Karnataka State Council for Science and Technology
(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru - 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

Mr. H. Hemanth Kumar
Executive Secretary

Ref: 7.1.01/SPP/10

19th April 2021

The Principal,
Alva's Institute of Engineering and Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

Dear Sir/Madam,

Sub : Sanction of Student Project - 44th Series: Year 2020-2021
Your Project Proposal Reference No. : ***44S_BE_1159***
Ref : Your Project Proposal entitled " ***SUBSTITUTE FOR AN AMPUTATED HAND USING A BIONIC ARM***

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 44th Series" with a budgetary break-up as detailed below:

Student / s	Mr. Sachin Krishna Moger	**Budget**	
	Ms. Bindu N R	**Particulars**	**Amount (Rs.)**
	Mr. Nishantha V R	Materials/Consumables	5,000.00
	Ms. Yashwitha C N	Labour	-
Guide/s	Mrs. Nishma	Travel	500.00
		Miscellaneous	500.00
Department	Electronics And Communication Engineering	Report	500.00
		Total	**6,500.00**
	SIX THOUSAND FIVE HUNDRED RUPEES ONLY		

The following are the guidelines to carryout the project work :

a) The project should be performed based on the objectives of the proposal sent by you.

b) The project should be completed in all respects and softcopy of the full report in a CD (single file .pdf format only) should be submitted to KSCST.

c) Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST.

d) Please quote your **project reference number printed above** in all your future correspondences.

e) **Important:** After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and should include following :

1) Title of the project
2) Name of the College & Department
3) Name of the students & Guide(s)
4) Keywords

PRINCIPAL
Alva's Institute of Engg. & Technology,
MIJAR, MOODBIDRI - 574 225, D.K

6) Introduction / background **44S_BE_1159**

(with specific reference to the project, work done earlier, etc) - about 20 lines

6) Objectives (about 10 lines)

7) Methodology (about 20 lines)

(materials, methods, details of work carried out, including drawings, diagrams etc)

8) Results and Conclusions

(about 20 lines with specific reference to work carried out)

9) Scope for future work (about 20 lines).

(Note: The write-up (Synopsis) should be sent with the approval of project guide. The softcopy of the write-up, in MS Word format, should be sent by e-mail (spp@kscst.iisc.ernet.in). In your e-mail, please also include project proposal reference number and title of the project.)

The sanctioned amount will be sent to the Principal / Head of the Institute by NEFT details provided by the college/institution.

The sponsored projects evaluation will be held in the Nodal Centre /online platform and the details of the same will be intimated shortly by e-mail / Website announcement.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Thanking you and with best regards,

Yours sincerely,

(H. Hemanth Kumar)

Copy to (by email):

1) Dr. Kiran B Malagi
SPP Coordinator
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

2) Mrs. Nishma
Department of Electronics And Communication Engineering
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

3) The Finance Officer, KSCST, Bangalore

Encl: As Above

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Mijar, MOODBIDRI - 574 225, D.K

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"SUBSTITUTE FOR AN AMPUTATED HAND USING A BIONIC ARM"

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

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

Name	USN
NISHANTHA V R	4AL17EC063
YASHWITHA C N	4AL17EC099
BINDU N R	4AL17EC101
SACHIN KRISHNA MOGER	4AL17EC103

Under the Guidance of
Mrs. NISHMA
Assistant Professor
Department of E&C Engineering

ALVA'S
Education Foundation®

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225

2020-2021

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

MOODBIDRI – 574 225

(Affiliated to VTU, **BELAGAVI**)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

*Certified that the project work entitled "***SUBSTITUTE FOR AN AMPUTATED HAND USING A BIONIC ARM***" is a bonafide work carried out by*

NISHANTHA V R	**4AL17EC063**
YASHWITHA C N	**4AL17EC099**
BINDU N R	**4AL16EC101**
SACHIN KRISHNA MOGER	**4AL17EC103**

in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2020-2021. 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**
Mrs. Nishma	**Dr. D V Manjunatha**	**Dr. Peter Fernandes**
	H.O.D 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
1.	.....
2.	.....

ABSTRACT

For people who are physically challenged with the upper limb, performing daily activities, even simple basic tasks can be impossible or very distressing. People who have lost their arm frequently face traumatizing situations and often face difficulties even while walking due to body imbalance. Even though there are many bionic arms available these days, people often discard the idea of buying and using them due to their very high cost. People who earn average wage can't afford the bionic arms due to their complex design. They also give up on the idea of buying these prosthetic devices due to their complications in usage. Many arms require the users to know many complex steps in order to mount these arms onto their body. Due to many reasons, prosthetic arms are not as famous even though they are very helpful.

This project proposes a system that will help the physically challenged to use the bionic arm which is affordable, simple to use and is not a burden in terms of aesthetics. Using simple design tweaks, the number of components used in the bionic arm design can be significantly reduced. This reduction in the number of components drastically brings down the price of the prosthetic arm which is very affordable to a person who is earning an average wage. The reduction of components also reduces the delay in the bio – feedback system of the bionic arm thus giving a natural feel while using the prosthetic device. The device is also 3D printed thus increasing the adaptability and weighs less thus increasing the portability of the device. A portable power supply is also used thus increasing the portability of the prosthetic arm furthermore.