

## LIST OF TABLES

Table No.	Title	Page No.
1.1	Pyrochlore ( $A_2B_2O_6O'$ ) Structure data	4
2.1	Actual weights of different ingredients taken during the preparation	30
2.2	Miller indices and hkl planes for $Ce_2 Ti_2O_7$	42
2.3	Miller indices and hkl planes for $Ce_{1.8} Nd_{0.2} Ti_2O_7$	42
2.4	Miller indices and hkl planes for $Ce_{1.6} Nd_{0.4} Ti_2O_7$	43
2.5	Miller indices and hkl planes for $Ce_{1.4} Nd_{0.6} Ti_2O_7$	43
2.6	Miller indices and hkl planes for $Ce_{1.2} Nd_{0.8} Ti_2O_7$	44
2.7	Miller indices and hkl planes for $Ce Nd Ti_2O_7$	44
2.8	Lattice parameters and Bond lengths.	46
2.9	Values of x-ray density, particle size, percentage porosity and volume density	47.
2.10	Special position with space group $Fd3m$ of the $A_2B_2O_7$ Pyrochlores.	48
3.1	Activation Energy in eV for all Compositions.	68
5.1	Activation Energy in eV for all Compositions.	107