ENGLAND GCSE PHYSICS EDEXCEL HIGHER · 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 **Glass marbles are shaken in a tray. What does this model?**

- A particles gaining energy
- B particles freezing into place
- C particles disappearing completely
- D particles bonding together

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

- A watts
- B kilograms
- C newtons, the unit of force
- D joules

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

7 **Where does fusion happen naturally?**

A in a power station

B in the Sun

C in the Moon

D in the Earth

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 400

B 200

C 800

D 1600

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9

Where does nuclear fusion happen naturally?

A in the Moon

B in the Earth

C in power stations

D in the Sun

Understand It with Pulse | Flag a mistake

10

What does background radiation come from?

A the Sun only

B power stations only, nowhere else

C mobile phones only

D rocks, air, space, medicine

Understand It with Pulse | Flag a mistake

11 **A sample's activity halves every 100 years. After 200 years, what fraction of the original activity remains?**

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

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12 **Why is a short half-life source chosen for a medical tracer?**

- A it decays quickly
- B so it is cheaper to make
- C so it can be reused
- D so it stays in the body for years

Understand It with Pulse | Flag a mistake

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

A 8

B 6

C 5

D 7

Understand It with Pulse | Flag a mistake

14 **A nucleus gives out an alpha particle. What is the alpha particle?**

A one fast electron, like a beta particle

B pure energy

C two protons and two neutrons

D one proton only

Understand It with Pulse | Flag a mistake

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

A 800 Bq

B 200 Bq

C 1600 Bq

D 400 Bq

Understand It with Pulse | Flag a mistake

16 **What happens to the activity of a sample over time?**

A it falls

B it rises

C it stays the same

D it falls then rises

Understand It with Pulse | Flag a mistake

17 **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

18 **A sample has a half-life of 5 days. What percentage of the sample is left after 10 days?**

A 50%

B 25%

C 12%

D 75%

Understand It with Pulse | Flag a mistake

19 **Which releases more energy per kilogram of fuel, fission or fusion?**

A they release the same

B neither releases energy

C fission

D fusion

Understand It with Pulse | Flag a mistake

20 **What is contamination?**

A a type of fission that is uncontrolled

B radioactive material on a surface

C a type of decay that is dangerous

D exposure to radiation from a source

Understand It with Pulse | Flag a mistake

21 **A sample has an activity of 3200 counts per minute. After 2 half-lives, what is its activity?**

- A 800
- B 3200
- C 400
- D 1600

Understand It with Pulse | Flag a mistake

22 **Why is alpha used in smoke alarms?**

- A it is stopped by smoke
- B it is very penetrating
- C it is not ionising
- D it has a long half-life

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

25

Why is carbon-14 used to date old objects?

A it never decays

B it is found in all rocks

C it lasts thousands of years

D it glows in the dark, like a watch

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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