



PHYSICS

BOOKS - NAVNEET PUBLICATION

MOTION, FORCE AND WORK

Question Bank

1. What is meant by motion? what causes a change in motion?



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2. What is meant by speed?



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3. What is the formula for calculating speed?



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4. Fill in the blanks with the proper words from the brackets:

If a body traverses a distance in direct proportion to the time, the speed of the body is _____.



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5. Fill in the blanks with the proper words from the brackets:

If a body is moving with a constant velocity is acceleration is _____.



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6. Fill in the blanks with the proper words from the brackets:

_____ is a scalar quantity.



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7. Fill in the blanks with the proper words from the brackets:

_____ is the distance traversed by a body in a particular direction in unit time.



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8. Fill in the blanks with the proper words from the brackets:

When an object comes back to the point of origin, its displacement is _____.



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9. Fill in the blanks with the proper words from the brackets:

Velocity has magnitude and _____.



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10. Fill in the blanks with the proper words from the bracketes:

Acceleration is the rate of change in the _____ with respect to time.



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11. State whether the following statement are true or false:

Acceleration can be perpendicular to velocity.



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12. State whether the following statement are true or false:

Displacement of a body and distance covered by the body in a given time interval have always the same magnitude.



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13. State whether the following statements are true or false:

The direction of acceleration can be opposite to that of velocity.



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14. State whether the following statements are true or false:

The direction of acceleration can be opposite to that of velocity.



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15. State whether the following statement are

True or False:

Metals are sonorous.



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16. State whether the following statement are

true or false:

The average velocity of a body can be zero.



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17. Find the odd one out:

Acceleration, force, velocity, speed



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18. Answer the following question in one sentence each:

State the quantities that must be specified to describe force.



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19. Answer the following question in one sentence each:

What happens when a force is applied in the direction of body of a motion?



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20. Answer the following question in one sentence each:

What happens when a force is applied in the direction opposite to that of motion of the body?



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21. Explain the following terms with examples .

Double displacement reaction



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22. A ball is rolling from A to D on a flat and smooth surface. Its speed is 2 cm/s. On reaching B, it was pushed continuously up to C. On reaching D from C, its speed had become 4cm/s`. It took 2 seconds for it to go from B to

C. What is the acceleration of the ball as it goes from B to C ?



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23. From the groups B and C, choose the proper words, for each of the words in group

A:



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24. A Bird sitting on a wire, flies, circles around and comes back to its perch. Explain the total distance it traversed during its flight and its eventual displacement.



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25. Define the following terms and write the SI and CGS units for the same: Distance



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26. Define the following terms and write the SI and CGS units for the same: Velocity



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27. Define the following terms and write the SI and CGS units for the same: Speed



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28. Define the following terms and write the SI and CGS units for the same: Acceleration



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29. What is the direction of velocity of a particle performing uniform circular motion?



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30. Distinguish between:

Distance and Displacement:



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31. Distinguish between:

Speed and Velocity:



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32. Give scientific reasons :

Water is life.



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33. Solve the following examples:

A force of 20 N acts on a body. If the displacement of the body is 0.6 m in the direction opposite to that of the force, calculate the work done by the force.



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34. Solve the following examples:

When a force of 20 N acts on a body, the body is displaced by 5 m. If the angle between the force and displacement is 60° , find the work done by the force.



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35. Solve the following examples: (numerical problems)

A person travels a distance of 72 km in 4 hours. Calculate the average speed in $\frac{m}{s}$.



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36. The velocity of a car increases from $15 \frac{km}{h}$ to $33 \frac{km}{h}$ in 20 s. Find its acceleration.



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37. A body covers 10 m in the first 5 s and 20 m in the next 5 s. Find its average speed.



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38. A body moves with a velocity of $10 \frac{m}{s}$ for 10 s and then with a velocity of $20 \frac{m}{s}$ in the same direction for 40 s. Find its average velocity.



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39. A car takes 20 minutes to cover a distance of 94 km. Find its speed in $\frac{m}{s}$.



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40. Calculate the force required to produce an acceleration of $0.2 \frac{m}{s^2}$ in a body of mass 10 kg.



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41. A certain force acts on a body at rest. If after 10 seconds the body moves with a velocity of $20 \frac{m}{s}$ and if its mass is 3 kg, find the magnitude of the force acting on the body.



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42. A body of mass 1 kg moves with an initial velocity of $15\frac{m}{s}$. If its velocity changes to $25\frac{m}{s}$ in 5 seconds, find the force acting on the body.



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43. Answer the following questions:

What do you understand by the forces of

action and reaction.



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44. Answer the following question:

For what different purpose do you use thermos flask?



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45. Answer the following questions:

Write the formula for the escape velocity.



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46. Answer the following question orally :

Tell the formula for calculation of speed.



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47. Answer the following question orally :

Define acceleration.



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