

## **APPENDIX I**

### List of Equipment

1. NIM Mini Bin
2. ORTEC 448 Research Pulser
3. TENNELEC TC242 Amplifier
4. ORTEC 550A Single Channel Analyser (SCA)
5. ORTEC 871 Timer /Counter
6. TENNELEC TC909 Power Supply
7. IWATSU Oscilloscope SS-7810 100MHz
8. Detector
9. RG 58 A/U Cables
10. RG 62 A/U Cable
11. LUDLUM Survey Meter
12. Personnel TLD
13. 150mm MITUTOYO Calliper
14. 1-meter Steel Rule
15. Electronic Balance (Max 40kg, d  $\pm 0.5$ g)
16. Electronic Balance (Max 100g, d  $\pm 0.0001$ g)
17. Laser Pen
18. Tongs

## APPENDIX II

### RADIOACTIVITY AND RADIATION PROTECTION

#### Unit of Activity (Curie)

$$1 \text{ Ci} = 3.7 \times 10^{10} \text{ disintegration/second}$$

$$\text{SI unit} = \text{Bequerel} \quad [1 \text{ Ci} = 3.7 \times 10^{10} \text{ Bq}]$$

$$1 \text{ Bq} = 1 \text{ disintegration/second}]$$

#### Unit of Exposure Dose (For X-ray and $\gamma$ -ray = Roentgen)

$$1 \text{ R} = 5.49 \times 10^7 \text{ MeV/g of air}$$

#### Unit of Absorbed Dose (rad)

$$1 \text{ rad} = 6.25 \times 10^7 \text{ MeV/g in any material}$$

$$\text{SI Unit} = \text{Gray}$$

$$1 \text{ Gy} = 1 \text{ Jkg}^{-1}$$

$$1 \text{ Gy} = 100 \text{ rad}$$

$$1 \text{ R} = 1 \text{ rad} = 0.01 \text{ Gy}$$

#### Unit of Dose Equivalent

$$\text{rem} = \text{rad} \times Q \quad [Q = \text{quality factor, } Q(\text{gamma}) = 1]$$

$$100 \text{ rem} = 1 \text{ Sv}$$

$$1 \text{ rem} = 10 \text{ mSv}$$