

7.9 CONCLUSION

This chapter has proposed new combined dispatching rules for scheduling in a dynamic job shop. These rules are based on the additive combination of the process time, total work-content of jobs in the queue for the next operation of a job, and arrival time. An extensive simulation experiment has been carried out to evaluate the performance of various dispatching rules. It has been found that no single rule is effective in minimizing all measures of performance. The performance of two combined rules, FIFO and SPT, was found to be quite significant in minimizing the most performance measures. For minimizing the percentage of tardy jobs, the LIFO rule continues to be the best. For minimizing mean flow time, the combination of the SPT rule. For most cases, it has been observed that the two proposed combined rules, viz. FIFO and SPT, emerge to be the best for the objectives of minimizing the maximum tardiness and variance of tardiness. The results also indicate that future research could be directed towards the development of rules by combination of more than two rules so that the performance measures can be further optimized.