Studybeesofficial
EDUCATIONAL PLATFORM
www.studybeesofficial.com

HSSC-I NATIONAL BOOK FOUNDATION FBISE

PHYSICS TEST - CHAPTER 4: ROTATIONAL & CIRCULAR MOTION

Name:		Roll No.		Section:

Total Time: 2:30 Hour
Time Allowed: 150 Minutes

Total Marks: 150

PAPER OBJECTIVE
SECTION-A (MARKS 150)

NOTE: Section-A is compulsory. All parts of this section are to be answered on these pages and handed over to the center superintendent. Deleting / overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. All parts carry one mark.

Questions	A	B	C	D	A B C D
1. One radian is the angle subtended at the centre of a circle by an arc whose length is equal to the:	half of the circumference	circumference	diameter	radius	○○○●
2. The angular position θ of an object that has moved through an arc length s on a circle of radius r is:	$\theta = s\,r$	$\theta = s / r^2$	$\theta = s / r$	$\theta = r / s$	○○●○
3. The SI unit of angular displacement is the:	revolution	degree	rad/s	radian	○○○●
4. The number of radians in one complete revolution is:	4π	2π	π / 2	π	○●○○
5. 2π radians is equal to:	180°	360°	90°	57.3°	○●○○
6. One radian is approximately equal to:	3.14°	180°	57.3°	360°	○○●○
7. An angle of 180° expressed in radians is:	π / 2	π	π / 4	2π	○●○○
8. An angle of 90° is equal to:	π rad	π/2 rad	π/4 rad	2π rad	○●○○
9. An angle of 60° is equal to:	π/3 rad	2π/3 rad	π/4 rad	π/6 rad	●○○○
10. A wheel makes 3 complete revolutions. Its angular displacement is:	2π rad	3π rad	6π rad	3 rad	○○●○
11. A bicycle wheel of radius 0.5 m turns so that a point on its rim covers an arc of 3 m. The angular displacement is:	0.17 rad	3 rad	1.5 rad	6 rad	○○○●
12. A particle moves through an angle of 2 rad on a circle of radius 4 m. The arc length it covers is:	0.5 m	8 m	6 m	2 m	○●○○
13. Positive angular displacements represent ____ motion, while negative angular displacements represent clockwise motion.	linear	anti-clockwise	zero	clockwise	○●○○
14. Angular displacement is a:	unitless scalar	scalar quantity	quantity with no direction	vector quantity	○○○●

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
15. The direction of angular displacement is found by the:	right-hand rule	triangle law	left-hand rule	Fleming's rule	●○○○
16. By the right-hand rule, if the fingers curl in the direction of rotation, the thumb gives the direction of:	the radius	angular displacement (velocity)	centripetal force	linear velocity	○●○○
17. The time rate of angular displacement is called:	angular acceleration	moment of inertia	torque	angular velocity	○○○●
18. The SI unit of angular velocity is:	m/s	rad	rad/s	rad/s²	○○●○
19. Another commonly used unit of angular velocity is:	metres per revolution	revolutions per second²	revolutions per minute (rpm)	newton metre	○○●○
20. The angular velocity ω of a rotating body is given by:	$\omega = \Delta\theta / \Delta t$	$\omega = r\,\theta$	$\omega = \Delta\omega / \Delta t$	$\omega = \theta\, t$	●○○○
21. The time rate of change of angular velocity is called:	angular acceleration	centripetal acceleration	angular momentum	torque	●○○○
22. The SI unit of angular acceleration is:	rad/s²	N m	m/s²	rad/s	●○○○
23. Angular acceleration is taken as positive when the angular velocity of the body:	decreases	is zero	is constant	increases	○○○●
24. When the angular velocity of a body decreases, its angular velocity and angular acceleration are:	both zero	perpendicular	anti-parallel	parallel	○○●○
25. The angular acceleration of the minute hand of a wrist watch is:	2π rad/s²	zero	0.1 rad/s²	0.0017 rad/s²	○●○○
26. A flywheel of an engine turns 3000 revolutions in one minute. Its angular velocity is about:	50 rad/s	314 rad/s	3000 rad/s	6000 rad/s	○●○○
27. A CD rotates at 600 revolutions per minute. Its angular velocity is:	20π rad/s	60π rad/s	600 rad/s	10π rad/s	●○○○
28. A ceiling fan turns at 120 revolutions per minute. Its angular velocity is:	2π rad/s	4π rad/s	120 rad/s	8π rad/s	○●○○
29. A body rotates through 20 rad in 4 s at a constant rate. Its angular velocity is:	5 rad/s	80 rad/s	24 rad/s	0.2 rad/s	●○○○
30. A merry-go-round speeds up from 2 rad/s to 8 rad/s in 3 s. Its average angular acceleration is:	3 rad/s²	16 rad/s²	2 rad/s²	6 rad/s²	○○●○
31. The relation between the linear velocity v and the angular velocity ω of a particle moving on a circle of radius r is:	$v = \omega / r$	$v = r / \omega$	$v = r\omega^2$	$v = r\omega$	○○○●

