## Chapter 1: MEASUREMENT

1- 1 mi is eq	uivalent to 1609	9 m so 55 mi/h is:	
a) 15 m/s	b) 25 m/s	c) 66 m/s	d)88 m/s
2- A cubic k	oox with an edge	e of exactly 1 cm ha	as a volume of:
a) 10 <sup>-9</sup> m <sup>3</sup>	b) 10 <sup>-6</sup> m <sup>3</sup>	c) $10^{-3}$ m <sup>3</sup>	d) $10^6 \text{ m}^3$
3 -The SI ba	ase unit for mas	s is:	
a) gram	b) pound	c) kilogram	d) kilopound
4 - A nanos	econd is:		
a) 10 <sup>9</sup> s	b) 10 <sup>-9</sup> s	c) $10^{-10}$ s	d) c) 10 <sup>10</sup> s
5 - A gram	is:		
a). 10 <sup>-6</sup> kg	b) 10 <sup>-3</sup> kg	c) 1 kg	d) 10 <sup>3</sup> kg
6- We can v scientific no	vrite the speed o otation as:	of light (c = 299,000	),000 m/s) using the
a) 2.99 x 10 <sup>8</sup>	<sup>3</sup> b) 29.9 x 10 <sup>8</sup>	c) 0.299 x 10 <sup>8</sup>	d) 299 x 10 <sup>8</sup>
Problems:	1 ( a , b	) and 25 (a)	•

### **Chapter 2: MOTION ALONG A STRAIGHT LINE**

#### 1- Complete the following statement: Displacement is

a) a scalar that indicates the distance between two points.

b) a vector indicating the distance and direction from one point to another.

c) a measure of volume.

d) the same as the distance traveled between two points.

# 2- A particle moves along the x axis from $x_i$ to $x_f$ . which results in the displacement with the largest magnitude?

a).  $x_i = 4m$ ,  $x_f = 6m$ b).  $x_i = -4m$ ,  $x_f = -8m$ c).  $x_i = -4m$ ,  $x_f = 2m$ d).  $x_i = -4m$ ,  $x_f = 4m$ 

3. Suppose the motion of a particle is described by the equation:  $X = 20 + 4 t^2$ . Find the average velocity of the particle in the time interval  $t_1=2$  s to  $t_2=5$  s?

a) 29 m/s b) 28 m/s c) 84 m/s d) 10 m/s

4. The following are equations of the position of a particle, in which situation the velocity of the particle is constant ?

a)  $x = 4t^{2} - 2$  b)  $x = -2t^{3}$  c) x = -3t - 2 d)  $x = 4t^{-2}$ 

5. The coordinate of a particle in meters is given by  $x(t) = 16t - 3t^3$ , where the time t is in seconds. The particle is momentarily at rest at t =

a)0.75 s b) 1.3 s c)5.3 s d)7.3 s

Check point : 1, 2, 3, 4, 5

Problems 27, 47

#### **Chapter 3: VECTORS**

1- A vector has two components (Ax = 3 cm and Ay = -4 cm). What is the magnitude of A? a) 4 cm b) 5 cm c) 1 cm d) 7 cm

#### 2-Let A = (2m) i+ (6m) j + (3m) k and B = (4m) i+(2m) j - (1m) k. the vector sum S = A +B is:

- a). (6 m) i + (8m) j + (2m) k
- b). (-2m) i + (4m) j + (4m) k
- c). (2 m) i+ (4m) j + (4m) k
- d). (8m) i + (12m) j + (3m) k

#### 3- The value of $k \cdot (k \times i)$ is

a) zero b) +1 c) -1 d) 3

Check point : 1, 2, 3, 4, 5

#### **Problems** 1, 3, 13

#### Chapter (4) MOTION IN TWO AND THREE DIMENSIONS

- A projectile is fired from the ground level over level ground with an initial velocity that has a vertical component of 20m/s and a horizontal component of 30m/s.

1- The distance from launching to landing points is:

(a). 40m (b) 60m (c) 20.4m (d) 122m

2-The maximum height the projectile reached is :

(a). 40m (b) 60m (c) 20 .4m (d) 122m

3-The time the projectile takes to reach its maximum height is:

(a). 4.1 s (b) 2.05 s (c) 1.05 s (d)0.5 s

Checkpoint : 2-4-5

Problem: 1 and 15

Chapter ( 5 )FORCE AND MOTION --I

Checkpoint : 1- 2- 3-4

Problem :1 – 2 (a,b) - 6 -51

Chapter ( 6 )FORCE AND MOTION --II

Checkpoint : 1

Problem : 3 - 42

Chapter (7) Kinetic Energy and Work

Checkpoint : 1 - 2

Problem : 13 - 43

Chapter (9) Center of Mass and Linear Momentum

Problem : 1 - 18