

TALEEMI DUNYA

Test Syllabus: Unit # 3

St. Name		Test	PHYSICS	T. Marks	30	Time	60 Min
F.Name		Class	12 th	T. Code	U#3	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	The force on current carrying conductor placed in magnetic field is expressed by:						
(a)	$\vec{F} = I\vec{L} \cdot \vec{B}$	(b)	$\vec{F} = I\vec{L} \times \vec{B}$	(c)	$\vec{F} = I^2\vec{L} \times \vec{B}$	(d)	$\vec{F} = I\vec{L} \times \vec{B}$
2	The value of permeability of free space in SI unit is:						
(a)	$4\pi \times 10^{-9} \text{ WbA}^{-1}\text{m}^{-1}$	(b)	$4\pi \times 10^{-7} \text{ Wb A}^{-1}\text{m}^{-1}$	(c)	$4\pi \times 10^{-10} \text{ Wb A}^{-1}\text{m}^{-1}$	(d)	$4\pi \times 10^7 \text{ Wb A}^{-1}\text{m}^{-1}$
3	The field inside a solenoid is given by:						
(a)	$\mu_0 nI$	(b)	$\mu_0 n^2 I$	(c)	$\mu_0 nI^2$	(d)	$\mu_0 NI$
4	When a charged particle is projected opposite to the direction of magnetic field, it experiences a force equal to:						
(a)	$qvB \cos \theta$	(b)	$qvB \sin 90^\circ$	(c)	qvB	(d)	zero
5	The e/m of a neutron is:						
(a)	less than electron	(b)	zero	(c)	greater than electron	(d)	the same as electron
6	The value of e/m is smallest for:						
(a)	Proton	(b)	Electron	(c)	β - particle	(d)	Positron

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Q.2 Write short answers of the following questions.

(8x2=16)

1. Describe the change in magnetic field inside a solenoid carrying a steady current I if length of solenoid is doubled but number of turns remains the same.
2. Write two uses of CRO.
3. How brightness on screen of CRO can be controlled?
4. What is C.R.O? Also give its two uses.
5. How can you explain the wave form of various voltages formed in CRO?
6. What is the function of 'X' and 'Y' plates in C.R.O?
7. Is it possible to orient a current loop in a uniform magnetic field such that the loop will not tend to rotate?
8. Define right hand rule for determining the direction of the magnetic field.

Q.3 Write long answers of the following questions.

(4+4=8)

- (a) How e/m of an electron can be determined? Explain.
- (b) A 20.0 cm wire carrying a current of 10.0 A is placed in a uniform magnetic field of 0.30 T. If the wire makes an angle of 40 with the direction of magnetic field. Find the magnitude of the force acting on the wire.