



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

("ವಿಜಯ ಅಧಿನಿಯಮ ೧೯೯೪" ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)  
'ಜ್ಞಾನ ಸಂಗಮ', ಒಳಗಾವಿ - ೫೯೦ ೦೧೮ ಕರ್ನಾಟಕ ರಾಜ್ಯ

Visvesvaraya Technological University

(State University of Government of Karnataka Established as per the VTU Act, 1994)

"Jnana Sangama", Belagavi-590 018, Karnataka State, India

Prof. A. S. Deshpande B.E., M.Tech., Ph.D.  
REGISTRAR

Phone: (0831) 2498100  
Fax: (0831) 2405467

Ref: VTU/Aca./A4/2021-22/2631/13

Date: 12 0 SEP 2021

To,

The Principal,  
PES Institute of Technology & Management,  
NH-206, Sagar Road,  
Shivamogga-577204.

Sir,

Sub: Sanction of Financial Assistance for 2020-21 to the  
Innovative Project of UG Final Year students of your Institution.reg.  
Ref: No.VTU/BGM/PS/2021-22/545, dated 06.05.2021

With reference to the above subject, please find herewith a D.D Bearing No 643486,  
dated 09.09.2021 of Rs. 30,000/- (Rupees Thirty Thousand Only) towards the sanction of  
financial assistance to the selected Innovative projects of UG final year students of BE / B.Tech.

Further, you are hereby informed to distribute the amount to the concerned students and  
get an acknowledgement for the same.

Original copy of the acknowledgements should be submitted to the undersigned on or  
before 30th September 2021.

Encl: as above

HOD Dept. of EEE  
PESITM, SHIVAMOGGA-577 204

REGISTRAR  
18/9/21

Ad  
- offer  
- to HOD/CSK, ISK, MK,  
ICES KEE

Principal

Inward No. .... 470  
Department. ....  
Date of Inward Entered. 28/09/2021  
Sign of the Principal. ....

28/9

PES Institute of Technology & Management  
NH 206, Sagar Road, SHIVAMOGGA-577 204







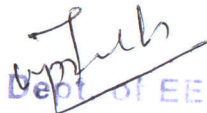
Visvesvaraya Technological University  
"JnanaSangama" : Belagavi  
590018  
Karnataka, India.  
Tele: 0831-2498225 ,2405454

## VTU Sponsored Student Project Proposal Format

01	Academic Year :	2020-2021	
02	Semester :	8	
03	Name of the Collage:	PES INSTITUTE OF TECHNOLOGY AND MANEGEMENT SHIVAMOGGA-577204	
04	Branch:	Electrical And Electronics Engineering	
05	Project Title:	IOT based Solar Powered Forest Fire Early Detection and Prevention with Anti-Smuggling System	
06	Project Discipline:	Environment safety methods	
07	Principal	Name:	Dr.Chaitanya Kumar
		Contact No:	9845346072
		Email id:	principal_pesitm@pes.edu
08	HOD	Name:	Dr.Om Prakash Yadav
		Contact No:	8966000053
		Email id:	hodeee@pestrust.edu.in
09	Project Guide	Name:	Mr.Rudresh S J
		Contact No:	9845992180
		Email id:	rudreshsj@pestrust.edu.in
10	Project Co-Guide(if any)	Name:	----
		Contact No:	---
		Email id:	---
11	Project Committee coordinator (Identified by the college) :	Name:	Dr. Basavarajappa Y H
		Contact No:	9242851012
		Email id:	hodme@pestrust.edu.in

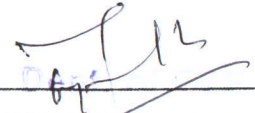
  
Principal  
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HOD Dept. of EEE  
PESITM, SHIVAMOGGA-577 204

12	Name of project group Members	
	1 .Group leader and Member	
	Name:Noorani Tehreen	
	USN No. 4PM17EE029	
	Contact No:7204966084	
	Email id:ntehreen.1999@gmail.com	
	2.Member	
	Name:Pooja M	
	USN No. 4PM17EE031	
	Contact No:9008611933	
	Email id:poojashreem1999@gmail.com	
	3 .Member	
	Name:Prakruthi M J	
	USN No. 4PM17EE036	
	Contact No:9916885532	
	Email id:prakruthi.m.jgowda@gmail.com	
4.Member		
Name:Usha H		
USN No. 4PM17EE051		
Contact No:9902552720		
Email id:ushahdm123@gmail.com		
13	Processing Fee Details	Bank name : NA
		Branch : NA
		DD number with date : NA
		OR Cheque no with date :  HOD Dept of EEE PESITM, SHIVAMOGGA-577 204

