
List of Tables

Table No.	Title	Page#
Table 1.1	Classification of gas sensors	3
Table 1.2	Commercial and available electronic nose instruments	9
Table 1.3	Some industry based applications of gas sensors, gas involved and the gas sensors used	10
Table 1.4	Brief summary of signal preprocessing techniques employed to the sensors's signals	17
Table 2.1	Summary of some reported dopants used for SnO ₂ and the gases to which they show good sensitivity	52
Table 2.2	The geometrical details of fabricated thick film sensor array	55
Table 2.3	Some important material characteristics of Al ₂ O ₃ as substrate	58
Table 3.1	Classification results for Dataset-1 using PCA and BPNN	110
Table 3.2	Classification results for Dataset-1 using LDA and BPNN	110
Table 3.3	Classification results for Dataset-2 using PCA and BPNN	111
Table 3.4	Classification results for Dataset-2 using LDA and BPNN	111
Table 4.1	Summary of classification results for combined dataset using ASM method with BPNN	128
Table 4.2	Summary of simultaneous quantification results for combined dataset using ASM method	131
Table 4.3	Summary of classification results for exposure and recovery transients individually	134
Table 4.4	Simultaneous concentration estimation results summary for response and recovery data analyzed individually	134
Table 5.1	Classification results (gating network) obtained with BPNN	156
Table 5.2	Classification results (gating network) obtained with <i>nu</i> -SVM	156
Table 5.3	The results of the quantification of acetone, 2-propanol and their binary mixture	156