

**MATLAB BASED COMPUTATIONAL FRAMEWORK FOR
MICROSTRUCTURAL BONE DYNAMIC MODEL AND
EVALUATION**

(SPONSORED BY K.S.C.S.T., BANGALORE)

*A Project Report
submitted in partial fulfillment of the requirements
for the award of the Degree of Bachelor of
Engineering in Bio-medical Engineering
of the Visvesvaraya Technological University, Belgaum*

Submitted by

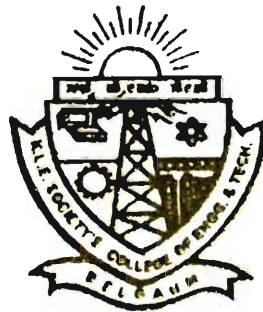
Syed Awais Barmawar

Sandesh Pingat

Sumayya Khanzade

Under The Guidance of

Prof. R. H. Havaladar



Department of Biomedical Engineering

**K.L.E SOCIETY'S
COLLEGE OF ENGINEERING AND TECHNOLOGY
UDYAMBAG, BELGAUM – 590 008**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
2011-2012**

ABSTRACT

Bone mineral density is one of the component, which specifies the quality of bone. To evaluate and analysis the bone strength, microstructure of bone is required, so we develop a bone Micro structural model depending on the values of nodes and edges obtained by SEM (Scanning Electronic Microscopy), where edges represents the fibers and nodes represents the fiber bonding points. This model is processed in MATLAB, which calculate the number of nodes and edges and these values are compared with the standard values which provides the result in terms of the state of the bone that is whether the bone is healthy or diseased.