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Questions:

Long Answers

1. State and prove the law of conservation of linear momentum.

Short Answer

2. Two bodies have a mass ratio of 3:4 The force applied on the bigger mass produces an acceleration of 12 ms^2, What could be the acceleration of the other body, if the same force acts on it.

Very Short Answer

3. Define inertia. Give its classification.
4. Differentiate mass and weight.
5. State the principle of moments
6. State Newton's second law.

Choose the correct answer

7. Impulse is equals to
   (a) rate of change of momentum (b) rate of force and time (c) change of momentum (d) rate of change of mass
8. Newton's III law is applicable
   (a) for a body is at rest (b) for a body in motion (c) both a & b (d) only for bodies with equal masses
9. In which of the following sport the turning of effect of force used?
   (a) swimming (b) tennis (c) cycling (d) hockey
10. One kilogram force equals to
    (a) 9.8 dyne (b) 9.8 x 10^4 N (c) 98 x 10^4 dyne (d) 980 dyne
11. The mass of a body is measured on planet Earth as M kg. When it is taken to a planet of radius half that of the Earth then its value will be_____kg
    (a) 4 M (b) 2 M (c) M/4 (d) M
12. To project the rockets which of the following principle(s) is /(are) required?
    (a) Newton's third law of motion (b) Newton's law of gravitation (c) law of conservation of linear momentum (d) both a and c

Match the following

13.

	Column I	-	Column II
(a)	Newton's I law	-	propulsion of a rocket
(b)	Newton's II law	-	Stable equilibrium of a body
(c)	Newton's III law	-	Law of force
(d)	Law of conservation of linear momentum	-	Flying nature of bird