ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY FOUNDATION · 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 cup of coffee is hot. How is energy transferred to the air?**

- A by evaporation only, from the top
- B by condensation on the cold cup
- C by radiation only, from the surface
- D by conduction and convection

Understand It with Pulse | Flag a mistake

2 **A bicycle rolls down a hill. What happens to its gravitational potential energy?**

- A it becomes chemical energy stored in the bike
- B it increases
- C it stays the same
- D it decreases as kinetic energy increases

Understand It with Pulse | Flag a mistake

3 **A calculator uses a battery. What energy is stored in the battery?**

- A kinetic energy of motion
- B thermal energy from heat
- C chemical energy
- D light energy from the Sun

Understand It with Pulse | Flag a mistake

4 **A Ferris wheel is at the top. What is the person's height like?**

- A unchanged
- B at its greatest
- C at zero
- D at its smallest

Understand It with Pulse | Flag a mistake

5 **A swimming pool holds water. Why does a person float in the pool?**

- A their density is close to water
- B they are made of air
- C the water pushes them down
- D they are heavier than water and sink

Understand It with Pulse | Flag a mistake

6 **A thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 10
- B 100
- C 0
- D 32

Understand It with Pulse | Flag a mistake

7 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles flow past each other easily
- B particles vibrate in fixed positions
- C particles move freely through space
- D particles are far apart from each other

Understand It with Pulse | Flag a mistake

8 **Why does a Sankey display for a real machine always have an arrow for wasted energy?**

- A no machine is perfect
- B arrows must always add to zero
- C machines always make extra energy
- D wasted energy is the useful output

Understand It with Pulse | Flag a mistake

9 **What is the electric field between two parallel plates?**

- **A** uniform
- **B** zero in the middle
- **C** strongest at the edges
- **D** stronger near the positive plate

Understand It with Pulse | Flag a mistake

10 **An object speeds up from 10 m/s to 20 m/s in 10 seconds. What is its acceleration?**

- **A** 0.5 m/s^2
- **B** 10 m/s^2
- **C** 2 m/s^2
- **D** 1 m/s^2

Understand It with Pulse | Flag a mistake

11 **An atom has a mass number of 12 and an atomic number of 6. How many neutrons does it have?**

A 5

B 8

C 6

D 7

Understand It with Pulse | Flag a mistake

12 **Why does a more massive star have a shorter life?**

A it has less fuel than a small star

B it is colder

C it burns fuel faster

D it is further away

Understand It with Pulse | Flag a mistake

13 **A wave has a frequency of 5 Hz and a wavelength of 5 m. What is the wave speed?**

- A 50 m/s
- B 25 m/s
- C 12 m/s
- D 30 m/s

Understand It with Pulse | Flag a mistake

14 **What is a disadvantage of nuclear power?**

- A it stops working at night
- B it makes carbon dioxide
- C it makes radioactive waste
- D it needs a river

Understand It with Pulse | Flag a mistake

15 **A small positive charge is placed in an electric field. Which way does the force on it point?**

A there is no force on it

B at right angles to the field

C against the field lines

D along the field lines

Understand It with Pulse | Flag a mistake

16 **An object travels 300 m in 10 seconds. What is its speed?**

A 60 m/s

B 3000 m/s

C 15 m/s

D 30 m/s

Understand It with Pulse | Flag a mistake

17 **Why is nuclear fission used to generate electricity?**

- A it works without any fuel at all, for ever
- B lots of energy from little fuel
- C it produces no waste at all
- D it needs no shielding

Understand It with Pulse | Flag a mistake

18 **How far is one astronomical unit?**

- A the distance to the Moon
- B the size of the Solar System
- C Earth to Sun distance
- D the distance to the nearest star

Understand It with Pulse | Flag a mistake

19 **Which electromagnetic waves are used to take pictures of bones?**

A radio waves

B infrared

C X-rays

D visible light

Understand It with Pulse | Flag a mistake

20 **A force of 25 N pushes a box 2 m along the ground. How much work is done?**

A 25 J

B 50 J

C 100 J

D 80 J

Understand It with Pulse | Flag a mistake

21 **A component has a potential difference of 10 V across it and a current of 2 A through it. What is its resistance?**

- **A** 2.5 ohms
- **B** 20 ohms
- **C** 5 ohms
- **D** 10 ohms

Understand It with Pulse | Flag a mistake

22 **What is the weight of a 10 kg object on Earth? Use g = 10 N/kg.**

- **A** 100 N
- **B** 50 N
- **C** 10 N
- **D** 200 N

Understand It with Pulse | Flag a mistake

23 **A sample has a half-life of 5 days. After 15 days, what fraction remains?**

- A 1/4
- B 1/8
- C 1/16
- D 1/2

Understand It with Pulse | Flag a mistake

24 **A block has a mass of 500 g and a volume of 200 cubic centimetres. What is its density?**

