**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**JANA SANGAMA, BELAGAVI -590018**



**Technical Seminar**

**On**

**“An Improved Hearing Aid Fitting Journey; The Role Of 3D Scanning, Additive Manufacturing, And Sustainable Practices”**

**Submitted By**

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**(1SG19ME037)**

**UNDER THE GUIDANCE OF**

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**(Accredited by NBA)**

**SAPTHAGIRI COLLEGE OF ENGINEERING**

**(Affiliated to Visvesvaraya Technological University, Belagavi& Approved by AICTE, New Delhi.)**

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# CERTIFICATE

This is to certify that **Mr. U P K SWAMY (1SG19ME037)** bonafide student of **Sapthagiri College of Engineering, Department of Mechanical Engineering** has satisfactorily presented a Technical Seminar entitled on **“An Improved Hearing Aid Fitting Journey; The Role Of 3D Scanning, Additive Manufacturing, And Sustainable Practices”** in partial fulfilment of the requirements as prescribed by **Visvesvaraya Technological University, Belagavi,** for the award of **Bachelor Degree** in **Mechanical Engineering** during the academic year 2022-23.

**Signature of Seminar Coordinator**

**Signature of Head Of Dept**

**Signature of Guide**

Mr. Anil Kumar P R Dr. Basavaraju S Dr. Tulsidas D

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**U P K SWAMY**

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**ABSTRACT**

Three-dimensional (3D) printing is commonly associated with rapid prototyping. Here, we extend 3D printing as a tool to validate a digital methodology of taking ear canal impressions for hearing aids. The central research question that this work addresses is whether external scanners can be adapted to scan human ear canals accurately and efficiently for hearing aid fitting. A comparison of different contact- less scanning technologies determined that structured light scanning is the best suited technology to be adapted into a contactless ear scanning methodology. Furthermore, we show that this method of scan- ning ears directly, without taking an impression, reduces ground transportation and therefore lowers the global warming potential.

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