List of Tables

Table *Title* *Page*

Table 2.1: Housing scenario at Rajasthan (based on the material used in wall construction) [*Source:* Census of India, 2011] 8
Table 2.2: Villages in the different states of India without sterile drinking water facility [*Source*: Kalkoti, 2013] 11
Table 2.3: Popular ceramic water filter technology around the world 12
Table 2.4: Example of statistical correlation between assumed predictor variables $X1, X2$ and $X3$ 25
Table 2.5: Statistical correlation between dimensionless orthogonal new predictor variables: $v1$, $v2$ and $v3$ 26
Table 3.1: Compositional formula for MM-EO composites 33
Table 3.2: Measurement of groundwater quality characteristics used for the manufacture of MM-EO composite samples [Jain, 2014] 36
Table 3.3: Chemical composition (weight % and atomic %) of MM (EDS, Carl Zeiss EVO 18 SEM, IIT Jodhpur) 37
Table 3.4: Chemical composition (weight % and atomic %) of EO (EDS, Carl Zeiss EVO 18 SEM, IIT Jodhpur) 38
Table 3.5: Chemical composition (in weigth %) of distinct MM-EO composites at 28-day age (XRF, Bruker S4 Pioneer facility at AIRF, Jawaharlal Nehru University at New Delhi, India) 38
Table 3.6: Modelling density variation as a function of time 40
Table 3.7: Modelling density variation in MM-EO composites as a function of independent variables time and parameter characterizing these composites 40
Table 3.8: Multi-parameter regression framework with a coefficient of determination and error of the model represented by Eq.(3.13) 42
Table 3.9: Regression framework with a coefficient of determination and model error for Eq.(3.15) 42
Table 3.10: Regression model for prediction of flexural strength of MM-EO composites as a function of T and Xmm 46
Table 4.1: Chemical characteristics of water in Pachpadra [Paramasivam and Mhaisalkar, 1990] 54
Table 4.2: Chemical constituents present in red and off-white water pots 59
Table 4.3: The regression models for compressive stress conforming to Eq.(4.2) for both off-white and red water pots 61
Table 5.1: Results of E. Coli filtration efficiency test of the G-filters 73