- A 2.5 g/cm³
- B 1.25 g/cm³
- C 5 g/cm³
- D 5.5 g/cm³

Understand It with Pulse | Flag a mistake

25 **Carbon dioxide levels rose from 280 ppm to 400 ppm. What is the increase?**

A 140 ppm

B 160 ppm

C 100 ppm

D 120 ppm

Understand It with Pulse | Flag a mistake

26 **What is the main problem with burning coal?**

A carbon dioxide

B it runs out quickly

C it is hard to dig up

D it is expensive

Understand It with Pulse | Flag a mistake

27 **A lamp runs at 24 V with a current of 5 A. What is its power?**

- A 60 W
- B 130 W
- C 120 W
- D 240 W

Understand It with Pulse | Flag a mistake

28 **A force of 20 N acts 5 m from a pivot. What is the moment of the force?**

- A 200 Nm
- B 100 Nm
- C 110 Nm
- D 50 Nm

Understand It with Pulse | Flag a mistake

29 **What is nuclear fusion?**

A two light nuclei join together

B a nucleus breaking into protons

C an atom losing electrons

D a heavy nucleus splitting in two

Understand It with Pulse | Flag a mistake

30 **A gas in a sealed container is heated. What happens to the pressure?**

A it decreases

B it increases

C it stays the same

D it falls to zero

Understand It with Pulse | Flag a mistake

31 **A sunflower grows taller over the summer. Where does most of the extra mass come from?**

A minerals absorbed from the soil

B sunlight captured by the leaves

C carbon dioxide from the air

D water absorbed from the soil

Understand It with Pulse | Flag a mistake

32 **A 4 kg object is lifted 5 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

A 400 J

B 200 J

C 20 J

D 100 J

Understand It with Pulse | Flag a mistake

33 **A current of 5 A flows for 10 seconds. How much charge flows?**

- A 50 C
- B 60 C
- C 100 C
- D 25 C

Understand It with Pulse | Flag a mistake

34 **Which of these is a scalar?**

- A speed
- B force
- C acceleration
- D velocity

Understand It with Pulse | Flag a mistake

35 **Hardcover books are stacked on a table. What force pulls them down?**

- A air resistance
- B tension
- C friction
- D gravity

Understand It with Pulse | Flag a mistake

36 **A block has a mass of 1000 g and a volume of 100 cubic centimetres. What is its density?**

- A 5 g/cm³
- B 20 g/cm³
- C 10 g/cm³
- D 13 g/cm³

Understand It with Pulse | Flag a mistake

37 **Which electromagnetic waves are used for cooking food?**

- A microwaves
- B gamma rays
- C X-rays
- D ultraviolet

Understand It with Pulse | Flag a mistake

38 **A cheese pizza contains cheese made from milk. What is milk rich in?**

- A vitamin C
- B calcium
- C iron
- D fibre

Understand It with Pulse | Flag a mistake

39 **A device works at 230 V with a current of 5 A. What is its power?**

- A 575 W
- B 2300 W
- C 1160 W
- D 1150 W

Understand It with Pulse | Flag a mistake

40 **A tennis ball bounces. What happens to its kinetic energy?**

- A some becomes heat
- B it all stays kinetic energy
- C it disappears completely
- D it becomes light energy

Understand It with Pulse | Flag a mistake

41 **How can the risk from a radioactive source be reduced?**

- A by warming it up
- B keep distance, limit time
- C by holding it for longer
- D by looking at it closely, every day

Understand It with Pulse | Flag a mistake

42 **How much energy is needed to heat 5 kg of a substance with a specific heat capacity of 4200 J per kg per degree Celsius by 10 degrees Celsius?**

- A 210000 J
- B 105000 J
- C 21000 J
- D 420000 J

Understand It with Pulse | Flag a mistake

43 **A wave travels at 20 m/s with a wavelength of 10 m. What is its frequency?**

- A 1 Hz
- B 200 Hz
- C 2 Hz
- D 4 Hz

Understand It with Pulse | Flag a mistake

44 **Why is it hard to rely only on renewable energy?**

- A the supply is unsteady
- B it costs nothing to build
- C it makes too much waste
- D it works the same everywhere

Understand It with Pulse | Flag a mistake

45

Where is an electric field strongest?

A far from the charge

B in the middle of nowhere

C where there is no charge

D close to the charge

Understand It with Pulse | Flag a mistake

46

A passenger train brakes. What force slows it down?

A thrust

B lift

C gravity, pulling it down

D friction

Understand It with Pulse | Flag a mistake

47 **Hardcover books have mass. What is mass measured in?**

A newtons, the unit of force

B kilograms

C joules

D watts

Understand It with Pulse | Flag a mistake

48 **A 2 kg mass of ice melts. The specific latent heat of fusion of ice is 400 J/kg. How much energy is needed?**

A 800 J

B 1600 J

C 400 J

D 900 J

Understand It with Pulse | Flag a mistake

49 **Which type of wave is a sound wave?**

A transverse

B electromagnetic

C standing

D longitudinal

Understand It with Pulse | Flag a mistake

50 **Which energy resource is best for a windy island?**

A coal

B geothermal

C solar

D wind

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.