KSCST

Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Telefax: 080-23348840

Email [redacted], office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

office.kscst@iisc.ac.in

Mr. H. Hemanth Kumar
Executive Secretary

16th March 2020

Ref: 7.1.01/SPP/953

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

Dear Sir/Madam,

Sub : Sanction of Student Project - 43rd Series: Year 2019-2020

Your Project Proposal Reference No. : ***43S_BE_0155***

Ref : Your Project Proposal entitled " ***AQUAPONICS SYSTEM:IoT BASED INNOVATIVE PLANT CULTIVATION AND FISH FEEDING SYSTEM***

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 43rd Series" with a budgetary break-up as detailed below:

Student / s	Ms. Samruddi Shetty	**Budget**	
	Ms. Meghana Naik	**Particulars**	**Amount (Rs.)**
	Ms. H M Milana	Materials/Consumables	3,000.00
	Ms. Parinitha	Labour	-
Guide/s	Ms. Vanyashree	Travel	-
	-	Miscellaneous	500.00
Department	Information Science And Engineering	Report	500.00
		Total	4,000.00
	Four Thousand 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 one copy of the hardbound report along with softcopy of the full report in a CD (.pdf format) 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 435_BE_0155

(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.)

e) Projects selected for Seminar / Exhibition will be awarded.

The sanctioned amount will be sent through crossed cheque to the Principal. Please furnish the bank account details as per the format enclosed with this letter.

The sponsored projects evaluation will be held in the Nodal Centre and the details of the nodal centre 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,

(Dr. Hemanth Kumar)

Copy to:

1) The Head of the Department of
Information Science And Engineering
Alva'S Institute Of Engineering And Technology,
Moodbidri - 574 225.

2) Ms. Vanyashree
Department of Information Science And Engineering
Alva'S Institute Of Engineering And Technology,
Moodbidri - 574 225.

3) The Finance Officer, KSCST, Bengaluru

Encl: As Above

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Dist. MOODBIDRI - 574 225, D.K

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA CAMPUS, BELGAVI-590018

PROJECT REPORT

On

"AQUAPONICS SYSTEM: IOT BASED INNOVATIVE PLANT CULTIVATION AND FISH FEEDING SYSTEM"

Submitted by

HM MILANA	**4AL15IS010**
MEGHANA NAIK	**4AL16IS029**
PARINITHA KP	**4AL16IS034**
SAMRUDDI SHETTY	**4AL16IS047**

In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In INFORMATION SCIENCE AND ENGINEERING under the Guidance of

Ms. VANYASHREE, M.Tech

Assistant Professor

ALVA'S

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

ALVAS INSTITUTE OF ENGINEERING AND TECHNOLOGY

Moodbidri-574225, Karnataka

2019– 2020

ALVAS INSTITUTE OF ENGINEERING AND TECHNOLOGY MIJAR, MOODBIDRI D.K. -574225

KARNATAKA

ALVA'S

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

CERTIFICATE

Certified that the project work entitled "Aquaponics System: IoT Based Innovative Plant Cultivation and Fish Feeding System" is a bonafide work carried out by

HM MILANA	**4AL15IS010**
MEGHANA NAIK	**4AL16IS029**
PARINITHA KP	**4AL16IS034**
SAMRUDDI SHETTY	**4AL16IS047**

In partial fulfillment for the award of BACHELOR OF ENGINEERING in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2019-2020. 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.

Ms. VANYASHREE	**Mr. JAYANTKUMAR A. RATHOD**	**Dr. PETER FERNANDES**
Project Guide	**Head of the Department**	**Principal**
	Dept. Of Information Science & Engineering Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225	PRINCIPAL Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225, D.K

Name of the Examiners **Signature with Date**

1.

2.

ABSTRACT

Getting appropriate water source for fish and plant cultivation seems difficult. Moreover, the agricultural production is decreasing due to narrower lands so that land- and water-saving technology combined with a variety of vegetable is important to produce maximum yield. Aquaponics is a sustainable agriculture system in a symbiotic environment by combining aquaculture and hydroponics. This water system should flow on the planting medium periodically to ensure the plants get the nutrients, while the water can be filtered properly by the medium. Aquaponics is a system which amalgamates the aquaculture & hydroponics that grows fish and plants together in one system. It utilizes fish wastes to provide essential nutrients to the plants and in reciprocation the plants will purify the water and gives it back to the fishes. The purport of this paper is to build an efficient system by implementing aquaponics system by utilizing the technology of IOT (Internet of Things). By engendering an automated System with the avail of sensors interfaced with the Arduino board, it possible to automate fish victualing and water supply to the plants at the conventional interval of time. Subsisting system that coalesces these technologies must overcome the fundamental issues like cost, victuals quality control and circumscribed grow. In this paper we intend to propose a kit which contains all these features mentioned above, and that is auxiliary to provide the rudimental organic vegetation for the abode along with Aquaculture farmers and exporters conventionally face concerns cognate to data of their farm, while utilizing digital apps (Mobile Applications). Due to Rapid hypoxia of the aquaculture water is one of the important factors that cause large area death of the aquaculture animals. The monitoring for the dissolved oxygen (DO) of the aquaculture water is very important to the safety of the aquaculture production. An intelligent monitoring system for DO of the aquaculture water is designed which provides a powerful technology method for maintaining the DO level of the aquaculture water in a good range. This research designed a smart aquaponics system that could control and monitor the degree of acidity, water level, water temperature, and fish feed that were integrated with internet-based mobile application.