

List of Figures

Figure 2.1 Pre-defined initial solution Heuristic and neighborhood	16
Figure 3.1 Illustration of adjacency condition of jobs i and j	30
Figure 3.2 Illustration of non-adjacency condition of jobs i and j	31
Figure 3.3 Network representation of illustrative example 2	34
Figure 3.4 Relationship between the computational time and number of jobs.	38
Figure 4.1 Regroup of particles	45
Figure 4.2 Resize of particles	45
Figure 4.3 The selection scheme of job A and B of LIP	47
Figure 4.4 Repairing approach after LIP and VNS	49
Figure 5.1 The matrix representation of individual particle X_k^t	62
Figure 5.2 Position value matrix of particle k^{th} at iteration t (X_k^t).....	64
Figure 5.3 Assignment priority matrix of particle X_k^t (AP_k^t).....	64
Figure 5.4 Actual assignment after feasibility checking.	65
Figure 5.5 Position value matrix of particle X_k^t after <i>repairing</i>	65
Figure 5.6 Care worker schedule before application of LIP.....	70
Figure 5.7 Assignment priority matrix of particle X_k^t (AP_k^t) after repairing.....	72
Figure 5.8 Response table for S/N ratio and means and main effects plots (data means) for the Taguchi experiment	74
Figure 5.9 Response table for S/N ratio and means and main effects plots (data means) for the refining experiment.....	75
Figure 5.10 Graphical representation of results of PSO and previous solution techniques	77
Figure A.1 Illustration of adjacency condition cases 1– 6.....	91
Figure B. 1 Illustration of non-adjacency condition case 1.....	93