ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · UNIT 16 · 25 QUESTIONS

Waves and Radioactivity — 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 so it can be fixed.

1 **A passenger aeroplane cruises. Which force opposes its motion?**

- A thrust
- B drag
- C lift
- D weight

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

4 **A guitar string vibrates to make a sound. What type of wave is the sound wave?**

- A standing
- B longitudinal
- C electromagnetic
- D transverse

Understand It with Pulse | Flag a mistake

5 **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

6 **A set square measures angles. What is a right angle?**

- A 180 degrees
- B 90 degrees
- C 360 degrees
- D 45 degrees

Understand It with Pulse | Flag a mistake

7 **A sample has a half-life of 5 days. What percentage of the sample is left after 15 days?**

- A 6%
- B 24%
- C 88%
- D 12%

Understand It with Pulse | Flag a mistake

8 **An atom has a mass number of 16 and an atomic number of 8. How many neutrons does it have?**

- A 8
- B 7
- C 9
- D 10

Understand It with Pulse | Flag a mistake

9 **A wave travels at 20 m/s with a wavelength of 5 m. What is its frequency?**

- A 2 Hz
- B 8 Hz
- C 4 Hz
- D 100 Hz

Understand It with Pulse | Flag a mistake

10 **What is the law of reflection?**

- A angle of reflection is always 90 degrees
- B angle of incidence equals angle of reflection
- C light always reflects straight back
- D angle of incidence is double the angle of reflection

Understand It with Pulse | Flag a mistake

11 **What do all electromagnetic waves travel at in a vacuum?**

A the speed of sound

B different speeds

C the speed of light

D zero speed

Understand It with Pulse | Flag a mistake

12 **A sample has an activity of 800 counts per minute. After 2 half-lives, what is its activity?**

A 200

B 800

C 400

D 100

Understand It with Pulse | Flag a mistake

13 **Silver coins conduct electricity well. Why?**

A they are heavy

B they have free electrons

C they are shiny and reflective

D they are cold

Understand It with Pulse | Flag a mistake

14 **A wave has a frequency of 2 Hz and a wavelength of 10 m. What is its speed?**

A 10 m/s

B 40 m/s

C 12 m/s

D 20 m/s

Understand It with Pulse | Flag a mistake

15 **What is irradiation?**

A exposure to radiation

B a type of decay

C contamination with a source

D a type of fission

Understand It with Pulse | Flag a mistake

16 **A calculator is switched on. What does the battery transfer energy to?**

A the case

B the buttons only

C the screen only

D the circuits

Understand It with Pulse | Flag a mistake

17 **A kite flies in the wind. Which force holds the kite up?**

A weight

B drag

C lift

D thrust

Understand It with Pulse | Flag a mistake

18 **What does background radiation come from?**

A the Sun only

B rocks, air, space, medicine

C power stations only, nowhere else

D mobile phones only

Understand It with Pulse | Flag a mistake

19 **What happens when light passes from air into glass?**

A it slows and bends

B it speeds up and bends

C it stops

D it reflects back only

Understand It with Pulse | Flag a mistake

20 **A radioactive sample has an activity of 400 Bq. What is its activity after 2 half-lives?**

A 200 Bq

B 100 Bq

C 400 Bq

D 50 Bq

Understand It with Pulse | Flag a mistake

21 **What is an echo?**

A a reflected sound wave

B a high pitched sound

C a loud sound

D a refracted sound wave

Understand It with Pulse | Flag a mistake

22 **A Ferris wheel turns. What force keeps a person moving in a circle?**

A gravity only, pulling them down

B air resistance pushing them back

C friction only, gripping the seat

D centripetal force

Understand It with Pulse | Flag a mistake

23 **A wave has a frequency of 4 Hz and a wavelength of 3 m. What is the wave speed?**

- **A** 24 m/s
- **B** 6 m/s
- **C** 12 m/s
- **D** 17 m/s

Understand It with Pulse | Flag a mistake

24 **Why is iodine-131 used to treat the thyroid gland?**

- **A** it stops all radiation
- **B** it makes the thyroid grow
- **C** it goes to the thyroid
- **D** it is absorbed by the bones

Understand It with Pulse | Flag a mistake

25

A wristwatch measures time. What is the unit of time?

A the hour

B the minute

C the second

D the day

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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