14	Scope / Objectives of the project:	<p>1. The main goal of this project is to design and develop IOT based solar powered forest fire detection with illegal tree cutting prevention using Arduino and Node MCU microcontroller.</p> <p>2. To restrict the smuggling of trees and to save the forests around the globe.</p>
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15	<b>Methodology of work:</b> (Including diagram, flow chart and design calculations)	<p>The proposed project comprises a solar panel, Arduino microcontroller, Node MCU microcontroller, GPS module, water pump and various other sensors which include flame sensors, temperature sensors, smoke sensors and MEMS accelerometer sensor.</p> <p>A flame-sensor is one kind of detector which is mainly designed for detecting as well as responding to the occurrence of a fire or flame. The flame detection response can depend on its fitting. This sensor detects flame otherwise wavelength within the range of 760 nm – 1100 nm from the light source. When fire burns it emits a small amount of Infra-red light, this light will be received by the Photodiode (IR receiver) on the sensor module. Then we use an Op-Amp to check for change in voltage across the IR Receiver, so that if a fire is detected the output pin will be LOW and if there isn't any fire, the output pin will be HIGH.</p> <p>All these sensors and modules are controlled by the Arduino microcontroller which is an 8-bit microcontroller consisting of ATmega328P. Along with this another microcontroller is used called Node MCU. The Node MCU microcontroller is an IOT based device. In this project the Node MCU is used to send the different parameter values like sensor value, GPS coordinates and motor status to the web server in real time.</p> <p>At the time of an incident like forest fire or illegal tree cutting an email will be sent to the authorities using Node MCU because of this the Node MCU requires an active Wi-Fi connection to work. The Block Diagram of proposed system is shown in fig 1.</p>
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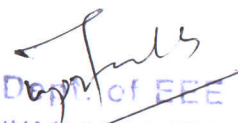
  
 P. SHIVAMOGGA

  
 Principal

		<p style="text-align: center;">Fig 1: Block Diagram of proposed system.</p>
16	Expected Outcome of the project:	<p>This project uses multiple sensors like temperature sensor, flame sensor and smoke sensor in order to detect the fire, in case of a fire the water pump will turn on to extinguish the flame along with this a notification email will be sent to the authority including the GPS coordinates of the location.</p> <p>This project also includes detection of tree smuggling, where the sensor attached to the tree will trigger, if the smuggler tries to cut down the tree. In this case also a notification email will be sent to the authority including the GPS coordinates of the location.</p> <p>Overall this project will definitely help in detecting and preventing spreading of forest fire and tree smuggling.</p>
17	Application of the project :	<p>The main applications of this project are</p> <ol style="list-style-type: none"> <li>1. Early detection and prevention of forest fire.</li> <li>2. Detection of tree smuggling.</li> </ol>

18	Budget details with Materials required:	1.Arduino + cable = 600 2.Nodemcu + cable = 600 3.Temperature Sensor = 300 4.Flame = 300 5.Mems Sensor =300 6.Smoke Sensor =300 7.GPS =1500 8.Water pump = 300 9.Set up board=1200 10.Multimeter=600  <b>Total=6000 Rs</b>
19	Date of commencement of the Project:	November 24,2020
20	Probable date of completion of the project:	July 24,2021
21	Duration of project work :	8 months
22	Pert chart for completion of the project in said duration as per planned activities:	

Sl.No	Activities Planned	1 Month/ Week	2 Month/ Week	3 Month/ Week	4 Month/ Week	5 Month/ Week	6 Month/ Week
01	Literature review						
02	Planning/ Designing						
03	Assembly/ Fabrication work						
04	Final Testing						
05	Result & Calculation/ Conclusion						
06	Preparation of Report & Submission						

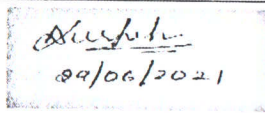

  
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## DECLARATION BY THE STUDENTS

We, the project group members hereby declare that the details enclosed in the project proposal are true and correct to the best of our knowledge. We undertake to inform VTU, of any changes there in the project title, students name will be intimated immediately. In case, any of the above information is found to be false or untrue or misleading, we are aware that we may be held liable for it.

We are aware that the project group has to exhibit / demonstrate the project for evaluation in the VTU Regional centre and for exhibition at VTU, Belagavi. If the project group fails to attend the evaluation in Regional centre and for Exhibition in VTU Belagavi, the sponsored project amount will be returned back to VTU immediately

We also hereby, enclose the endorsement form to VTU, Belagavi.

