NEW BRUNSWICK SCIENCE 10 (SCIENCE FOR SUSTAINABLE SOCIETIES) · UNIT C · 25 QUESTIONS

Nuclear Technology, Atoms, and Chemistry Foundations — 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 **An atom has 6 protons and 6 neutrons. Its mass number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **An atom has 8 protons and 8 neutrons. Its mass number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **An atom has 11 protons and 12 neutrons. Its mass number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **An atom has atomic number 6 and mass number 14. Its number of neutrons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **An atom has atomic number 8 and mass number 18. Its number of neutrons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A neutral atom with 6 protons has how many electrons**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A neutral atom with 17 protons has how many electrons**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **Carbon 14 decays with a half life of 5730 years. After 5730 years the fraction remaining is one half written as a decimal**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **A sample decays through 2 half lives. The fraction remaining as a decimal is**

ANSWER _____

Understand It with Pulse | Flag a mistake

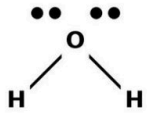
10 **A sample decays through 3 half lives. The fraction remaining as a decimal is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **The diagram shows a water molecule with oxygen in the centre and two hydrogen atoms below. Its shape is**

11 The diagram shows a water molecule with oxygen in the centre and two hydrogen atoms below. Its shape is



A bent
B linear
C tetrahedral
D square planar

A bent

B linear

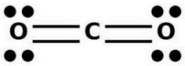
C tetrahedral

D square planar

Understand It with Pulse | Flag a mistake

12 **The diagram shows carbon dioxide with carbon in the centre and oxygen on each side. Its shape is**

12 The diagram shows carbon dioxide with carbon in the centre and oxygen on each side. Its shape is



A bent
B linear
C tetrahedral
D pyramidal

A bent

B linear

C tetrahedral

D pyramidal

Understand It with Pulse | Flag a mistake

13 **The nucleus of an atom contains protons and**

A electrons

B photons

C neutrons

D ions

Understand It with Pulse | Flag a mistake

14 **Electrons are found in regions around the**

A proton

B neutron

C ion

D nucleus

Understand It with Pulse | Flag a mistake

15 **Isotopes of an element have the same number of protons and different numbers of**

A neutrons

B electrons

C protons

D atoms

Understand It with Pulse | Flag a mistake

16 **Nuclear fission splits a heavy nucleus into**

A larger nuclei

B smaller nuclei

C electrons only

D photons only

Understand It with Pulse | Flag a mistake

17 **Nuclear fusion joins light nuclei to form a**

A lighter nucleus

B proton only

C heavier nucleus

D neutron only

Understand It with Pulse | Flag a mistake

18 **Alpha radiation is a stream of helium**

A electrons

B photons

C neutrons only

D nuclei

Understand It with Pulse | Flag a mistake

19 **Beta radiation is a stream of fast**

A electrons

B helium nuclei

C protons

D photons

Understand It with Pulse | Flag a mistake

20 **Gamma radiation is a form of high energy**

A particle beam of protons

B electromagnetic radiation

C sound wave

D heat only

Understand It with Pulse | Flag a mistake

21 **A half life is the time for half of a radioactive sample to**

A double

B freeze

C decay

D melt

Understand It with Pulse | Flag a mistake

22 **The atomic number of an element equals its number of**

A neutrons

B electrons + neutrons

C mass number

D protons

Understand It with Pulse | Flag a mistake

23 **An ion is an atom that has gained or lost**

A electrons

B protons

C neutrons

D nuclei

Understand It with Pulse | Flag a mistake

24 **The periodic table organises elements by atomic number and**

A colour only

B recurring properties

C mass only

D size only

Understand It with Pulse | Flag a mistake

25

A chemical bond forms when atoms share or transfer

A protons

B neutrons

C electrons

D nuclei

Understand It with Pulse

Flag a mistake

ANSWER KEY

1.	12	**10.**	0.125	**19.**	A
2.	16	**11.**	A	**20.**	B
3.	23	**12.**	B	**21.**	C
4.	8	**13.**	C	**22.**	D
5.	10	**14.**	D	**23.**	A
6.	6	**15.**	A	**24.**	B
7.	17	**16.**	B	**25.**	C
8.	0.5	**17.**	C		
9.	0.25	**18.**	D		

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