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**Max Time : 1 hr** **Class = 9th Science Test Max Marks : 30**

**MOTION**

[Except Graphs and Uniform Circular motion]

1. Multiple choice questions : [ 1 X 6 = 6]
2. When final position of an object in motion coincides with its initial position.

|  |  |
| --- | --- |
| a) Both displacement and distance are zero | b) Displacement is zero , but distance is not zero. |
| c) Distance is zero , but displacement is not zero | d) Both displacement & distance are non-zero |

1. A particle is moving in a circle of radius 7 m. The distance travelled in two complete revolutions is:

|  |  |  |  |
| --- | --- | --- | --- |
| a) 44 m | b) 22 m | c) 88 m | d) 66 m |

1. A body travels a distance of meter over a semicircle of radius ‘r’. let r = 1. What is the displacement of the particle is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2 m | b) m | c) zero | d) 1 m |

1. A speed of 36km/hr. is equivalent to:

|  |  |  |  |
| --- | --- | --- | --- |
| a) 10 m/s | b) 100 m/s | c) 1000 m/s | d) None of these |

1. Retardation of a body is :

|  |  |
| --- | --- |
| a) Negative speed of the body | b) Negative acceleration of the body |
| c) Negative velocity of the body | d) None of the above |

1. Retardation is expressed in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) m | b) ms – 1 | c) – ms – 2 | d) ms – 2 |

1. Define Scalar and Vector quantity. [ 1 ]
2. Define Motion. [ 1 ]
3. Define Speed and Velocity. Also write its S.I. unit. [ 2 ]
4. A particle moves in circle with O as centre and AO = OB = 5 cm, as radius. It starts from A. Calculate the Distance travelled and the displacement when it reaches B. [ 2 ]
5. Define Acceleration. Write its expression and its S.I. unit. [ 2 ]
6. During an experiment , a signal from a spaceship reached the ground station in five minutes. What was the distance of the spaceship from the ground station? The signal travels at the speed of light i.e. , 3 x 108 m/s. [ 2 ]
7. A train 100 m long moving on a straight level track passes a pole in 9 sec. Find the : [ 2 ]

(a) Speed of the train (b) The time it will take to cross a bridge of 300 m long.

1. Starting from a stationary position, Rahul paddles his bicycle to attain a velocity of 6 m/s in 30 s. Then he applies brakes such that the velocity of bicycle comes down to 4 m/s in the next 5 sec. Calculate the acceleration of the bicycle in both the cases. [ 3 ]
2. A body starts to slide over a horizontal surface with an initial velocity of 0.8 m/s. Due to friction, its velocity decreases at the rate of 0.04 m/s2. How much time will it take for the body to stop? [ 3 ]
3. A stone is thrown in a vertically upward direction with a velocity of 12 m/s. If the acceleration of the stone during its motion is 20 m/s2 in the downward direction, what will be the height attained by the stones and how much time will it take to reach there? [ 3 ]
4. A particle moves 3 m due to North , then 4 m due East and finally 6 m due South. Calculate the distance travelled and the displacement. [ 3 ]