KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science campus, Bengaluru

FORMAT FOR STUDENT PROJECT PROPOSAL FOR THE

44th SERIES OF STUDENT PROJECT PROGRAMME

(Hand written proposals will not be accepted, please fill all the details in this MS word file as per the following format. Kindly take a photocopy of completely filled project proposal and Demand Draft for filling up the Google Forms.)

https://forms.gle/yqSYxZRP6uJsP5QA8

1.	**Name of the College :** DAYANANDA SAGAR ACADEMY OF TECHNOLOGY AND MANAGEMENT
2.	**Project Title :** AUTOMATIC SOIL NUTRIENTS AND CROP DETECTION USING IOT AND MACHINE LEARNING
3.	**Branch :** COMPUTER SCIENCE AND ENGINEERING
4.	**Theme (as per KSCST poster) :** AUTOMATION OR NEW CONCEPTS IN AGRICULTURE (CULTIVATION, RAISING CROPS, IRRIGATION ETC.)
5.	**Name(s) of project guide(s) :** **Name: Prof.** ANOOP G L **Email id :** gl.anoop@dsatm.edu.in **Contact No. :** 9986870274
6.	**Name of Team Members (Strictly not more than four students in a batch):** *(Type names in Capital Letters as provided in your college)* (Please paste the latest passport size photograph adjacent to your respective names) **Name:** SONAL S UDAPUDI **USN No.:** 1DT17CS094 **Email id:** sonaludapudi51@gmail.com **Mobile No:** 7619116338 **Name:** ARAVIND E M **USN No.:** 1DT18CS402 **Email id:** aravind3350@gmail.com **Mobile No.:** 9742996454

	Name: SONIKA R **USN No.:** 1DT17CS094 **Email id:** r.sonika027@gmail.com **Mobile No.:** 9449620027 **Name:** PRASAD SHIVAM **USN No.:**1DT16CS066 **Email id:** prasadshivam69@gmail.com **Mobile No.:** 7019839328
7.	**Team Leader of the Project :** **Name:** SONAL S UDAPUDI **USN No. :** 1DT17CS094 **Email id :** sonaludapudi51@gmail.com **Mobile No. :** 7619116338
8.	**Processing Fee Details (Demand Draft should be drawn from Canara Bank / State Bank of India only):** **(processing fee of Rs. 1000/- drawn in favor of Secretary, KSCST, Bangalore – 12)** **Demand Draft No. :** 391395 **Date :** 24/12/2020 **Bank name :** STATE BANK OF INDIA **Note :** Please write Team leader name, Contact No., Project Title and Name of the College on the backside of the DD.
9.	**Date of commencement of the Project :** 22/10/2020
10	**Probable date of completion of the project :** 24/03/2021
11	**Scope / Objectives of the project :** 1. Quality of the soil is a measure of soil fertility, observing the nutrients in the soil leads to plant life prediction. 2. The amount of macro and micronutrients, pH, and water measured then one can predict the fertility and protect plant life. 3. The objective of this project is propose design of a system which will detect the soil nutrients and necessary will automatically dispense the fertilizer in the soil. 4. There is a need for soil analysis to be made available to the farmer. Farmers are waiting for the results from the laboratory but it is a time-consuming process so that for effortless testing of soil automatic soil testing is useful.

12 **Methodology :**

1. Study of the problem statement:

The problems associated with the manual soil laboratory testing and the irrational usage of fertilizer are rectified and designed a new portable system to overcome those problems.

2. Model:

The model is designed by using IOT(Internet of Things).

3. Selection of sensors:

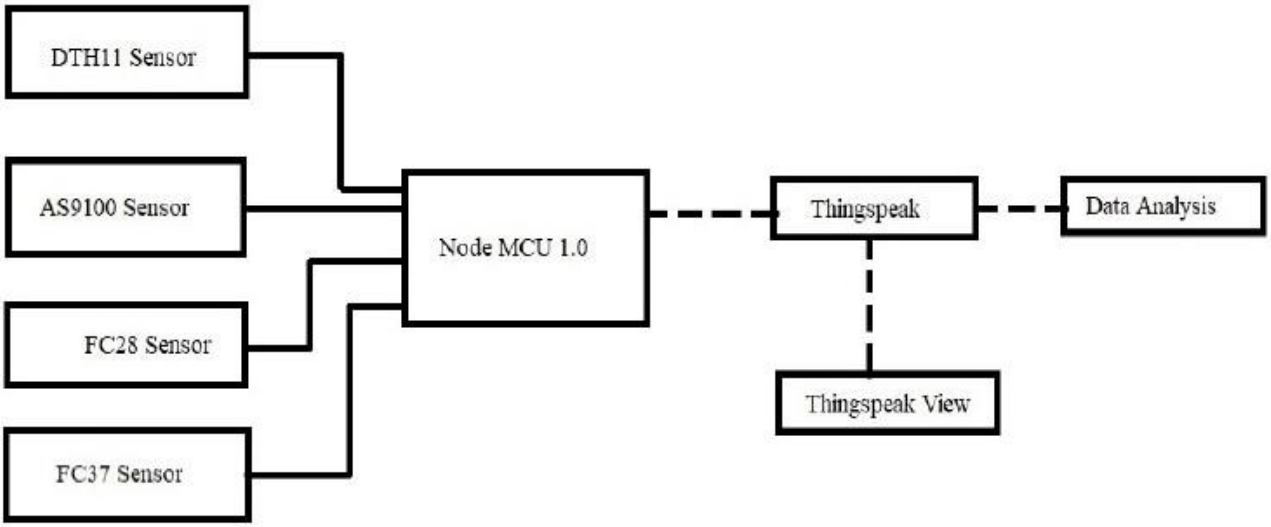
Selection of the sensor is a major problem because it depends on the climatic condition and location of the field so, by using these sensors it's easy to calculate the soil fertility.