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
32. The linear velocity of a particle in circular motion is directed:	parallel to the axis	towards the centre	along the tangent to the circle	away from the centre	○○●○
33. The relation between tangential acceleration at and angular acceleration α is:	$at = r\alpha^2$	$at = \alpha / r$	$at = r / \alpha$	$at = r\alpha$	○○○●
34. Tangential acceleration in circular motion arises from a change in the:	radius of the circle	direction of the velocity	mass of the body	magnitude of the linear velocity	○○○●
35. The rotational form of the first equation of motion is:	$\omega f = \omega i + \alpha\theta$	$\omega f^2 = \omega i + 2\alpha t$	$\omega f = \omega i + \alpha t$	$\theta = \omega i + \alpha t$	○○●○
36. The rotational form of the second equation of motion is:	$\theta = \omega i + \frac{1}{2}\alpha t^2$	$\theta = \omega i\, t + \frac{1}{2}\alpha t^2$	$\theta = \omega f + \frac{1}{2}\alpha t^2$	$\theta = \omega i\, t^2 + \alpha t$	○●○○
37. The rotational form of the third equation of motion is:	$\omega f^2 = \omega i^2 + 2\alpha\theta$	$\omega f^2 = \omega i^2 + \alpha\theta / 2$	$\omega f^2 = \omega i + 2\alpha\theta$	$\omega f = \omega i^2 + 2\alpha\theta$	●○○○
38. A wheel rotating at 10 rad/s gets a uniform angular acceleration of 2 rad/s² for 5 s. Its final angular velocity is:	15 rad/s	25 rad/s	20 rad/s	12 rad/s	○○●○
39. A wheel starts from rest with an angular acceleration of 4 rad/s². Its angular displacement in 3 s is:	18 rad	6 rad	36 rad	12 rad	●○○○
40. A wheel starts from rest and accelerates at 2 rad/s² through 25 rad. Its final angular velocity is:	10 rad/s	25 rad/s	50 rad/s	5 rad/s	●○○○
41. A point on the rim of a wheel of radius 0.5 m turns with ω = 10 rad/s. Its linear speed is:	0.05 m/s	20 m/s	10 m/s	5 m/s	○○○●
42. A rotating disc of radius 2 m has an angular acceleration of 3 rad/s². The tangential acceleration of a point on its rim is:	12 m/s²	1.5 m/s²	5 m/s²	6 m/s²	○○○●
43. A bicycle tyre of radius 0.331 m rolls at 6.80 m/s. Its angular velocity is about:	41 rad/s	6.80 rad/s	20.5 rad/s	2.25 rad/s	○○●○
44. A tyre rotating at 20.5 rad/s slows down uniformly at 0.94 rad/s² until it stops. The time taken is about:	11 s	22 s	44 s	19 s	○●○○
45. A tyre of radius 0.5 m rolls without slipping through 10 complete revolutions. The distance it moves is about:	15.7 m	62.8 m	5 m	31.4 m	○○○●
46. A wheel rotates with constant angular velocity. Its tangential acceleration is:	zero	ω / r	rω	$r\alpha^2$	●○○○
47. An object moving on a circle at constant speed still has acceleration because its:	direction of velocity changes	radius changes	magnitude of velocity changes	mass changes	●○○○
48. The acceleration of an object moving on a circle at constant speed is directed:	along the tangent	away from the centre	towards the centre	along the velocity	○○●○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
49. Centripetal acceleration is given by:	$a_c = v\,r$	$a_c = v^2\,r$	$a_c = v / r^2$	$a_c = v^2 / r$	○○○●
50. In terms of angular velocity, the centripetal acceleration is:	$a_c = r\omega^2$	$a_c = r^2\omega$	$a_c = \omega^2 / r$	$a_c = r\omega$	●○○○
51. The net force that causes centripetal acceleration is called:	centripetal force	tangential force	gravitational force only	normal force	●○○○
52. The centripetal force on a body of mass m moving with speed v on a circle of radius r is:	mvr	mr / v^2	mv / r^2	mv^2 / r	○○○●
53. In terms of angular velocity, the centripetal force is:	$m\omega^2 / r$	$mr\omega^2$	$mr^2\omega$	$mr\omega$	○●○○
54. Centripetal force is:	a fifth fundamental force	always tangential to the path	any net force directed towards the centre of the circle	always directed away from the centre	○○●○
55. A stone is whirled in a circle on a string. The centripetal force is provided by the:	tension in the string	friction	weight of the stone	air resistance	●○○○
