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Questions:

Long Answers

1. What are the types of inertia? Give an example for each type.
   (OR)
   Explain the different types of inertia with an example for each type
2. State and prove the law of conservation of linear momentum.
3. State the universal law of gravitation and derive its mathematical expression.

Short Answer

4. Deduce the equation of a force using Newton's second law of motion.

Very Short Answer

5. Differentiate mass and weight.
6. State Newton's second law.

Choose the correct answer

7. Inertia of a body depends on
   (a) weight of the object (b) acceleration due to gravity of the planet (c) mass of the object (d) Both a & b
8. 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
9. One kilogram force equals to
   (a) 9.8 dyne (b) 9.8×10^4 N (c) 98×10^4 dyne (d) 980 dyne
10. 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
11. F be the force between the two bodies placed at a certain distance. If the distance between them is doubled, then the gravitational force F will be
    (a) 2F (b) F/2 (c) F/4 (d) 4 F

Match the following

12.

	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