Nuke Exam 3/17/06 3:45 PM

BLITZ: Ch 28 Nuclear

Form I-L

Name	 Period	

This is a Take Home Exam. You may use your notes but you may NOT use help from human beings. EXPLAIN IN COMPLETE SENTENCES AND GIVE EXAMPLES:

You MUST HAND WRITE THIS EXAM!! NO TYPED PAPERS WILL BE ACCEPTED!

*** COPY THESE EOUATIONS AND COMPLETE THEM ON YOUR PAPER:

1.
$$_{99}Es^{254} + _{2}He^{4} ---> ? + _{0}n^{1}$$

2.
$${}_{6}C^{12}$$
 + ? ---> ${}_{102}No^{254}$ + 2 ${}_{0}n^{1}$

3.
$$_{94}Pu^{239} + _{0}n^{1}$$
 ---> ?

4.
$$_{1}H^{2} + _{1}H^{3} ---> _{2}He^{4} + ?$$

5.
$$_{2}\text{He}^{4} + _{13}\text{Al}^{27} ---> _{14}\text{Si}^{30} + ?$$

6.
$$_{1}H^{2} + _{6}C^{12} ---> _{7}N^{13} + ?$$

7. ? +
$$_{0}n^{1}$$
 ---> $_{94}Pu^{241}$

8.
$${}_{5}B^{11} + {}_{94}Pu^{251} ---> ? + 3 {}_{0}n^{1}$$

9.
$$_{92}U^{238} + ? \longrightarrow _{92}U^{239}$$

$$10. \ _{3}\text{Li}^{6} \ + \ _{0}\text{n}^{1} \ ---> \ ? \ + \ _{1}\text{H}^{3}$$

Define these terms and give and example:

- 11. Mass number.
- 12. Isotope.
- 13. Atomic weight.
- 14. Proton.
- 15. Beta particle.
- 16. Diagram a Nuclear Reactor and tell the function of its parts.
- 17. Diagram a Nuclear Power Plant and compare it to a coal fired power plant.
- 18. Explain how Radioactive Dating tells us the age of ancient artifacts.
- 19. Explain Critical Mass and describe how to make a nuclear bomb.
- 20. Explain how to separate the isotopes of Uranium.

When finished, please STAPLE this exam onto your papers and turn in on due date.