56. The centripetal force that keeps the Moon moving around the Earth is provided by:	tension	gravity	friction	normal force	○●○○
57. A car moves around an unbanked curve without skidding. The centripetal force is provided by:	air drag	the weight of the car	the thrust of the engine	static friction between the tyres and the road	○○○●
58. In CD players and computer hard disks, the centripetal force can be provided by:	gravitational force	friction only	an electric force	tension in a string	○○●○
59. A 2 kg stone is whirled on a string in a circle of radius 1.5 m with a speed of 3 m/s. The tension (centripetal force) is:	12 N	9 N	6 N	18 N	●○○○
60. A 0.5 kg ball moves on a circle of radius 1 m with ω = 4 rad/s. The centripetal force on it is:	2 N	4 N	8 N	16 N	○○●○
61. A car of mass 856 kg moves at 12.0 m/s on a curve where the required centripetal force is 7250 N. The radius of the curve is about:	8.5 m	12 m	34 m	17 m	○○○●
62. A car takes a curve at 30 km/h. If it takes the same curve at 60 km/h, the centripetal force required becomes:	four times	the same	half	two times	●○○○
63. If the radius of the circular path is doubled at the same speed, the centripetal force on a body becomes:	double	four times	half	unchanged	○○●○
64. A body moves in a circle at 10 m/s on a path of radius 5 m. Its centripetal acceleration is:	20 m/s²	2 m/s²	10 m/s²	50 m/s²	●○○○
65. A particle moves on a circle of radius 0.5 m with ω = 4 rad/s. Its centripetal acceleration is:	8 m/s²	2 m/s²	16 m/s²	32 m/s²	●○○○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
66. If the mass of a body moving on a circle is doubled (same v and r), the centripetal force:	doubles	becomes four times	remains unchanged	halves	●○○○
67. The centripetal force acting on a body in circular motion is:	fixed in direction in space	always directed towards the centre and continuously changing in direction	along the velocity	directed away from the centre	○●○○
68. In uniform circular motion, the tangential acceleration is:	$r\omega^2$	zero	v^2 / r	equal to g	○●○○
69. Newton's second law applied to a particle in uniform circular motion gives the centripetal force equal to the mass times:	angular momentum	tangential acceleration	centripetal acceleration	angular displacement	○○●○
70. A satellite orbiting the Earth moves in a circle. The force that provides its centripetal acceleration is:	normal force	friction	tension	gravitational force	○○○●
71. Two stones of mass 1 kg and 2 kg are whirled in the same circle at the same speed. The ratio of their centripetal forces (1 kg : 2 kg) is:	1 : 1	1 : 2	1 : 4	2 : 1	○●○○
72. In uniform circular motion, the centripetal acceleration vector is ____ to the velocity vector.	opposite	inclined at 45°	parallel	perpendicular	○○○●
73. Roads are banked at curves in order to reduce the reliance on:	air pressure	the normal force	friction	gravity	○○●○
74. On a frictionless banked curve, the centripetal force is provided by the horizontal component of the:	weight	friction	normal force	tension	○○●○
75. On a frictionless banked curve, the vertical component of the normal force balances the:	friction	centripetal force	weight of the car	thrust	○○●○
76. The banking angle θ of a frictionless curve of radius r for a speed v is given by:	$\tan\theta = rg / v^2$	$\tan\theta = vrg$	$\tan\theta = v^2 / rg$	$\sin\theta = v^2 / rg$	○○●○
77. The ideal banking angle of a curve does NOT depend on the:	radius of the curve	speed of the vehicle	value of g	mass of the vehicle	○○○●
78. For a given speed, curves of larger radius require ____ banked roads.	more steeply	vertically	less steeply	equally steeply	○○●○
79. For a given radius, a curve designed for a higher speed needs ____ banking.	steeper	reversed	no	gentler	●○○○
80. A frictionless curve of radius 20 m is banked for a speed of 14 m/s (g = 9.8 m/s^2). The banking angle is:	60°	14°	30°	45°	○○○●
