



نموذج 2

الامتحان التنافسي للمتقدمين للدراسات العليا (الماجستير) لقسم الفيزياء-كلية العلوم
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Q.25) A rotating wheel has a constant angular acceleration. It has a angular velocity of 5 rad/sec at time $t=0$ sec, and 3 sec later has an angular velocity of 9 rad/sec. The angular displacement of the wheel during the 3 sec interval is: a) 15 rad, b) 21 rad, c) 27 rad, d) 12 rad.

Q.26) When a force of magnitude F acts on an object moving with average speed \bar{v} , the average power is given by: a) $\bar{p} = F\bar{v}$, b) $\bar{p} = F\bar{v}^2$, c) $\bar{p} = \frac{F\bar{v}^2}{2}$, d) $\bar{p} = \frac{F\bar{v}}{2}$

Q.27) The work done by 45 N force in pulling the suit case of an angle $\Theta=50^\circ$ for a distance $d=75$ m is:

- a) 2170J, b) 2189J, c) 3140J, d) 3179J.

Q.28) Hydrogen atom doesn't emit x-rays because

- a) energy levels are close b) energy levels are far c) it has small mass d) it has single electron

Q.29) In an x-ray tube intensity of emitted x-ray beam is increased by

- a) increasing filament current b) decreasing filament current

Q.30) What law did Ernest Rutherford use to estimate the size of the nucleus?

- a) Conservation of nucleon number b) Conservation of angular momentum c) Conservation of linear momentum d) Conservation of energy e) E. Conservation of charge

Q.31) A DC current produces a/an:

- (a) Magnetic field. (b) Electric field. (c) Gravitational field. (d) Electromagnetic field. (e) None from the above

Q.32) A bar magnet is divided in two pieces. Which of the following statements is true?

- (a) The bar magnet is demagnetized.
(b) The magnetic field of each separated piece becomes stronger.
(c) The magnetic poles are separated. (d) Two new bar magnets are created. (e) The electric field is created

Q.33) positive charge moves in parallel to a current carrying wire. What is the direction of the magnetic force on the charge?

- (a) Left. (b) Right. (c) To the bottom of the page. (d) To the top of the page. (e) There is no magnetic force on the charge

Q.34) Given the two vector $A=2i+j-k$, $B=i-j+2k$, $A \times B$ is:

- a) $i-2j+k$, b) $2i-j-2k$, c) $i-5j-3k$, d) $i-4j+4k$

Q.35) the center of mass of the system r_{cm} consists of n particles of masses m_1, m_2, \dots, m_n whose position vectors are respectively, r_1, r_2, \dots, r_n is:

- a) $r_{cm} = \frac{\sum m_i r_i}{M}$, b) $r_{cm} = \sum m_i r_i^2$, c) $r_{cm} = \frac{\sum m_i r_i^2}{M}$, d) $r_{cm} = \frac{\sum m_i r_i^2}{M}$

Q.36) The moment of inertia of the system consists of n particle of masses m_1, m_2, \dots, m_n about z-axis is:

- a) $I_z = \sum_i m_i (x_i^2 + y_i^2)$, b) $I_z = \sum_i m_i (x_i^2 + z_i^2)$, c) $I_z = \sum_i m_i (y_i^2 + z_i^2)$, d) $I_z = \sum_i m_i (z_i + y_i)$