

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**BELGAUM 590 018**



**A REPORT ON PROJECT WORK**

**DESIGN AND IMPLEMENTATION OF A BIDIRECTIONAL POWER  
CONVERTER FOR ELECTRIC BIKE WITH CHARGING  
FEATURE**

(Sponsored by KSCST, BENGALURU)

*Submitted in the partial fulfillment of the requirements for the award of the degree of*

**BACHELOR OF ENGINEERING**  
*in*  
**ELECTRONICS & COMMUNICATION**

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**PROJECT GUIDE**

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## **ABSTRACT**

This project deals with the energy recycling and energy management in electric bikes. The main structure of a bidirectional converter as applied in electric bike consists of cascade motors, which transfers the energy stored in battery for driving motor1 and to recycle the energy resulted from the back electromotive force (BEMF) to recharge the battery. Charging of the battery can also be provided by AC mains when charge goes low. Here we are using the microcontroller P89V51RD2 to control the LCD, used to display the battery as well as the BEMF voltages.