PHY202
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1. What happens to the atomic number and mass number of a nucleus that emits a gamma-ray photon?

both increase by a factor of 1

both decrease by a factor of 1

--->> both remains unchanged

difficult to determine

2. During the decay of a radionuclide, its half-life

decreases

--->> does not change

increases

difficult to determine

3. An alpha particle consists of

two protons and two neutrons

--->> two protons, two neutrons, and two electrons

two protons and two electrons

two electrons

4. The time in which half of any large sample of identical nuclei will undergo decomposition is called

mean life

decay constant

--->> half life

full life

5. The most penetrating of the following radiations is

electrons

positrons

alpha particle

6. If an atom's atomic number is given by Z, its atomic mass by A and its neutron number by N, which of the following is correct?

N = Z - A

--->> N = A -Z

N = A + Z

N = AZ

7. The reciprocal of half life of a nuclide is its

full life

mean life

--->> decay constant

none of the options

8. The rate of disintegration of a given nuclide at anytime t is directly proportional to the number of nuclei N of the nuclide present at that time

binding energy law

nuclear fusion law

--->> radioactive decay law

nuclear fission law

9. Radioactive decay is

instantaneous

random

statistical

--->> all of the options

--->> x-rays

electrons

positrons

alpha particles