BRITISH COLUMBIA PHYSICS 11 (MPH--11) · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

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 **A runner goes 40 m east, then 30 m west. The magnitude of the displacement, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A box is pushed east with 10 N and west with 6 N. The net force is**

- A 4 N west
- B 16 N east
- C 4 N east
- D 16 N west

Understand It with Pulse | Flag a mistake

3 **A 2 kg ball moves at 6 m per s. Its kinetic energy, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **Sound is an example of a**

A longitudinal wave

B transverse wave

C standing wave only

D electromagnetic wave

Understand It with Pulse | Flag a mistake

5 **The unit of acceleration is**

A m per s

B m per s squared

C m

D kg m per s

Understand It with Pulse | Flag a mistake

6 **A 10 kg bag rests on the ground. Using g = 9.8 m per s squared, its weight, in newtons, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A machine has useful output 80 J from an input of 200 J. The efficiency, in percent, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **Sound travels at 340 m per s with a frequency of 170 Hz. The wavelength, in metres, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **A cart starts from rest and accelerates at 4 m per s squared for 3 s. The displacement, in metres, is _____**

ANSWER _____

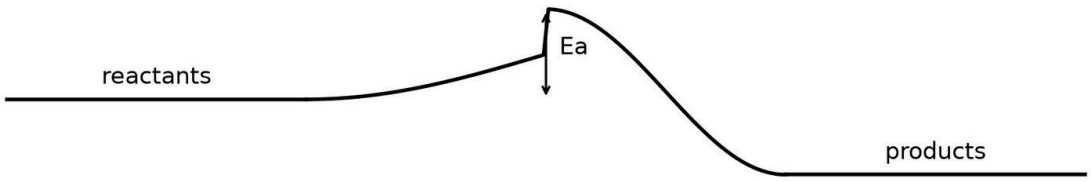
Understand It with Pulse | Flag a mistake

10 **A block rests on a table. In its free body diagram, the force that balances its weight is the**

- **A** friction force
- **B** applied force
- **C** tension
- **D** normal force

Understand It with Pulse | Flag a mistake

11 **The energy diagram shows reactants at 8 units and products at 3 units. The energy released, in the same units, is**



- **A** 3
- **B** 5
- **C** 6
- **D** 11

Understand It with Pulse | Flag a mistake

12 **The graph shows displacement against time for a vibrating particle. The amplitude, in the graph units, is**

- A 1
- B 2
- C 3
- D 4

Understand It with Pulse | Flag a mistake

13 **A ball is dropped from rest. Using g = 9.8 m per s squared, the distance it falls in 2 s, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **A 20 N force acts on a puck for 3 s. The change in momentum, in kilogram metres per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A crane lifts a 5 kg load 2 m in 7 s. Using g = 9.8 m per s squared, the power, in watts, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **In a longitudinal wave, particles vibrate**

A parallel to the wave direction

B at a right angle to the wave direction

C in circles

D not at all

Understand It with Pulse | Flag a mistake

17 **The graph shows velocity against time. The displacement from 0 s to 6 s, in metres, is**

A 30

B 50

C 60

D 40

Understand It with Pulse | Flag a mistake

18 **Friction between two surfaces generally increases when**

A the surfaces get smoother

B the normal force increases

C the speed increases

D the mass decreases

Understand It with Pulse | Flag a mistake

19 **A 10 kg mass is 2.5 m above the ground. Using g = 9.8 m per s squared, its gravitational potential energy, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **The pitch of a sound depends mainly on its**

A amplitude

B speed

C frequency

D medium

Understand It with Pulse | Flag a mistake

21 **A ball moves horizontally at 8 m per s while it falls for 2 s. The horizontal distance covered, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A 2 kg load in a lift accelerates upward at 2 m per s squared. Using g = 9.8 m per s squared, the cable tension, in newtons, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A 30 N friction force acts over a distance of 4 m. The work done against friction, in joules, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **Sound travels 680 m at 340 m per s. The travel time, in seconds, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A car brakes from 20 m per s to rest in 5 s. The acceleration, in metres per second squared, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

