CONNECTICUT PHYSICS · 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 **An object moves at constant speed 20 meters per second for 2 seconds. The distance traveled is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A force of 20 newtons pushes an object 3 meters in the direction of the force. The work done is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A charge of 4 coulombs moves through a potential difference of 3 volts. The energy transferred is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A light wave has wavelength 1 units and frequency 3 units in a model where speed equals wavelength times frequency. The speed is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **An object moves at constant speed 12 meters per second for 5 seconds. The distance traveled is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A force of 30 newtons pushes an object 3 meters in the direction of the force. The work done is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A voltage of 12 volts is applied across a resistance of 4 ohms. The current is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **If the frequency of light doubles from 2 units to 4 units, and photon energy is proportional to frequency, the energy factor is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **An object travels 45 meters in 3 seconds at constant speed. Its speed is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **An object of mass 1 kilograms moves at 10 meters per second . Its kinetic energy , $\frac{1}{2}mv^2$, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **A voltage of 24 volts is applied across a resistance of 6 ohms. The current is**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **If the frequency of light doubles from 1 units to 2 units, and photon energy is proportional to frequency, the energy factor is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **An object accelerates from rest at a constant rate so that after 4 seconds its speed is 20 meters per second. Its acceleration is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **An object of mass 2 kilograms is 5 meters high, using g equals 10. Its gravitational potential energy is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A current of 3 amps flows through a resistance of 4 ohms. The voltage is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **The speed of light in a vacuum is about**

A 3 times 10 to the 6 meters per second

B 3 times 10 to the 5 meters per second

C 3 times 10 to the 10 meters per second

D 3 times 10 to the 8 meters per second

Understand It with Pulse | Flag a mistake

17 **An object accelerates from rest at a constant rate so that after 2 seconds its speed is 40 meters per second. Its acceleration is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **An object of mass 4 kilograms is 10 meters high, using g equals 10. Its gravitational potential energy is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A device uses 12 volts and 2 amps. Its power is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **Light travels at 300 units in a vacuum and enters a medium with refractive index 2. Its speed in the medium is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A net force acts on a mass of 10 kilograms with acceleration 3 meters per second squared. The net force is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **An object of mass 5 kilograms moves at 2 meters per second. Its momentum is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A device uses 30 volts and 3 amps. Its power is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **Light travels at 300 units in a vacuum and enters a medium with refractive index 5. Its speed in the medium is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A mass of 10 kilograms has weight, using g equals 10 meters per second squared, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

26 **Work of 100 joules is done in 5 seconds. The power is**

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **A wave has frequency 10 hertz. Its period is**

A 10

B $\frac{1}{10}$

C $\frac{1}{11}$

D 1

Understand It with Pulse | Flag a mistake

28 **After 2 half lives, the fraction of a radioactive sample remaining is**

A $\frac{1}{8}$

B $\frac{1}{4}$

C $\frac{1}{2}$

D 1

Understand It with Pulse | Flag a mistake

29 **A mass of 3 kilograms has weight, using g equals 10 meters per second squared, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **Work of 300 joules is done in 10 seconds. The power is**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **A wave travels at 340 meters per second with frequency 170 hertz. Its wavelength is**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **A light ray strikes a mirror at an angle of incidence of 30 degrees. The angle of reflection is**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **An object starts at 10 meters per second and accelerates at 2 meters per second squared for 2 seconds. Its final speed is**

ANSWER

Understand It with Pulse | Flag a mistake

34 **An object of mass 4 kilograms moving at 4 meters per second collides and transfers all its momentum to a stationary object of mass 2 kilograms. The second speed is**

ANSWER

Understand It with Pulse | Flag a mistake

35 **A wave travels at 400 meters per second with frequency 200 hertz. Its wavelength is**

ANSWER

Understand It with Pulse | Flag a mistake

36 **A light ray strikes a mirror at an angle of incidence of 60 degrees. The angle of reflection is**

ANSWER

Understand It with Pulse | Flag a mistake

37 An object starts at 15 meters per second and accelerates at 2 meters per second squared for 4 seconds. Its final speed is

ANSWER _____

Understand It with Pulse | Flag a mistake

38 An object of mass 2 kilograms moving at 10 meters per second collides and transfers all its momentum to a stationary object of mass 4 kilograms. The second speed is

ANSWER _____

Understand It with Pulse | Flag a mistake

39 A wave has frequency 20 hertz. Its period is

A 20

B $\frac{1}{21}$

C $\frac{1}{20}$

D 1

Understand It with Pulse | Flag a mistake

40 **Refraction is the bending of light when it changes**

A color only

B speed only in a vacuum

C direction in a vacuum

D medium

Understand It with Pulse | Flag a mistake

41 **Newtons third law states that forces always occur in**

A equal and opposite pairs

B the same direction

C one direction only

D random directions

Understand It with Pulse | Flag a mistake

42 **Gravitational potential energy depends on mass, height, and**

A gravity

B speed

C time

D temperature

Understand It with Pulse | Flag a mistake

43 **Two resistors in a simple counting setup : 2 + 2 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

44 **In the Bohr model, electrons occupy**

A orbits only in space

B nuclei

C photons

D energy levels

Understand It with Pulse | Flag a mistake

45 **Average speed for 200 meters in 10 seconds is**

ANSWER _____

Understand It with Pulse | Flag a mistake

46 **An object loses 100 joules of potential energy falling, ignoring air resistance. Its gain in kinetic energy is**

ANSWER _____

Understand It with Pulse | Flag a mistake

47 **Two resistors in a simple counting setup : 5 + 5 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **A laser produces light that is**

A incoherent

B unpolarized only

C coherent

D white only

Understand It with Pulse | Flag a mistake

49 **Average speed for 300 meters in 6 seconds is**

ANSWER _____

Understand It with Pulse | Flag a mistake

50 **An object loses 400 joules of potential energy falling, ignoring air resistance. Its gain in kinetic energy is**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	40	**18.**	400	**35.**	2
2.	60	**19.**	24	**36.**	60
3.	12	**20.**	150	**37.**	23
4.	3	**21.**	30	**38.**	5
5.	60	**22.**	10	**39.**	C
6.	90	**23.**	90	**40.**	D
7.	3	**24.**	60	**41.**	A
8.	2	**25.**	100	**42.**	A
9.	15	**26.**	20	**43.**	4
10.	50	**27.**	B	**44.**	D
11.	4	**28.**	B	**45.**	20
12.	2	**29.**	30	**46.**	100
13.	5	**30.**	30	**47.**	10
14.	100	**31.**	2	**48.**	C
15.	12	**32.**	30	**49.**	50
16.	D	**33.**	14	**50.**	400
17.	20	**34.**	8		

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