



PHYSICS

BOOKS - SURA PHYSICS (TAMIL ENGLISH)

Forces and motion

Example

1. Unit of speed is

A. m

B. s

C. kg

D. m / s

Answer:



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2. Oscillatory motion among the following is

A. Rotation of the earth about its axis

B. Revolution of the moon about the earth

C. To and fro movement of a vibrating string

D. All of these

Answer:



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3. The correct relation among the following is

A. Speed = distance \times time.

B. $speed = distance / time$

C. $Speed = time / distance$

D. $speed = 1 / (distance \times time)$

Answer:



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4. Gita rides with her father's bike to her uncle's house which is 40 km away from her home. She takes 40 minutes to reach there.

Statement 1 : She travels with a speed of

$1\text{km} / \text{min}$ *ute*.

Statement 2 : She travels with a speed of

$1\text{km} / \text{hour}$.

- A. Statement 1 alone is correct.
- B. Statement 2 alone is correct.
- C. Both Statement 1 and 2 are correct.
- D. Neither statement 1 nor statement 2 is correct.

Answer:



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5. Find whether the following statements are true or false.-if false give the correct answer.

To and fro motion is called oscillatory motion.



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6. Find whether the following statements are true or false.-if false give the correct answer.

Vibratory motion and rotatory motion are periodic motions.



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7. Find whether the following statements are true or false.-if false give the correct answer.

Vehicles moving with varying speeds are said to be in uniform motion



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8. Find whether the following statements are true or false.-if false give the correct answer.

Robots will replace human in future



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9. Fill in the blanks.

A bike moving on a straight road is an example of _ motion



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10. Earth's gravitational force



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11. Fill in the blanks.

Motion of a potter's wheel is an example of _____ motion.



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12. Fill in the blanks.

When an object covers equal distances in equal interval of time, it is said to be in _____ motion.



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13. Complete the analogy :

Force: ma :: Gravitational force: _____



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14. Velocity : metre/second : : Acceleration :

_____.



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15. Analogy.

circulatory motion :: a spinning top ::

oscillatory motion : _____?



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16. Given below is the distance-travelled by an elephant across a forest with uniform speed.

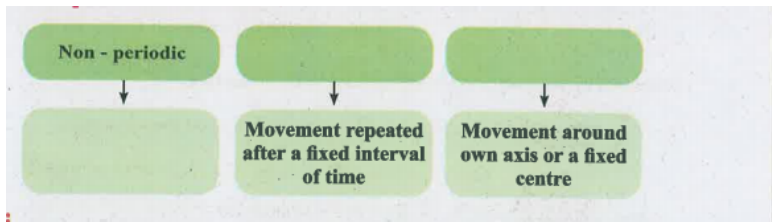
Complete the data of the table given below with the idea of uniform speed.

Distance (m)	0	4		12		20
Time (s)	0	2	4		8	10



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17. Complete the web chart.



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18. Give one word for the following statements.

The force which acts on an object without Physical contact with it.



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19. Give one word for the following statements.

A change in the position of an object with time.



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20. Give one word for the following statements.

The motion of an object travels equal distances in equal intervals of time.



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21. Give one word for the following statements.

The motion of an object travels equal distances in equal intervals of time.





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22. Give one word for the following statements.

A machine capable of carrying out a complex series of actions automatically.



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23. Define force.



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24. Name different types of motion based on the path.



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25. If you are sitting in a moving car, will you be at rest or motion with respect your friend sitting next to you?



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26. Rotation of the earth is a periodic motion -
Justify.



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27. Differentiate between rotational and curvilinear motion.



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28. Calculate

A vehicle covers a distance of 400 km in 5 hour. Calculate its average speed.



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29. What is motion? Classify different types of motion with examples



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30. Fill with examples.

Linear motion	
Curvilinear motion	
Self rotatory motion	Motion of wheel in a cart
Circular motion	
Oscillatory motion	
Irregular motion	



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31. ___ is an ancient Indian astronomer

A. C.V. Raman

B. Aryabatta

C. Usain Bolt

D. Edison

Answer:



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32. People walking in a crowded street is example of ____ motion.

A. linear

B. circular

C. rotatory

D. zigzag

Answer:



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33. Identify the Periodic motion among the following :

A. a horse running in a race

B. revolution of the moon around the earth

C. a coconut falling from a tree

D. paper flight moving

Answer:



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34. Usain Bolt crossed 100 metre

in _____ seconds and made a world record.

A. 9.58

B. 9.83

C. 9.85

D. 9.38

Answer:



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35. _____ are robots scaled down to microscopic size in order to put them into very small spaces to perform a function.

A. Car robots

B. Home robots

C. Game robots

D. Nanobots

Answer:



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36. A _____ is the fastest land animal.

A. Horse

B. Lion

C. Cheetah

D. Tiger

Answer:



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37. A cheetah can run with an average speed of _____

A. $112\text{km} / \text{h}$

B. $121\text{km} / \text{h}$

C. $211\text{k} / \text{h}$

D. $122\text{km} / \text{h}$

Answer:



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38. Find whether the following sentences are true or false. If false Correct the statement.

Motion occurs when the object is pulled or pushed by an agency.



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39. Find whether the following sentences are true or false. If false Correct the statement.

Force executed by touching the body is called non - contact force



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40. Find whether the following sentences are true or false. If false Correct the statement.

