CERTIFICATE

This is to certify that the minor project entitled "**Optimization of Task Scheduling in Cloud Computing Environments**" has been submitted by Ronak Bhoi bearing Roll number (15BTCSE16), in partial fulfillment of the requirements for the award of the Degree of **Bachelor of Technology** in Computer Science and Engineering. This record of bonafide work carried out by Ronak Bhoi under my guidance and supervision. The result embodied in this project report has not been submitted to any other university or institute for the award of any degree.

Mr. Debashreet Das	Mr. Sibarama Panigrahi	Dr. Sudarson Jena
Asst.Professor & Guide	Faculty in-charge, B.Tech	Associate Professor & HOD
Dept. of CSE&A	Dept. of CSE &A	Dept. of CSE &A

DECLARATION

I do hereby declare that the work embodied in this minor project report entitled "**Optimization of Task Scheduling in Cloud Computing Environments**" is the outcome of genuine work carried out by me under the direct supervision of Mr. Debashreet Das, Asst.Professor Dept. of CSE&A, Department of Computer Science Engineering and Application is submitted by me to Sambalpur University Institute of Information Technology, Burla for the award of the degree of Bachelor of Technology. The work is original and has not been previously formed the basis for the award of any other degree or diploma.

Ronak Bhoi

(15BTCSE16)

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ABSTRACT

Cloud computing has become a known term in the field of high performance distributed computing systems as it provides several benefits like extra battery life, more storage and scalability, it also provides on-demand access to many shared pool resources over internet in self-service, it is dynamically scalable and metered manner. However there still some changes are needed in order to different algorithm that is used in past to obtain a better efficient performance in scheduling various kinds of tasks. The goal of scheduling is to map tasks to appropriate resources that optimize one or more objective with a less computation time. But due to large solution space thus it takes a very long time to find an optimal solution for scheduling tasks. There are no algorithms which may produce optimal solution within polynomial time, to solve these problems. In the cloud environment, it is preferable to find suboptimal solution, but in short period of time. Metaheuristic based techniques have been proved to achieve near optimal solutions within reasonable time for such problems. In this paper, it is discussed an extensive survey and comparative analysis of various scheduling algorithms for cloud environments based on these popular metaheuristic techniques: Ant Colony Optimization (ACO), Monarch Butterfly Optimization (MBO) and Particle Swarm Optimization (PSO)

KEYWORDS: Cloud computing, Task scheduling, Ant colony Optimization, Particle swarm Optimization, Monarch Butterfly Algorithm.

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