

LAWS OF MOTION

General Instructions: Answer all the questions. If you are unable to answer any question, go through the page number that is given against that particular question in the text book. You can find the answer.

Test Paper-I

MAX MARKS: 30

TIME: 90Mts

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| 1 | Name the external agencies which can exert force on a body from a distance | P89 | 1 |
| 2 | An external force is required to keep a body in uniform motion. Clarify. | P90 | 1 |
| 3 | Explain why external forces are necessary to keep the bodies in motion? | P90 | 2 |
| 4 | State Newton's laws of motion | P91, | 3 |
| | | 94,97 | |
| 5 | An object placed on the surface of the earth is at rest. What can you say about the forces acting on it? | P92 | 2 |
| 6 | A car moving with uniform velocity. What is the net force acting on it? What can you say about the forces acting on it? | P92 | 2 |
| 7 | When the bus starts suddenly, a person standing in the bus get thrown backward with a jerk Why? | P93 | 3 |
| 8 | An astronaut accidentally gets separated out of his small spaceship accelerating in inter stellar space at a constant rate of 100 m s^{-2} . What is the acceleration of the astronaut the instant after he is outside the spaceship? (Assume that there are no nearby stars to exert gravitational force on him.) | P93 | 2 |
| 9 | Define momentum of a body. What is the formula to find out momentum? Is it a scalar or vector quantity? | P93 | 3 |
| 10 | Give the factors on which the force applied on an object depends upon. | P93 | 3 |
| 11 | Show that $F = ma$.What is the SI unit of Force | P95 | 3 |
| 12 | What is the effect of force acting on a body when it acts such that it makes some angle with the velocity of the body? Give an example where the vertical velocity of the body is changing and the horizontal velocity remains unaffected. | P95 | 2 |
| 13 | A bullet of mass 0.04 kg moving with a speed of 90 ms^{-1} enters a heavy wooden block and is stopped after a distance of 60 cm . What is the average resistive force exerted by the block on the bullet? | P95 | 3 |