

11. Radioactivity is a \_\_\_\_\_ (A) Spontaneous activity (B) Chemical property

A. A & B

B. B & C

C. C & A

D. A B & C

**Answer:** Option c

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12. Energy liberated when one atom of U-235 undergoes fission reaction is

A. 200MeV

B. 40MeV

C. 30MeV

D. 20MeV

**Answer:** Option A

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13. Transuranic elements have atomic number

A. greater than 72

B. greater than 82

C. greater than 92

D. greater than 102

**Answer:** Option c

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14. Nuclear forces exist between

A. proton-proton

B. proton-neutron

C. neutron-neutron

D. all of the above

**Answer:** Option D

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15. Mass defect per nucleon is

A. binding energy of nucleus

B. packing fraction

C. average energy of nucleus

D. all of above are one and same thing

**Answer:** Option B

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16. Tick the correct statement

- A. moderators slow down the neutrons      B. moderators bring the neutrons to rest
- C. moderators absorb the neutrons      D. moderators reflect the neutrons

**Answer:** Option A

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17. The bombardment of nitrogen with  $\alpha$ -particles will produce

- A. neutron      B. Proton
- C. electron      D. positron

**Answer:** Option B

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18. Diameter of an atom is approximately

- A.  $10^{-12}\text{m}$       B.  $10^{-11}\text{m}$
- C.  $10^{-10}\text{m}$       D.  $10^{-14}\text{m}$

**Answer:** Option c

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19. Radioactive decay obeys which one of the following law?

- A.  $N = N_0 e^{-\lambda t}$       B.  $N = N_0 e^{\lambda t}$
- C.  $N = N_0 e^{-\lambda t/2}$       D.  $N = N_0 (1 + e^{\lambda t})$

**Answer:** Option A

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20. Average energy required to remove one nucleon from the nucleus is called

- A. binding energy per nucleon      B. energy of decay
- C. destruction energy      D. all of above

**Answer:** Option A