4. Selection of material:

The choice of materials for these project is the first and most important factor for automotive design. In this we used Main units of the system are Arduino Mega2560, tcs3200 color Sensor, pH Electrode LCD, Rain sensor, humidity sensor.

5. Demonstration and troubleshooting:

Solution aims to restore the level of phosphorous, potassium & Nitrogen by measuring soil nutrients using a chemical process by using some sensors and adding the proper amount of fertilizers in the soil to support the plant growth and achieve better yield, this automatic detection and dispensing of fertilizers leads to solution for avoiding excess/deficient fertilizers in soil.



Note: In case of fabrication work in the project, an engineering drawing with dimensions / detailed design should be attached to the proposal.

13 **Expected Outcome of the project :**

1. Solution aims to restore the level of phosphorous, potassium & Nitrogen by measuring soil nutrients using a chemical process .
2. using some sensors and adding the proper amount of fertilizers in the soil to support the plant growth and achieve better yield, this automatic detection and dispensing of fertilizers leads to solution for avoiding excess/deficient fertilizers in soil.

14 **Is the project proposed relevant to the Industry / Society or Institution? :**

Yes / No : Yes

If Yes, Please provide details of the Industry / institution and contact details :

This project is done for the society purpose to help for all the farmers to grow their crops easily and in great manner in chemical free crops with well resistant crop and give high yield.

(**Note:** Preference will be given to those projects relevant to the industry / institution. Hence be specific in giving detailed information). Is the industry extending support - technology / funds / use the final product, please specify.

15 **Can the product or process developed in the project be taken up for filing a Patent?**

Yes / No : NO

Prior Art search done?

Yes/No : NO

Note: If Yes, you may contact Patent Information Centre of KSCST for more details

Email : patent@kscst.iisc.ernet.in

16 **Budget details (break-up details should be given) :**

Note : KSCST will provide nominal grant support for carrying out the project by students if selected by the project selection committee.

Budget	Amount
a) Materials / Consumables	7,000.00
b) Labor	1,000.00
c) Travel	2,000.00
d) Report	500.00
e) Miscellaneous	500.00
Total	11,000.00

17 **Any other technical details (Please specify) :**

1. Portable device which can be used for multipurpose.
2. It can be used for Green House plantation, Home Gardening, etc,.

18 **SPP Coordinator (Identified by the college) :**

Note: To be identified by the principal of the institution. The project proposals must be submitted to KSCST through SPP coordinator designated by the Principal.

	Name : Dr. Sumithra Devi K A **Email id :** deanacademics@dsatm.edu.in **Contact No. :**9945004632

(Name &Signature of Project Guide with Seal)

Email id: gl.anoop@dsatm.edu.in

Contact No.: 9986870274

(Name &Signature of HOD with Seal)

Email id: hodcse@dsatm.edu.in

Contact No.: 9972634890

DECLARATION

(From Project Students)

We, the project team hereby declare that the details enclosed in the project proposal are true and correct to the best of our knowledge and belief and we undertake to inform KSCST of any changes therein in the project tile, 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 hereby authorize sharing of the project information with this project proposal with the Karnataka State Council for Science and Technology, Bangalore.

We are aware that the project team has to exhibit / demonstrate the project in the nodal centre and interact regarding project with the experts and to exhibit the project in the State Level Seminar and Exhibition (if selected). If the student team fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned back to KSCST.

We also hereby, enclose the endorsement form to KSCST, Bengaluru.

Name of the students	**Signature with date**
1. SONAL S UDAPUDI	
2. SONIKA R	
3. ARAVIND E M	
4. PRASAD SHIVAM	

ENDORSEMENT

(From College, endorsement to be taken in the institution / Department Letter head)

This is to certify that **1) Ms**. **Sonal S Udapudi**, **2) Ms**. **Sonika R 3) Mr**. **Aravind E M**, **4) Mr. Prasad Shivam**, are bonafide student(s) of **Department of Computer Science and Engineering**. in the degree program of our institution. If the project proposal submitted by these students under the 44th series of Student Project Programme is selected by KSCST, we will provide the requisite laboratory / Computer / infrastructure support in our college / Institution. Further we also take necessary steps to see that the project team will exhibit / demonstrate their project in the nodal centre and in the State Level Seminar and Exhibition (if selected). If the student team fails to send the completed project report or fails to attend the evaluation in nodal centre or fails to attend the State Level Seminar and Exhibition, the supported project amount will be returned back to KSCST.

(Name & Signature of Project Guide with Seal)	**(Signature of HOD with Seal)**	**(Signature of the Principal with Seal)**
Email id: gl.anoop@dsatm.edu.in	**Email id:** hodcse@dsatm.edu.in	**Email id:** principal@dsatm.edu.in
Contact No.: 9986870274	**Contact No.:** 9972634890	**Contact No.:** 9845394870