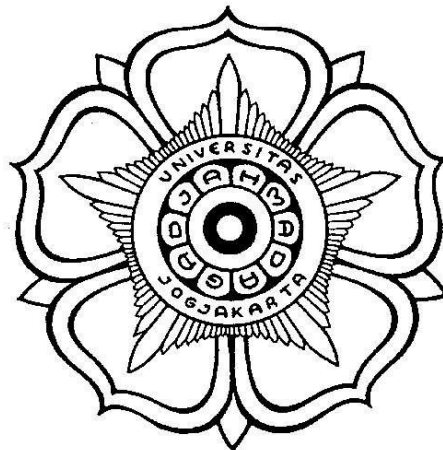


**SOLVING A MULTI-OBJECTIVE SUSTAINABLE LOCATION-
ROUTING PROBLEM USING DISCRETE MULTI-OBJECTIVE SINE-
COSINE ALGORITHM (CASE STUDY IN DAERAH ISTIMEWA
YOGYAKARTA, INDONESIA)**

OPTIMASI RANTAI PASOK MENGGUNAKAN PENDEKATAN MULTI-
OBJECTIVE SUSTAINABLE LOCATION-ROUTING PROBLEM DAN
DISCRETE MULTI-OBJECTIVE SINE-COSINE ALGORITHM
(STUDI KASUS DI DAERAH ISTIMEWA YOGYAKARTA, INDONESIA)

Thesis



By :

Setyo Tri Windras Mara

17/419667/PTK/11777

**MASTER PROGRAM OF INDUSTRIAL ENGINEERING
DEPARTEMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING
FACULTY OF ENGINEERING
UNIVERSITAS GADJAH MADA
YOGYAKARTA**

2019