QUIZEN – Force and Laws of Motion (9P02)

Learning Level 1	***Learning Level 2***	***Learning Level 3***
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	*E - Evaluating (evaluation-based questions)* *N - Creating (creation-based questions)*

Learning Level 1

1. What is momentum?
2. State Newton's second law of motion
3. How is force related to momentum?
4. What is the unit of momentum?
5. Define the term conservation of momentum.

Learning Level 2

6. Calculate the momentum of a 500 kg object moving at a speed of 20 m/s.
7. A force of 10 N acts on an object with a mass of 5 kg. Calculate the acceleration of the object.
8. A car has a mass of 1200 kg and is moving at a speed of 25 m/s. Calculate the momentum of the car.
9. A 2 kg object is moving with a velocity of 10 m/s. What is the object's momentum?
10. A ball with a mass of 0.5 kg is thrown with a velocity of 10 m/s. Calculate the momentum of the ball.

Learning Level 3

11. A 10 N force is applied to a 5 kg object. Calculate the acceleration of the object. If the force is applied for 2 seconds, what is the change in momentum of the object?
12. Explain why it is important to wear a seatbelt while driving a car, with reference to the concept of momentum.
13. A 1000 kg car collides with a 2000 kg truck. The car was moving at a velocity of 30 m/s before the collision and the truck was stationary. After the collision, the car and the truck move together at a velocity of 10 m/s. Calculate the velocity of the car before the collision
14. In a collision between two objects, the total momentum before the collision is equal to the total momentum after the collision. Explain why this is true, with reference to the law of conservation of momentum.
15. A bullet is fired from a gun with a mass of 2 kg. The bullet has a mass of 0.01 kg and is fired with a velocity of 400 m/s. Calculate the velocity of the gun after firing the bullet