SL.No	Name of the Student	Signature with date
01	Noorani Tehreen	 29/06/2021
02	Pooja M	 29/06/2021
03	Prakruthi M J	Prakruthi MJ 29-06-2021
04	Usha H	Usha.H 29/6/2021

  
HOD Dept. of EEE  
PESITM, SHIVAMOGGA-577 204

  
Principal



# PES INSTITUTE OF TECHNOLOGY & MANAGEMENT

NH-206, Sagar Road, Shivamogga - 577 204 Karnataka, India

**PESITM**  
education for the real world

An ISO 9001 : 2008 Certified Institute

Affiliated to Visvesvaraya Technological University, Belgaum

Telephone : 08182-640733/640734 Fax : 08182-233797

Approved by AICTE, New Delhi

E-mail : principal\_pesitm@pes.edu 08182 - 640732 (Dire)

Recognised by Govt. of Karnataka

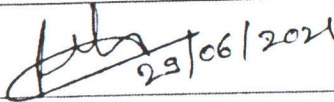
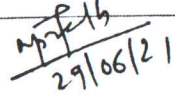
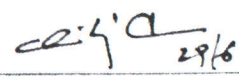
Website : pestrust.edu.in/pesitm

## ENDORSEMENT

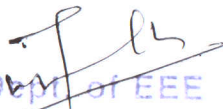
This is to certify that

- 1] Noorani Tehreen
- 2] Pooja M
- 3] Prakruthi M J
- 4] Usha H

Are bonafide students of Department in Electrical and Electronics Engineering of our institution. If the project proposal submitted by these students under VTU Sponsored Student Project Proposal is selected by VTU, we will provide the required laboratory / Computer / infrastructure support in our college / Institution. Further we also take necessary steps that the project group will exhibit / demonstrate their project in the Regional centre and for exhibition at VTU, Belagavi. If the student group fails to attend the evaluation in Regional centre and exhibition at VTU Belagavi, the supported project amount will be returned back to VTU immediately.

Signature of Project Guide with date	Signature of HOD with Seal and date	Signature of the Principal with Seal and date
 29/06/2021	 29/06/21	 29/6
Name: Mr. Rudresh S J	Name: Dr. Om Prakash Yadav HOD Dept. of EEE	Name: Dr. Chaitanya Kumar Principal PES Institute of Technology & Management NH-206, Sagar Road, SHIVAMOGGA-577 204

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Principal



Ref No/PESITM/EE/2021/0001

Date: 23<sup>rd</sup> June 2021

## **PROCEEDINGS OF THE COMMITTEE FOR SELECTION OF PROJECTS**

The following are the minutes of meeting details which was held for the faculty members of the Electrical department in relation to the subject of "*Financial Assistance for Innovative Projects for the Final Year under Graduate students for the year 2020 – 2021*" on 23<sup>rd</sup> June 2021 at 10:15 am.

**Place of Meeting:** Seminar Hall.

**Minutes of Meeting:**

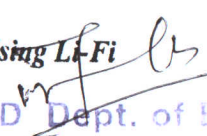
- The meeting has been started with the welcoming of all the committee members by the Institute Project Committee Coordinator under the chairmanship of the Principal, PESITM.
- Dr. Basavarajappa Y H; HOD/ME and Institute Project Committee Coordinator called this meeting in order to have an in depth discussion on the selection of innovative projects of the final year under graduate students to be sent to VTU for financial assistance.
- As per the requirements of the committee formation; two senior faculty members of the department Mr. Rudresha S J and Mr. Kiran Kumar G R were present in the meeting. All the modalities of selecting innovative projects from a group of all the final year under graduate students projects have been discussed in length by highlighting all the possible pro's and con's.
- At last, two projects have been unanimously finalized as the innovative projects to be sent to VTU for the financial assistance from the department level. The project title of the selected two projects are as follows:

- 1) *IOT Based Solar Powered Forest Fire Early Detection And Prevention With Anti-Smuggling System*
- 2) *Advanced Agricultural Controlling And Monitoring Of Greenhouse Using Li-Fi Technology*



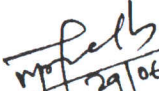
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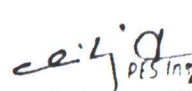


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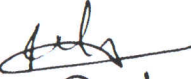

- HOD thanked all the committee members and concluded the meeting.


  
29/06/2024  
Dr. Omprakash Yadav.  
HOD / EEE


  
Dr. Basavarajappa Y. H.  
VTU Nominee (IPCC)

  
Principal  
PES Institute of Technology & Management  
Dr. Chaitanya Kumar M.A., SHIVAMOGGA-577 204  
Principal, PESITM & Chairman (IPC)

Copy to:

1. Mr. Rudresha S J (Member) - 
2. Mr. Kiran Kumar G R (Member) - 

  
HOD Dept. of EEE  
PESITM, SHIVAMOGGA-577 204

  
Principal  
PES Institute of Technology & Management  
NH 206, Sagar Road, SHIVAMOGGA-577 204.