ENGLAND GCSE PHYSICS OCR GATEWAY FOUNDATION · UNIT 6 · 25 QUESTIONS

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 to let Brett know so he can fix it.

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

- A the screen only
- B the buttons only
- C the case
- D the circuits

Understand It with Pulse | Flag a mistake

2 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

- A impossible to tell
- B exactly normal
- C below normal
- D above normal

Understand It with Pulse | Flag a mistake

3 **A set square is placed on a mirror. What happens to light hitting the mirror?**

- A it reflects
- B it passes through
- C it refracts
- D it is absorbed

Understand It with Pulse | Flag a mistake

4 **Glass marbles are used to model atoms. What is a limitation of the model?**

- A marbles cannot be counted accurately at all
- B marbles are much bigger than atoms
- C marbles are the wrong colour for atoms
- D marbles are too small to see properly

Understand It with Pulse | Flag a mistake

5 **A kite rises higher. What happens to the wind speed usually?**

- A it increases
- B it stays the same
- C it becomes zero
- D it decreases

Understand It with Pulse | Flag a mistake

6 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

- A Si
- B S
- C Ag
- D Sv

Understand It with Pulse | Flag a mistake

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

- A 50 Bq
- B 400 Bq
- C 200 Bq
- D 100 Bq

Understand It with Pulse | Flag a mistake

8 **A sample has an activity of 3200 counts per minute. After 3 half-lives, what is its activity?**

- A 200
- B 400
- C 1600
- D 800

Understand It with Pulse | Flag a mistake

9 **Where does fusion happen naturally?**

A in the Sun

B in the Earth

C in the Moon

D in a power station

Understand It with Pulse | Flag a mistake

10 **What is nuclear fusion?**

A an atom losing electrons

B two light nuclei join together

C a nucleus breaking into protons

D a heavy nucleus splitting in two

Understand It with Pulse | Flag a mistake

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

- A air resistance pushing them back
- B friction only, gripping the seat
- C gravity only, pulling them down
- D centripetal force

Understand It with Pulse | Flag a mistake

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

- A 5
- B 6
- C 7
- D 8

Understand It with Pulse | Flag a mistake

13 **Why is americium-241 used in smoke alarms?**

A it detects heat

B it makes a loud sound when it sees smoke

C smoke stops its alpha particles

D it glows when there is smoke

Understand It with Pulse | Flag a mistake

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

A 88%

B 24%

C 6%

D 12%

Understand It with Pulse | Flag a mistake

15 **What is released when a uranium nucleus splits?**

A heat and oxygen

B protons and electrons

C light and sound only

D energy and neutrons

Understand It with Pulse | Flag a mistake

16 **Which type of radiation has the longest range in air?**

A alpha

B beta

C neutron

D gamma

Understand It with Pulse | Flag a mistake

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

A watts

B joules

C newtons, the unit of force

D kilograms

Understand It with Pulse | Flag a mistake

18 **Why do workers handling radioactive sources wear protective clothing?**

A to stop skin contamination

B to make them visible

C to block all radiation completely

D to keep them warm

Understand It with Pulse | Flag a mistake

19 **Which radiation is used to treat cancer?**

A gamma

B alpha

C beta

D neutron

Understand It with Pulse | Flag a mistake

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

A standing

B longitudinal

C transverse

D electromagnetic

Understand It with Pulse | Flag a mistake

21 **A wristwatch ticks every second. How many ticks in a minute?**

- A 12
- B 30
- C 60
- D 100

Understand It with Pulse | Flag a mistake

22 **A nucleus gives out a beta particle. What is the beta particle?**

- A pure energy
- B a fast electron
- C one proton
- D two protons and two neutrons

Understand It with Pulse | Flag a mistake

23 **A sample's activity halves every 5 years. After 10 years, what fraction of the original activity remains?**

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

25 **A radioactive sample has an activity of 1600 Bq. What is its activity after 2 half-lives?**

A 400 Bq

B 1600 Bq

C 800 Bq

D 200 Bq

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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