TALEEMI DUNYA

Test Syllabus: Unit # 5

St. Name		Test	**physics**	T. Marks	**30**	Time	**60 Min**
F. Name		Class	**11ᵗʰ**	T. Code	**U#5**	T. Date	

NOTE: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that Question with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question.**6.**

	1.revolution is equal to:						
a	57º	b	90º	c	180º	d	360º
	2.One radian is equal to						
a	67.3º	b	57.3º	c	87.3º	d	60º
	3.The SI unit of angular momentum is Js. It can also be expressed as:						
a	$Kg\ m\ s^{-1}$	b	$Kg\ m^2\ s^{-1}$	c	$Kg\ m^2\ s^{-1}$	d	$Kg\ m^{-2}s^{-1}$
	4.The rate of change of angular displacement is called						
a	Angular displacement	b	Angular velocity	c	Angular acceleration	d	Torque
	5.Revolution/minute is the unit for						
a	Angular displacement	b	Angular acceleration	c	Angular velocity	d	Time
	6.moments of inertia is equal to						
a	$m^2 r$	b	$m^2\ r^2$	c	$m\ r$	d	$m\ r^2$

Q.2 Write short answers of the following questions.   (8x2=16)

1. Explain what is meant by centripetal force and why it must be furnished to an object if the object is to follow a circular path?
2. What is meant by moment of inertia? Explain its significance.
3. What is meant by angular momentum? Explain the significance.
4. Show that orbital angular momentum L=mvr
5. When mud flies off the tyre of a moving bicycle, in what direction does it fly? Explain
6. Why does a driver change his body position before and driving the pool?
7. A disc without slipping rolls down a hill of height 10 cm if the disc start from rest at the top of the hills, what is its speed at the bottom?
8. Define Orbital velocity.

NOTE: Attempt the long questions.   (4+4=8)

3(a)   Law of conservation of angular momentum.

(b)   Calculate the angular momentum of a star of mass $20×10^{30}$ kg and radius $7.0×10^5$ km. If it makes one complete rotation about its axis once in 20 days, what is its kinetic energy?