VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"DESIGN AND IMPLEMENTATION OF HYDROGEN FUEL CELL WITH MODIFIED PROTON EXCHANGE MEMBRANE"

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

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

Name	USN
Shreya S Poojary	4AL16EC074
Veronica Gudagur	4AL16EC091
Bhavya G B	4AL17EC400

Under the Guidance of
Dr. D V MANJUNATHA
Sr. Professor & HOD
Department of E&C Engineering

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225.

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MOODBIDRI – 574 225

(Affiliated to VTU, **BELAGAVI**)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "**DESIGN AND IMPLEMENTATION OF HYDROGEN FUEL CELL WITH MODIFIED PROTON EXCHANGE MEMBRANE**" *is a bona fide work carried out by*

SHREYA S POOJARY	**4AL16EC074**
VERONICA GUDAGAR	**4AL16EC091**
BHAVYA G B	**4AL17EC400**

in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2019–2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Signature of the Guide	**Signature of the H.O.D**	**Signature of the Principal**
Dr. D V Manjunatha	**Dr. D V Manjunatha**	**Dr. Peter Fernandes**
	Dept. Of Electronics & Communication Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225	PRINCIPAL Alva's Institute of Engg. & Technology, Mijar, MOODBIDRI - 574 225, D.K

EXTERNAL VIVA

Name of the Examiners	Signature with date
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ABSTRACT

Hydrogen fuel cell having hydrogen and oxygen as fuel. The oxygen and hydrogen are converted into electricity and then the heat is produced, and the method also generates water. This is related in moderate words to the great variety of batteries we commonly use. The batteries contain all of the essential chemicals within, and when the chemical supply is reduced, they seize to function. The other hand fuel cell s remains. Proton membrane fuel cells (PEMFCs) are analyzed in the twenty century as a technology able to generate effective and safe power.

Proton exchange membranes (PEMs) are the main components of the fuel system. The researcher s focused on high proton conductivity, low electronic conductivity, low fuel permeability, low electro osmotic drag coefficient, good chemical / thermal stability, good power and low cost properties. These are classified into the "iron triangle" performance, durability and cost. Current PEMFC technology is based on expensive perflourinated proton exchange membranes (PEMs) that only operate efficiently under fully hydrated conditions. There is large application-interest in reducing the membrane costs.