ENGLAND GCSE PHYSICS EDEXCEL 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 **Hardcover books are dropped. What happens to their speed as they fall?**

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

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

Understand It with Pulse | Flag a mistake

3 **A wristwatch is used to time a race. What is speed calculated from?**

- A distance only, not time
- B distance and time
- C time only, not distance
- D mass and time together

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

A marbles are the wrong colour for atoms

B marbles cannot be counted accurately at all

C marbles are too small to see properly

D marbles are much bigger than atoms

Understand It with Pulse | Flag a mistake

6 **A calculator runs on a small current. What is current measured in?**

A watts, the unit of power

B amperes

C volts, the unit of voltage

D ohms, the unit of resistance

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

- A it stays the same
- B it falls then rises
- C it falls
- D it rises

Understand It with Pulse | Flag a mistake

9 **In alpha decay, what happens to the mass number of the nucleus?**

A it falls by 4

B it rises by 4

C it falls by 2

D it stays the same

Understand It with Pulse | Flag a mistake

10 **Which type of radiation is stopped by aluminium?**

A beta

B alpha

C gamma

D neutron

Understand It with Pulse | Flag a mistake

11 **Why is fusion hard to use in a power station on Earth?**

A holding the hot fuel is hard

B there is no hydrogen on Earth

C fusion releases no energy

D fusion only works in space

Understand It with Pulse | Flag a mistake

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

A it needs no shielding

B it works without any fuel at all, for ever

C lots of energy from little fuel

D it produces no waste at all

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

15 **What is contamination?**

A exposure to radiation from a source

B a type of decay that is dangerous

C a type of fission that is uncontrolled

D radioactive material on a surface

Understand It with Pulse | Flag a mistake

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

A by looking at it closely, every day

B keep distance, limit time

C by holding it for longer

D by warming it up

Understand It with Pulse | Flag a mistake

17 **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

18 **An atom has a mass number of 23 and an atomic number of 11. How many neutrons does it have?**

- A 13
- B 14
- C 12
- D 11

Understand It with Pulse | Flag a mistake

19 **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

20 **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

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

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

Understand It with Pulse | Flag a mistake

22 **In beta decay, what happens to the mass number of the nucleus?**

- A it falls by 4, like in alpha decay
- B it stays the same
- C it rises by 1, like the atomic number
- D it falls by 1, like a proton

Understand It with Pulse | Flag a mistake

23 **What is a chain reaction in a nuclear reactor?**

- A the fuel burns in air
- B the reactor heats up and melts
- C electrons jump between shells
- D neutrons cause more fissions

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

Understand It with Pulse | Flag a mistake

25

Where does fusion happen naturally?

A in the Moon

B in a power station

C in the Sun

D in the Earth

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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