26 **Newton third law says action and reaction forces are**

A equal and on the same object

B unequal and opposite

C equal and in the same direction

D equal, opposite, and on different objects

Understand It with Pulse | Flag a mistake

27 **As a ball falls, its energy is transformed from**

A kinetic to gravitational potential

B gravitational potential to kinetic

C sound to kinetic

D thermal to gravitational potential

Understand It with Pulse | Flag a mistake

28 **Unlike sound, light is an electromagnetic wave that**

A can travel through a vacuum

B needs a medium

C has no frequency

D has no wavelength

Understand It with Pulse | Flag a mistake

29 **Which quantity is a scalar**

A velocity

B displacement

C speed

D acceleration

Understand It with Pulse | Flag a mistake

30 **A block is pulled east across a table. In its free body diagram, the force that points west is**

A the normal force

B friction

C gravity

D the applied force

Understand It with Pulse | Flag a mistake

31 **Kinetic energy depends on an object**

A mass and speed

B height only

C temperature

D volume only

Understand It with Pulse | Flag a mistake

32 **Frequency is the number of waves passing a point per**

A metre

B minute

C hour

D second

Understand It with Pulse | Flag a mistake

33 **A dog runs 200 m in 25 s. The average speed, in metres per second, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A 2 kg puck accelerates at 6 m per s squared. The net force, in newtons, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **The graph shows kinetic energy against speed for a 2 kg object. The kinetic energy at 5 m per s, in joules, is**

A 5

B 10

C 25

D 50

Understand It with Pulse | Flag a mistake

36 **The graph shows displacement against position for a wave. Each x unit is 1 m. The amplitude, in metres, is**

A 4

B 2

C 8

D 6

Understand It with Pulse | Flag a mistake

37 **A displacement time graph curves upward more and more steeply. The object is**

A at rest

B moving at a steady speed

C slowing down

D speeding up

Understand It with Pulse | Flag a mistake

38 **For most surfaces, the maximum static friction is**

A less than kinetic friction

B equal to kinetic friction

C greater than kinetic friction

D always zero

Understand It with Pulse | Flag a mistake

39 **Work is zero when a force causes**

A no displacement

B a large displacement

C a fast motion

D a slow motion

Understand It with Pulse | Flag a mistake

40 **When a sound source moves away from an observer, the observed frequency is**

A lower

B higher

C unchanged

D zero

Understand It with Pulse | Flag a mistake

41 **A stone is dropped from rest. Using g = 9.8 m per s squared, its speed after 3 s, in metres per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

42 **For a block on a gentle ramp, the component of weight along the ramp is**

A equal to the full weight

B less than the full weight

C greater than the full weight

D zero

Understand It with Pulse | Flag a mistake

43 **A 1 kg ball drops 10 m. Using g = 9.8 m per s squared, and ignoring air resistance, the kinetic energy gained, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

44 **A sound with a larger amplitude is usually**

A quieter

B higher pitched

C louder

D lower pitched

Understand It with Pulse | Flag a mistake

45 **A marble rolls horizontally at 5 m per s while falling for 3 s. The horizontal distance covered, in metres, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

46 **A rocket pushes exhaust gas downward. The gas pushes the rocket**

A downward

B sideways

C not at all

D upward

Understand It with Pulse | Flag a mistake

47 **A 2 kg mass is lifted 3 m. Using g = 9.8 m per s squared, the work done against gravity, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **The speed of a wave in a given medium depends mainly on**

- A the properties of the medium
- B its amplitude
- C its frequency only
- D the observer

Understand It with Pulse | Flag a mistake

49 **A car speedometer reading shows the car speed at**

- A the average over the trip
- B that instant
- C the start of the trip
- D the end of the trip

Understand It with Pulse | Flag a mistake

50 **A 10 kg cart moves at 2.5 m per s. Its momentum, in kilogram metres per second, is ____**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	10	**18.**	B	**35.**	C
2.	C	**19.**	245	**36.**	A
3.	36	**20.**	C	**37.**	D
4.	A	**21.**	16	**38.**	C
5.	B	**22.**	23.6	**39.**	A
6.	98	**23.**	120	**40.**	A
7.	40	**24.**	2	**41.**	29.4
8.	2	**25.**	-4	**42.**	B
9.	18	**26.**	D	**43.**	98
10.	D	**27.**	B	**44.**	C
11.	B	**28.**	A	**45.**	15
12.	B	**29.**	C	**46.**	D
13.	19.6	**30.**	B	**47.**	58.8
14.	60	**31.**	A	**48.**	A
15.	14	**32.**	D	**49.**	B
16.	A	**33.**	8	**50.**	25
17.	D	**34.**	12		

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