81. On a frictionless banked curve, a car moving much slower than the design speed would:	move upwards	slide down the bank	continue normally	slide off the top	○●○○
82. On a frictionless banked curve, a car moving much faster than the design speed would:	stop	slide down the bank	slide off the top	continue normally	○○●○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
83. A centrifuge separates substances suspended in a liquid mixture by:	freezing the sample	heating the sample	spinning the sample very quickly around an axle	filtering through paper	○○●○
84. In a spinning centrifuge, the denser particles in the liquid collect at the:	axis of rotation	middle of the tube	top of the liquid	bottom of the test tube	○○○●
85. A cream separator that divides milk into cream and skimmed milk works on the principle of the:	pulley	gyroscope	centrifuge	barometer	○○●○
86. In a washing-machine dryer, clothes are spun in a cylinder with small holes. Water leaves through the holes because the holes:	increase the force of gravity	attract water outward	cool the water	cannot supply the centripetal force to the water	○○○●
87. The moment of inertia of a body is the rotational equivalent of:	mass	momentum	velocity	force	●○○○
88. The moment of inertia of a point mass m at distance r from the axis of rotation is:	$I = m^2r$	$I = mr^2$	$I = mr$	$I = m / r^2$	○●○○
89. The SI unit of moment of inertia is:	kg m^2	kg m	N m	kg / m^2	●○○○
90. A body with a larger moment of inertia is ____ to angularly accelerate.	impossible	equally easy	easier	harder	○○○●
91. The moment of inertia of a rigid body, $I = \Sigma m_i r_i^2$, depends on its mass and:	how the mass is distributed about the axis	the torque applied	its angular velocity	its angular acceleration	●○○○
92. A 3 kg point mass rotates at a distance of 2 m from the axis. Its moment of inertia is:	12 kg m^2	6 kg m^2	1.5 kg m^2	24 kg m^2	●○○○
93. Two point masses of 1 kg and 2 kg are at distances of 1 m and 2 m from an axis. The total moment of inertia is:	9 kg m^2	6 kg m^2	4 kg m^2	5 kg m^2	●○○○
94. The moment of inertia of a ring or hoop of mass M and radius R about its axis is:	(2/3) MR^2	MR^2	½ MR^2	(2/5) MR^2	○●○○
95. The moment of inertia of a solid cylinder or disc of mass M and radius R about its axis is:	MR^2	(2/5) MR^2	½ MR^2	(2/3) MR^2	○○●○
96. The moment of inertia of a solid sphere of mass M and radius R is:	(2/3) MR^2	(2/5) MR^2	MR^2	½ MR^2	○●○○
97. The moment of inertia of a hollow sphere of mass M and radius R is:	MR^2	½ MR^2	(2/5) MR^2	(2/3) MR^2	○○○●
98. A thin rod of mass M and length L rotates about an axis through its centre. Its moment of inertia is:	½ ML^2	(1/12) ML^2	ML^2	(1/3) ML^2	○●○○
99. A thin rod of mass M and length L rotates about an axis through one of its ends. Its moment of inertia is:	ML^2	(1/3) ML^2	½ ML^2	(1/12) ML^2	○●○○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
100. A PT teacher rotates a 200 g stick of length 0.8 m about an axis through its centre. Its moment of inertia is about:	0.13 kg m²	0.16 kg m²	0.04 kg m²	0.01 kg m²	○○○●
101. A ring of mass 2 kg and radius 0.5 m has a moment of inertia of:	0.25 kg m²	1 kg m²	2 kg m²	0.5 kg m²	○○○●
102. A solid sphere of mass 5 kg and radius 0.2 m has a moment of inertia of:	0.08 kg m²	0.13 kg m²	0.04 kg m²	0.2 kg m²	●○○○
103. For the same mass and radius, the largest moment of inertia belongs to a:	hollow sphere	solid disc	ring	solid sphere	○○●○
104. Heavy vehicles have double tyres on one side of an axle. Compared with a single tyre, the moment of inertia of the double tyres is:	the same	larger	zero	smaller	○●○○
105. The angular momentum of an object is defined as:	L = p / r	L = r · p (dot product)	L = r × p (cross product of r and p)	L = F × r	○○●○
106. The SI unit of angular momentum is:	kg m²/s	kg m/s	N m	kg m²/s²	●○○○
