Chemistry 1010 Quiz 4A October 2, 2006 Dr. B Jackson

31. Code A

32 - 34 Using the choices below, give the characteristic for the following types of radiation.

a) no mass - no charge
b) no mass - positive charge
c) no mass - negative charge
d) 4 AMU - negative charge
e) 4 AMU - positive charge

32. Alpha particle
33. Gamma rays
34. Beta radiation - Positron

35. $^{239}_{94}Pu$ ----------> $^{4}_{2}\alpha$ + _____

a) U b) Th c) Cm d) Pb

36. Bombarding uranium with a neutron causes a chain reaction. This is an example of nuclear

a) fission b) fusion

37. How many neutrons are released from the following reaction?

$$^{235}_{92}U + {}^{1}_{0}n \text{ ---------> } {}^{90}_{38}Sr + {}^{143}_{54}Xe + \_\_\_\_ {}^{1}_{0}n$$

a) 1 b) 2 c) 3 d) 4 e) 0

38. An element has a half life of 1 month. Given 1000 radioactive atoms, how many radioactive elements will remain after 3 months?

a) 333 b) 500 c) 250 d) 125 e) 62

39. $^{51}_{24}Cr$ is used in diagnosing the pathology of the spleen. The nucleus of this isotope captures an electron. What is the product?

a) Sn b) Te c) V d) Mn

40. Given : $^{141}_{56}B$ (boron) emits an electron. The resultant element will have an atomic number ___

a) the same as boron b) greater than boron c) less than boron