Name:	1st YEAR Test Session 2021-22	Physics	Time Allowed: 45 M
Roll#_____ Section:_____	Syllabus: Ch#05	Total Marks: 30	Obt Marks:
Think Positive , Live Happy		**Change Thoughts , Change Society**	

Q#	A	B	C	D	Q#	A	B	C	D	Q#	A	B	C	D	Q#	A	B	C	D	Q#	A	B	C	D
01.	○	○	○	○	02.	○	○	○	○	03.	○	○	○	○	04.	○	○	○	○	05.	○	○	○	○
06.	○	○	○	○	07.	○	○	○	○	08.	○	○	○	○	09.	○	○	○	○	10.	○	○	○	○

Q. No. 1 You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, Fill bubble sheet that option. Cutting, Over-writing, using lead pencil and filling more than one circle will result in zero marks in that question. (10x1=10)

Sr.#	Questions	A	B	C	D
1	Height of geostationary satellite above the equator is	26000km	36000km	4000km	300000
2	Minimum number of communication satellites required to cover the whole earth is	4	3	2	1
3	When the mass of the earth becomes 4 times, the value of 'g' will be	2times	3times	4times	same
4	One radian is equal to	57^0	57.3^o	54.7^o	47.7^0
5	Angular displacement is represented by	ω	θ	S	A and b
6	The SI unit of angular velocity is	Rad/sec	Rev/min	A and B	None
7	At maximum height velocity of a body	Maximum	Same	Minimum	A and B
8	Centripetal force is given by F_c=?	mv^2/r	mv^2/r^2	$mr\omega^2$	A and C
9	One communication satellite covers the longitude	90°	45°	120^0	180^0
10	A full circle contains	$\pi/2$ radian	$\pi/3$ radian	π radian	2π radian

Q#:2 Answer the Following short Questions (6x2=12)

i.	What is relation b/w linear and angular velocity?	ii.	Difference between tangential velocity and angular velocity. How they are related?
iii.	Explain how many number of geo-stationary satellites are required for global coverage of T.V transmission?	iv.	When mud flies off the tyre of a moving bicycle, in what direction does it fly? Explain?
v.	Write the relation b/w degree and radian. How many radians are there in 2 degrees?	vi.	Describe what should be the minimum velocity, for a satellite, to orbit close to the earth around. it.

Q#:3 Answer the Following short Questions (5+3=8)

(a) What is artificial gravity? Drive the frequency of artificial gravity.

(b) A body of moment of inertia I = 0.80Kgm² about a fixed axis, rotates with a constant angular velocity of 100 rad s⁻¹. Calculate its angular momentum L and the torque to sustain this motion.