107. The dimensions of angular momentum are:	ML²/T	ML/T	M/LT	ML²/T²	●○○○
108. A point mass m rotating at distance r with angular velocity ω has an angular momentum of:	mr / ω	mrω	mr²ω	mω²r	○○●○
109. The angular momentum of a rigid body rotating about an axis is:	L = ω / I	L = Iω	L = I / ω	L = Iα	○●○○
110. Angular momentum is the rotational analogue of:	linear momentum	energy	mass	force	●○○○
111. A wheel of moment of inertia 0.5 kg m² rotates at 10 rad/s. Its angular momentum is:	20 kg m²/s	0.05 kg m²/s	5 kg m²/s	50 kg m²/s	○○●○
112. A 2 kg mass moves on a circle of radius 0.5 m with ω = 4 rad/s. Its angular momentum is:	2 kg m²/s	4 kg m²/s	8 kg m²/s	1 kg m²/s	●○○○
113. A 3.6 kg uniform cylinder of radius 0.31 m spins at 120.4 rad/s. Its angular momentum is about:	134 kg m²/s	20.8 kg m²/s	41.7 kg m²/s	10.4 kg m²/s	○●○○
114. Torque is equal to the time rate of change of:	linear momentum	moment of inertia	angular momentum	angular velocity	○○●○
115. When no external torque acts on a system, its angular momentum:	decreases	remains constant	increases	becomes zero	○●○○
116. The law of conservation of angular momentum (no external torque) is written as:	I1 + ω1 = I2 + ω2	I1 / ω1 = I2 / ω2	I1ω1 = I2ω2	I1ω2 = I2ω1	○○●○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
117. A spinning ice skater pulls her arms in. Her moment of inertia ___ and her angular velocity ___.	increases; increases	increases; decreases	decreases; decreases	decreases; increases	○○○●
118. A skater with arms extended has I = 4 kg m² and ω = 2 rad/s. She pulls her arms in so that I = 1 kg m². Her new angular velocity is:	0.5 rad/s	8 rad/s	4 rad/s	2 rad/s	○●○○
119. A man on a turntable rotating at 10 rad/s brings his arms closer so that his moment of inertia becomes one third. His new angular velocity is:	10/3 rad/s	3 rad/s	30 rad/s	20 rad/s	○○●○
120. A diver in the air can change the speed of his spin by changing his:	mass	angular momentum	weight	moment of inertia (body shape)	○○○●
121. A diver leaves the board and tucks into a ball. His angular velocity:	decreases	stays constant	becomes zero	increases	○○○●
122. If the diameter of the Earth became half with no change in its mass, its rotation about its own axis would:	remain unchanged	become 4 times slower	become 2 times faster	become 4 times faster	○○○●
123. A helicopter with two sets of lifting blades has them rotate in opposite directions to:	reduce air drag	increase its weight	increase its speed	cancel the net angular momentum so the body does not spin	○○○●
124. A gyroscope, using conservation of angular momentum, resists changes in its:	mass	density	charge	orientation	○○○●
125. A spinning gyroscope with a tilted axis does not fall but precesses about the vertical because:	it has no angular momentum	its mass decreases	gravity stops acting on it	the torque changes the direction of its angular momentum	○○○●
126. Gyroscopes are used in the navigation of aeroplanes and ships because they:	create gravity	reduce weight	maintain a fixed orientation	increase speed	○○●○
127. The turning effectiveness of a force is called:	angular velocity	moment of inertia	centripetal force	torque	○○○●
128. Torque in terms of moment of inertia and angular acceleration is:	$\tau = I\alpha$	$\tau = I / \alpha$	$\tau = \alpha / I$	$\tau = I\omega$	●○○○
129. Torque is the rotational analogue of:	velocity	force	momentum	mass	○●○○
130. In $\tau = I\alpha$, the moment of inertia I plays the same role as ___ in F = ma.	time	mass	acceleration	force	○●○○
131. The SI unit of torque is:	N / m	N m	kg m²	N m/s	○●○○
132. A force of 10 N acts perpendicular to a spanner at 0.5 m from the nut. The torque produced is:	5 N m	10 N m	20 N m	0.05 N m	●○○○
133. A body of moment of inertia 2 kg m² has an angular acceleration of 3 rad/s². The torque acting is:	6 N m	1.5 N m	9 N m	0.67 N m	●○○○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio

