# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama" Belagavi – 590018

## PROJECT REPORT ON

# "DELINEATION OF GROUND WATER POTENTIAL ZONES AT MOODBIDRI BY ELECTRICAL RESISTIVITY AND REMOTE SENSING TECHNIQUE"

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

Sponsored by Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru – 560 012

**BACHELOR OF ENGINEERING**
**IN**
**CIVIL ENGINEERING**
**Submitted By**


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**Under the Guidance of**
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**ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**
**SHOBHAVANA CAMPUS, MIJAR, MOODBIDRI – 574 225.**


**2018-19**

# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

**(A Unit of Alva's Education Foundation®, Moodbidri)**

**"Shobhavana", Mijar, Moodbidri – 574 225, D.K.**

**DEPARTMENT OF CIVIL ENGINEERING**

# Certificate

This is to certify that following students

| Name | USN |
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Has submitted Final report on **"DELINEATION OF GROUND WATER POTENTIAL ZONES AT MOODBIDRI BY ELECTRICAL RESISTIVITY AND REMOTE SENSING TECHNIQUE"** for VIII Semester Bachelor of Engineering in Civil Engineering during the academic year 2018-19.The final 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 Project Guide | Signature of the Project HOD | Signature of the Project Principal |
|---|---|---|
| Dr. H G Umeshchandra | Dr. H. Ajitha Hebbar | Dr. Peter Fernandes |

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1.

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# ABSTRACT

A geophysical survey conducted in the Moodbidri and nearby the area of North-East part of Dakshina Kannada district using electrical resistivity method. A total 20 vertical electrical soundings has been taken to depict groundwater potential zone in the area under study and also understand the thickness of weathered zone/formation relevant to groundwater behaviors of aquifers in alluvium and in the trap rock.

Water plays a vital role in the development of agricultural activities in the study area. The surface water resources are inadequate to fulfill the water demand. Productivity through groundwater is quite high as compared to surface water, but groundwater resources have not yet been properly exploited. Keeping this view, the present study to delineate various groundwater potential zones for the assessment of groundwater availability in the Moodbidri Sub-basin, Netravati River and Dakshina Kannada. 20 Schlumberger Vertical Electrical Sounding (VES) survey were carried out in the study area. The field data were interpreted by IGIS-VES software to determine the resistivity and thickness of the different layers. Results of geophysical data were used to prepare spatial distribution map using GIS. Integration analysis was carried with thickness of first and second layer fracture zone with the corresponding resistivity maps. This map was superposed over geology map. The suitable potential zones for groundwater were delineated from first layers combinations of low resistivity with more thickness in areas occupied by Granites gneiss, Magnetite complex and Charnockite. The depth for the construction of tube-wells and dug-wells were suggested. The spatial distribution variations in different resistivity layer results are given in the findings.