



**BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE
PILANI**

CERTIFICATE

This is to certify that the thesis entitled “**Development of Energy Management System for Microgrid Operations**” submitted by KHALID ANWAR, ID.No. 2013PHXF0601H for award of Ph.D. degree of the institute embodies original work done by him under my supervision.

Signature in full of the Supervisor _____

Name : **Dr. Sandip S. Deshmukh**

Designation : **Associate Professor, Department of Mechanical Engineering**

BITS Pilani, Hyderabad Campus

Date _____