PREFACE

Power utilization is one of the significant discriminating issues when taking care of the requests of different applications and resource scheduling of the grid. Decreasing the execution time is one of the significant performance parameters during the process of scheduling the tasks. Execution time might be lessened by expanding clock recurrence. Performance and the power utilization have a trade-off between them. This work reduces the power consumption, but tries to improve performance.

In chapter 1 we discuss about the introduction and the state of art related to the topics of power utilization, task scheduling in grid environment.

In chapter 2 we mainly concentrated on analyzing the frameworks which are presented in order to reduce the power utilization without affecting the execution time.

In chapter 4 the power utilization is reduced by considering the execution time in the workflow scheduling using the PERMA framework which uses proposed OPSA-G algorithm. The mapping of the available task T to the available resource R is made by using the OPSA-G algorithm.

Chapter 5 explains the searching of honey-bee, a natural phenomenon applied to the method of distributed biased random sampling in order to maintain the load.

The resource scheduling proposed in the chapter 6 is to minimize the number of preemptions of tasks. The unavailable periods in fine grained
cycle sharing systems in the combination of local and global tasks are analyzed in the prediction method.

Finally the chapter 7 discuss about conclusion and future contributions.