Gravity pushes the ripen coconut from the tree to the ground.



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41. Find whether the following sentences are true or false. If false Correct the statement.

Throwing paper aeroplane is the best example of linear motion.



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42. The movement of a body about its own axis like a rotating top is linear motion.



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43. Find whether the following sentences are true or false. If false Correct the statement.

Motion repeated in equal intervals of time is called as periodic motion.



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44. Fill in the blanks.

_____ are push or pull by an animate or inanimate agency.



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45. Fill in the blanks.

Application of force in an object results in motion from a state of _____.



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46. Fill in the blanks.

Fast oscillations are referred to as ____.



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47. Find whether the following sentences are true or false. If false Correct the statement.

Motion repeated in equal intervals of time is called as periodic motion.



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48. Fill in the blanks.

_____ are automatic machines.



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49. Fill in the blanks.

The term Robots comes from a czech word _____



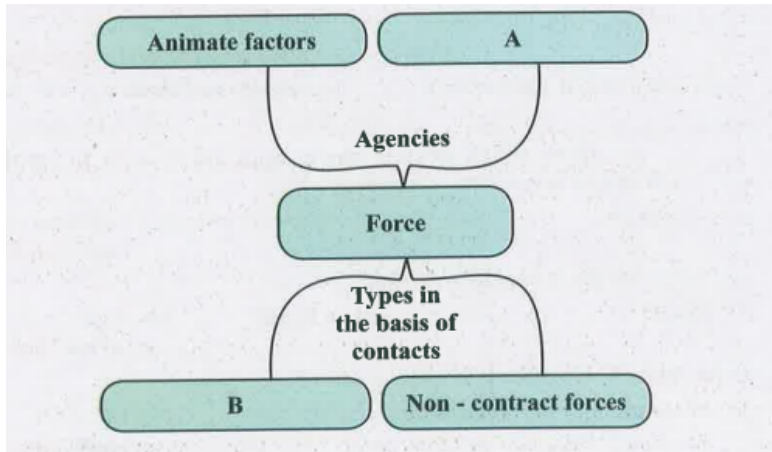
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50. Write the use of robots in space ?



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51. Complete the web chart.



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52. Define motion.





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53. What is non-contact force?



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54. List out the types of forces on the basis of contact.



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55. Give the properties of force.



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56. Define non-periodic motion.



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57. Define Average speed.



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58. List out the types of motion on the basis of speed.



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59. Define uniform motion.



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60. Why robots are used in many places?



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61. What are the important parts of a robot?



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62. What is nanobots?



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63. What are the uses of future robots?



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64. Classify the following motions based on duration and speed.

Coconut falls to the ground



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65. Answer in Detail.

Classify the following motions according to the path it takes.

Heartbeat





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66. Answer in Detail.

Classify the following motions according to the path it takes.

A stone thrown into the air at an angle



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67. Answer in Detail.

Classify the following motions according to

the path it takes.

Movement of people in a bazaar



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68. Answer in Detail.

Classify the following motions according to the path it takes.

Motion of a spinning top



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69. Classify the following motions based on duration and speed.

A bouncing ball



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70. Classify the following motions based on duration and speed.

A cart pulled by a bullock



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71. Classify the following motions based on duration and speed.

Train journey



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72. Classify the following motions based on duration and speed.

A bouncing ball



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73. Classify the following motions based on duration and speed.

Revolution of Moon around the earth



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Exercise

1. Match the following:

S. No.	Property	Example
1.	Breaks easily (brittle)	Metal pan
2.	Bends readily	Rubber band
3.	Can be stretched easily	Cotton wool
4.	Gets compressed easily	Mud pot
5.	Gets heated readily	Plastic wire



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3. ____ is an ancient Indian astronomer

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4. _____are the robots scaled down to microscopic size in order to put them into very small spaces to perform a function.

- A. Car robots
- B. Home robots
- C. Game robots
- D. Nano robots

Answer:



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5. Fill in the blanks.

Gravitational force is a ____ force.



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6. Fill in the blanks.

Fast oscillations are referred to as ____.



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7. Fill in the blanks.

_____ is the study of robots in science.



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8. Find whether the following sentences are true or false. If false Correct the statement.

Throwing paper aeroplane is the best example of linear motion.



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9. Find whether the following statements are true or false.-if false give the correct answer.

Vibratory motion and rotatory motion are periodic motions.



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10. Find whether the following sentences are true or false. If false Correct the statement.

Motion repeated in equal intervals of time is called as periodic motion.



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11. Analogy.

kicking a ball : contact force :: falling of leaf

: _____?



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12. Analogy.

Distance : metre :: speed : _____?



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13. Match the following.

12.	A coconut falling from a tree	(i)	Oscillatory motion
13.	Motion of a spinning top	(ii)	Linear motion
14.	Heart beat	(iii)	Rotatory motion



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14. Rotation of the earth is a periodic motion -
Justify.



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15. Give the properties of force.



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16. Name different types of motion based on the path.



[Watch Video Solution](#)

17. What are the uses of future robots?



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21. Classify the following motions based on duration and speed.

Train journey



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22. Classify the following motions based on duration and speed.

A bouncing ball



Watch Video Solution

23. Classify the following motions based on duration and speed.

Revolution of Moon around the earth



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