PH 203 Writ #1, Fall 2005 **Name _____**
Lesson 5 \ 30 Marks \ 10 minutes **Section 6, C Hour**

AUTHORIZED REFERENCE: Calculator, Physics Reference Card
Wt. No.

20 1. A sample of the medical isotope ^{137}Cs has an activity of 300.0 Bq. ^{137}Cs undergoes beta decay where the β particle has an energy of 1.18 MeV. A 52.0 kg lab technician walking by receives all of the radiation emitted by the sample for 10.0 seconds. Calculate the dose equivalent received by the technician if the RBE for the radiation is 0.958.

$H = 1.04 \times 10^{-11}$ Sv ans

10 2. Organize each of the following pairs of ionizing radiation from least to most penetrating (each part has an answer).

(a) γ versus β answer:__ β , γ _____
(b) n versus α answer:__ α , n_____
(c) β versus n answer:__ β , n_____