

BTU1113 PHYSICS

1. The system of units used for scientific purposes is the
 - A) SI system
 - B) British system
 - C) European system
 - D) American system
2. 2nm means
 - A) 2×10^9 m
 - B) 2×10^{-6} m
 - C) 2×10^{-9} m
 - D) 2×10^6 m
3. How many significant digits are there in the significant figure 0.000756
 - A) 6
 - B) 3
 - C) 1
 - D) 7
4. The sum of the significant figures 56, 2.15, and 0.5643 gives the significant figure
 - A) 58.7143
 - B) 58
 - C) 59
 - D) 58.7
5. Express 560000 in standard notation
 - A) 5.6×10^4
 - B) 56×10^4
 - C) 5.6×10^5
 - D) 5.6×10^{-5}
6. Convert 3 mm is equal to
 - A) 3×10^{-6} km
 - B) 3×10^{-3} km
 - C) 3×10^6 km
 - D) 3×10^{-5} km
 - E) 3×10^5 km
7. Which of the following physical quantities is a scalar?
 - A) Velocity
 - B) Force
 - C) Length
 - D) Displacement
 - E) Acceleration
8. The default angle (angle measured with respect to the positive x-axis) for the vector $\mathbf{A} = 2$ m north is
 - A) 90°
 - B) -90°
 - C) 0°
 - D) 270°
 - E) 180°
9. Determine the x and y components of the vector $\mathbf{A} = 10$ m west
 - A) (-10 m, 10 m)
 - B) (0 m, 10 m)
 - C) (10 m, 0 m)
 - D) (0 m, -10 m)

E) (-10 m, 0 m)

10. Calculate the direction (angle with respect to the positive x axis) of a vector whose x and y components are 16 m and 15 m respectively.

- A) 46.848°
- B) 65.53°
- C) 84.674°
- D) 9.919°
- E) 43.152°

11. Which of the following statements is incorrect_

- A) The x- component of the unit vector **k** is zero
- B) The y-component of the unit vector **j** is one
- C) The unit vectors **i** and **j** are perpendicular to each other
- D) The magnitude of any unit vector is one
- E) The x-component of the unit vector **i** is zero

12. The position of a certain particle varies with time according to the equation $x = 5.6t^2 + 3.5t$
Where is the particle after 5.3 seconds?

- A) 165.793 m
- B) 179.461 m
- C) 175.854 m
- D) 169.348 m
- E) 161.915 m

13. The position of a certain particle varies with time according to the equation $x = 5.6t^4 - 6.2$
Calculate its velocity after 5.3 seconds

- A) 3851.475 m/s
- B) 4997.492 m/s
- C) 567.351 m/s
- D) 3334.845 m/s
- E) 1219.384 m/s

14. A particle, starting from a speed of 28 m/s was accelerated for 18 seconds with an acceleration of 8 m/s².
How far did it travel?

- A) 1324 m
- B) 432 m
- C) 3096 m
- D) 1800 m
- E) 360 m

15. An object was released from a height of 80 m. Its velocity just before it hits the ground and the time taken to hit the ground respectively are

- A) -1568 m/s and 16.327 s
- B) -28 m/s and 2.857 s
- C) -39.598 m/s and 4.041 s
- D) -28 m/s and 4.041 s
- E) -39.598 m/s and 2.857 s

Ans. For Quiz 1

1. A
2. C
3. B
4. C
5. C
6. A
7. C
8. A
9. E
10. E
11. E
12. C
13. D
14. D
15. C