**Q / Choice the correct answer:**

**1- The decay rate of radioactive source is measured in units of:**

 a. rads b. Curie c. Rems d. roentgens

**2- As the thickness of the absorber increases the transmitted intensity of the gamma ray……**

 a. double b. increases c. decreases d. remains constant

**3- The ………… are usually filled with noble gas (argon) at low pressure**

1. Scintillation b. Solid state counter c. G.M. counter d. none of them

**4- Evaluate the maximum energy of the beta particle emitted from Strontium-90, if you know the rang of beta particle in aluminum (13Al) material, expressed R is (297 g/cm2).**

 a. Em ≈ 533.8 KeV b. Em ≈ 546.7 KeV c. Em ≈ 543 KeV d. Em ≈ 552.2 KeV

**5-The linear absorption coefficient is measured in units of:**

 a. cm-1 b. gm/cm3 c. cm2/gm d. cm

**6- Calculate the peak amplitude (W1) for the (N1) data taken statistically, if you know that Nave=81 Count/20 Sec, N1=78 Count/20Sec.**

1. 4.2 x 10-1 b. 0.42 x 10-2 c. 4.2 x 10-3 d. 4.2 x 10-2

**7- How many radioactive disintegrations per second are defined as curie?**

1. 3.7×106 b. 3.7×1010 c. 1 d. none of them

**8- Cross section area can be defined as:**

1. The probability of occurring the reaction b. the area suggested by bombarding particle

 c. Both a and b d. none of them

**9-In the expression ε = 1- e–μ x for evaluating the efficiency of scintillation detector, x represents……..**

 a. distance between the radioactive source and detector b. diameter of the detector

 c. thickness of the radioactive source d. none of them

**10-** **Assuming the dead time of a G.M counter equals 1x10-3 sec, find the actual number of counts in one sec if the detection reads 3600 counts in 3 minutes.**

 a. ≈ 18.4 count/sec b. ≈ 19.4 count/sec c. ≈ 20.4 count/sec d. ≈ 21.4 count/sec