Menoufia University	Post Graduate Studies	Date: 24-12-2018
Faculty of Science	Radiation Physics Section	Time: 2 hrs
Physics Department	**Radiation Physics course**	

Answer the following questions:

Q-1 **[40 Marks]**

Q-1-a Define the following items:

Roentgen - Gy - W_R - W_T and MPD

Q-1-b

Sr-90 from the testing of atomic bombs can still be found in the atmosphere. Each decay of Sr-90 releases 1.1 MeV of energy into the bone of a person who has had Sr replace the calcium. If a 70-Kg person receives 1.0 ng of Sr-90 from contaminated milk, calculate the absorbed dose rate in one year; T [Sr] = 29.1y

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Q-2 **[50 Marks]**

Q-2-a Define the following items

Properties of a radiation shield – Practical methods to reduce dose – Lethal dose and LET.

Q-2-b What do you mean by depleted uranium, discuss the hazards from using DU weapons on human being.

Q-3 Write on <u>only one</u> of the following two subjects: **[35 Marks]**

a-Worker exposure to crude oil and natural gas industy.

b-Chernobyl disaster nuclear power plant

Q-4 **[55 Marks]**

Q-4-a What do you mean by somatic and Genetic effects of radiation on biological system

Q-4-b Difference between direct and indirect actions of radiation on human.

GOOD LUCK

PROF. A. HUSSEIN