a) Second moment of area
b) Second moment of mass
c) Second moment of force
d) All of these

Q: Moment of inertia of a circular section about an axis perpendicular to the section is

a) $\pi d^3/16$
b) $\pi d^3/32$
c) $\pi d^4/32$
d) $\pi d^4/64$

Q : The centre of gravity of hemisphere lies at a distance of .....from its base measured along the vertical radius.

a) 3r/8
b) 3/8r
c) 8r/3
d) 8/3r

Q : The moment of inertia of a square of side a about its base is

a) $a^4/3$
b) $a^4/12$
c) $a^3/3$
d) $a^4/16$

Q: Mass moment of inertia of a thin rod about its one end is .....the mass moment of inertia of the same rod about its mid point

a) Same as
b) Twice
c) Thrice
d) Four times

Q: Moment of Inertia of a solid sphere of mass m and radius r is

a) $2mr^2/3$
b) $2mr^2/5$
c) mr^2
d) $mr^2/2$

Q: Moment of inertia of triangular section of base b and height h about an axis passes through its centre of gravity and parallel to the base is

a) $bh^3/4$
b) $bh^3/8$

c) $bh^3/12$
d) $bh^3/36$

Q: Moment of inertia of a thin disc of mass m and radius r, about an axis through its centre of gravity and perpendicular to the plane of the disc is

a) $mr^2/2$
b) $mr^2/4$
c) $mr^2/6$
d) $mr^2/8$

Which statement is wrong:

a) Centre of gravity of uniform rod is at its middle point
b) Centre of gravity of a triangle lies at a point where three medians intersect
c) Centre of gravity of a semicircle is at its centre.
d) Centre of gravity of rectangle is at the point where diagonals meet each other.

To find centroid of the thin wire made section we use.....instead of area

a) Volume
b) Length
c) Density
d) thickness

Q: Centroid of a composite section can be found by

a) Integration method
b) Moment method
c) All of the above
d) None of the above

Q: The moment of inertia of a solid cylinder of mass m, radius r and length l about the longitudinal axis or polar axis is

a) $mr^2/2$
b) $mr^2/4$
c) $mr^2/6$
d) $mr^2/8$

Q: The centre of gravity of a semicircle lamina lies at a distance of ..... from its base measured along the vertical radius

a) 3r/8
b) $4r/3\pi$
c) 8r/3
d) $3r/4\pi$

Q: Moment of Inertia of a circular section about its diameter is

a) $\pi d^3/16$
b) $\pi d^3/32$
c) $\pi d^4/32$
d) $\pi d^4/64$

Q : the centre of gravity of a right circular cone of diameter (d) and height (h) lies at a distance of .....from the base measured along the vertical radius

a) h/2
b) h/3
c) h/4
d) h/6

Q : the moment of inertia of a square of side a about its diagonal is

a) $a^2/8$
b) $a^3/12$
c) $a^4/12$
d) $a^4/16$

Q: Moment of Inertia of a thin spherical shell of mass m and radius r about its diameter is

a) $mr^2/3$
b) $2mr^2/3$
c) $2mr^2/5$
d) $3mr^2/5$

Q: Moment of inertia of a triangular section of base b and height h about an axis passing through its vertex and parallel to its base is .....than that passing through its Centre of gravity and parallel to the base.

a) Nine times
b) Six times
c) Four times
d) Two times

Q: the moment of inertia of a thin rod of mass m and length l about an axis through its centre of gravity and perpendicular to its length is

a) $ml^2/4$
b) $ml^2/6$
c) $ml^2/8$
d) $ml^2/12$

Q: Which statement is correct:

a) Moment of inertia is the second moment of mass or area
b) Centre of gravity of right circular solid cone lies at a distance of h/6 from its base measured along vertical axis

c) Centre of gravity of a circle will be a point on circumference
d) All of the above are correct

Q: Which statement is correct.

a) Moment of inertia is the 2^{nd} moment.
b) Centre of gravity can be different from center of mass in some cases.
c) Centroid of rectangle is the point where diagonals meet with each other
d) All of the above