Questions	A	B	C	D	A B C D
134. A torque of 20 N m acts on a wheel of moment of inertia 4 kg m². Its angular acceleration is:	24 rad/s²	0.2 rad/s²	80 rad/s²	5 rad/s²	○○○●
135. To open a heavy door most easily, the force should be applied:	at the hinge	far from the hinge, perpendicular to the door	along the door	near the hinge	○●○○
136. The angular momentum of a rotating disc changes by 20 kg m²/s in 4 s. The torque acting on it is:	80 N m	5 N m	0.2 N m	16 N m	○●○○
137. A spinning cylinder with angular momentum 20.83 kg m²/s is brought to rest in 7.8 s. The torque needed has magnitude about:	2.67 N m	162 N m	20.8 N m	5.34 N m	●○○○
138. For a point mass m at distance r from the axis, the torque and angular acceleration are related by:	$\tau = mr\alpha$	$\tau = mr^2\alpha$	$\tau = mr^2 / \alpha$	$\tau = m\alpha / r^2$	○●○○
139. Astronauts appear weightless inside the International Space Station because they and the station are:	at rest	too far for gravity to act	in continuous free fall around the Earth	outside the gravitational field of the Earth	○○●○
140. At the altitude at which most space stations orbit (about 250 miles), the Earth's gravitational field is:	zero	still quite strong	reversed	very small	○●○○
141. Weightlessness in a space station is created practically by:	cooling the cabin	continuous free fall	reducing the mass of astronauts	going far away from the Earth	○●○○
142. Satellites stay in orbit by moving at the right altitude and the right:	colour	speed	mass	charge	○●○○
143. Long stays in weightlessness cause astronauts to have:	stronger bones	heavier bodies	weakened bones and muscles	stronger muscles	○○●○
144. Artificial gravity in a space station is produced by:	increasing its mass	rotating the station about its own axis	cooling its surface	switching on an electric field	○●○○
145. In a rotating space station, the push of the floor on an astronaut provides the:	centripetal force	tension	weight	thrust	●○○○
146. For an artificial gravity equal to g in a ring-shaped station of radius R, the angular velocity must be:	$\omega = \sqrt{(R / g)}$	$\omega = gR$	$\omega = g / R$	$\omega = \sqrt{(g / R)}$	○○○●
147. The time period of rotation of a ring-shaped station that gives artificial gravity g is:	$T = 2\pi \sqrt{(R / g)}$	$T = 2\pi R g$	$T = (1 / 2\pi) \sqrt{(R / g)}$	$T = 2\pi \sqrt{(g / R)}$	●○○○
148. A ring-shaped station of radius 1.50 km rotates to give artificial gravity of 9.8 m/s². Its angular velocity is about:	0.08 rad/s	0.8 rad/s	8 rad/s	0.0064 rad/s	●○○○
149. A wheel-shaped space station of diameter 100 m provides an artificial gravity of 5.00 m/s². Its angular speed is about:	6 rpm	0.3 rpm	30 rpm	3 rpm	○○○●
150. A ring-shaped station of radius 9.8 m must rotate with an angular velocity of ____ to give an artificial gravity of 9.8 m/s².	96 rad/s	9.8 rad/s	1 rad/s	0.1 rad/s	○○●○

Follow Studybeesofficial on Instagram, YouTube Channel & WhatsApp Channel — Link in Bio