

List of Tables

2.1	Literature survey of major contributing research works utilizing Monte Carlo Simulation routines	30
3.1	Central axis Depth dose calculated for on axis cylinder of radius 1 cm	49
3.2	Central axis photon fluence spectrum for four different field size.	54
3.3	Contributions of direct and scatter photon to photon total energy fluence for a field size of $10 \times 10 \text{ cm}^2$.	59
4.1	MLC leakage calculated for 6 MV photon beam for different field sizes.	71
4.2	Comparison of relative depth doses for MLC blocked and jaw define Open fields at two reference depths for different field sizes.	73
4.3	Surface doses for MLC and jaw define fields for different field sizes.	77
5.1	Comparison of calculated and measured central-axis depth-dose profiles for different field sizes.	87
5.2	Comparison of measured and calculated lateral dose profiles at 10 cm depth.	88
5.3	Ratios of absolute depth doses for flattening filter free to standard flattened beams at two reference depths for different field sizes .	89
5.4	Comparison of relative depth doses for flattening filter free to standard flattened beams at two reference depths for different Field sizes .	92
5.5	PDDs for first scoring voxels as an indication of the surface dose for different field Sizes.	98
5.6	Total scatter factor S_{cp} of 6 MV photon beams measured for with and without a flattening filter in beam line .	99

5.7	The ratio of maximum to minimum dose in lateral profiles within 80% of field Size for 6MV photon beams with and without a flattening filter .	104
5.8	Profile parameters for unflattened 6-MV photon beams.	110
6.1	Unflattened 6MV photon beam profile parameters calculated for jaws only and MLC only defined field sizes.	124
6.2	Ratios of absolute depth doses for unflattened to flattened beams at two reference depths for different field sizes.	135
6.3	Relative depth doses Comparison of flattened and unflattened beams at two reference depths for different field sizes.	137
6.4	MLC leakage calculated for 6 MV photon beam deliver with or without flattening Filter in beam line for different field sizes.	137
6.5	Total scatter factor S_{cp} calculated for 6 MV photon beams delivered with three different modes.	139