NEWFOUNDLAND AND LABRADOR PHYSICS 3204 · UNIT D

Momentum and Energy — Practice Test

Newfoundland and Labrador Physics 3204 • 25 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Momentum of an object is defined as mass times**



A acceleration

B velocity

C force

D time

Understand It with Pulse | Flag a mistake

2 **Impulse is defined as force times the time interval, and equals change in**

A mass

B momentum

C energy

D velocity only

Understand It with Pulse | Flag a mistake

3 **In a closed system with no external forces, total momentum is**

A zero

B increasing

C conserved

D decreasing

Understand It with Pulse | Flag a mistake

4 **In an elastic collision, both momentum and kinetic energy are**

A lost

B zero

C doubled

D conserved

Understand It with Pulse | Flag a mistake

5 **In an inelastic collision, momentum is conserved but kinetic energy is**



A not conserved

B conserved

C zero

D doubled

Understand It with Pulse | Flag a mistake

6 **Work is done when a displacement occurs in the direction of the**

A velocity only

B force

C mass

D time

Understand It with Pulse | Flag a mistake

7 **Kinetic energy depends on mass and the square of**

A time

B force

C speed

D distance

Understand It with Pulse | Flag a mistake

8 **Gravitational potential energy depends on mass, gravitational field strength and**

A speed

B time

C temperature

D height

Understand It with Pulse | Flag a mistake

9 **Power is defined as work done per unit**

A time

B distance

C mass

D force

Understand It with Pulse | Flag a mistake

10 **A machine with higher efficiency converts a larger fraction of input energy into**



A heat

B useful output

C sound

D waste only

Understand It with Pulse | Flag a mistake

11 **When friction acts, mechanical energy is transformed mainly into**

- A kinetic energy
- B potential energy
- C thermal energy
- D chemical energy

Understand It with Pulse | Flag a mistake

12 **The work energy theorem states that net work equals change in**

- A momentum
- B potential energy only
- C mass
- D kinetic energy

Understand It with Pulse | Flag a mistake

13 **A longer time to stop an object reduces the average force needed for the same change in**

- A momentum
- B mass
- C energy
- D distance

Understand It with Pulse | Flag a mistake

14 **A perfectly inelastic collision is one in which colliding objects stick together and move with a common**

- A mass
- B velocity
- C energy
- D force

Understand It with Pulse | Flag a mistake

15 **Conservation of energy states that energy cannot be created or destroyed, only**

A lost as heat only

B stored as mass

C transferred or transformed

D measured in joules only

Understand It with Pulse | Flag a mistake

16 **A mass of 4 kilograms moves at 5 metres per second. Its momentum in kilogram metres per second is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A mass of 2 kilograms moves at 10 metres per second. Its kinetic energy in joules is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A force of 10 newtons acts for 3 seconds. The impulse in newton seconds is**

ANSWER

Understand It with Pulse | Flag a mistake

19 **A force of 20 newtons moves an object 5 metres. The work in joules is**

ANSWER

Understand It with Pulse | Flag a mistake

20 **A mass of 5 kilograms is lifted 4 metres using g = 10 . Its potential energy gain in joules is**



ANSWER

Understand It with Pulse | Flag a mistake

21 **Work of 600 joules is done in 20 seconds. The power in watts is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A mass of 3 kilograms moves at 4 metres per second and stops. The change in momentum magnitude in kilogram metres per second is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Two masses of 2 kilograms each move toward each other at 3 metres per second and stick together. The final speed in metres per second is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A mass of 6 kilograms moves at 2 metres per second and a mass of 2 kilograms moves at 6 metres per second in the same direction. Their total momentum in kilogram metres per second is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A force of 50 newtons acts over 2 metres. The work in joules is**



ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. B
3. C
4. D
5. A
6. B
7. C
8. D
9. A
10. B
11. C
12. D
13. A
14. B
15. C
16. 20
17. 100
18. 30
19. 100
20. 200
21. 30
22. 12
23. 0
24. 24
25. 100

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