

Approval of job oriented certificate courses in Agricultural Engineering at College of Agricultural Engineering & Technology, Navsari Agricultural University, Dediapada.

:: જાહેરનામું ૧/૨૦૨૪ ::

આથી સંબંધકર્તાઓને જણાવવામાં આવે છે કે, નવસારી કૃષિ યુનિવર્સિટીની નવસારી ખાતે તા. ૦૧/૧૦/૨૦૨૪ ના રોજ થયેલ ૫૩ મી વિદ્યાપરિષદની બેઠકની કાર્યવાહી નોંધના મુદ્દા નં ૫૩.૨૦ થી નીચે મુજબ ઠરાવ કરવામાં આવે છે.

### ઠરાવ

Resolved and approved the proposed job oriented certificate courses in Agricultural Engineering at College of Agricultural Engineering & Technology, Navsari Agricultural University, Dediapada as per Annexure I, II, III, IV, V, VI, VII.

જા.નં. કૃષ્ટેકો/વિદ્યાપ/ઠરાવ/ ૩૦૬૦ /૨૦૨૪  
દેડીયાપાડા તા. ૨૮/૧૦/૨૦૨૪

આચાર્ય  
કૃષિ ઈજનેરી અને ટેકનોલોજી કોલેજ  
નક્યુ., દેડીયાપાડા

### નકલ સવિનય રવાના:

- ૧ કુલસચિવશ્રી, નવસારી કૃષિ યુનિવર્સિટી, નવસારી
- ૨) સંશોધન નિયામકશ્રી, નવસારી કૃષિ યુનિવર્સિટી, નવસારી
- ૩) સર્વે આચાર્ય અને વિદ્યાશાખાધ્યક્ષશ્રી, નવસારી કૃષિ યુનિવર્સિટી, નવસારી
- ૪) સર્વે યુનિટ હેડ/યુનિટ અધિકારીશ્રીઓ તરફ
- ૫) જાહેરનામા ફાઈલ

## ANNEXURE I

### Short Term Certificate Course

**Course Title:** Survey, Designing, Installation, Operation & Maintenance of Drip Irrigation System

**Objectives:**

- a) To educate Agricultural Engineering students and rural youth about basics of drip irrigation system.
- b) To empower youth with skills of survey, designing, installation operation & maintenance of drip irrigation system.
- c) To make the trainees aware about Government policies, GGRS approved private companies' dealing in drip irrigation system.

**Course Director:** Dr. P.K. Shrivastava

**Course coordinator/s:** Dr. A. P. Lakkad and Dr. K. N. Sondarva

**Duration:** 6 days (4 hours/ day)

**Mode of Training:** Offline

**Trainee Eligibility:** Minimum 10<sup>th</sup> Pass

**Intake capacity:** 20 for Offline mode

**Registration fees:** Rs. 300

**Justification**

In the changing climatic situation water scarcity is the major issue which could only be dealt with efficient management of water resources. Large scale adoption of Micro irrigation is the solution to deal with water problems, but the biggest constraint is shortage of trained man power for survey, design, installation and maintenance of the drip system. Despite governments promotion the adoption rate of micro irrigation is very poor due to lack of technical support and high initial investments. To address the issue, a certificate course is proposed for the students of Agricultural Engineering interested rural youth of Dediapada. Tribal youth having land can fetch better returns from their farms and also help others in operation and maintenance of the drip system. It is necessary to empower the rural youth with sufficient skill about benefits of use of drip system and its various stages of adoption from Survey, designing, installation, operation & maintenance of drip system to improve their economic conditions and become rural entrepreneur by seeking dealership of drip systems.

**Program content:**

The program will comprise of following sessions and will cover the following topics:

**Session I: Farm Survey**

- Methods Farm/Field survey : GPS and Filed Measurement



## ANNEXURE II

### Short Term Certificate Course

**Course Title:** Introductory training on Fundamentals of remote sensing and GIS

**Objectives:**

1. To educate UG students about basics of remote sensing & GIS
2. To make the students aware about various applications of Remote sensing and GIS in Agriculture.
3. To give hands on experience in using remotely sensed images & GIS skills.

**Course Director:** Dr. P. K. Shrivastava

**Course coordinator/s:** Dr. K. N. Sondarva and Dr. A. P. Lakkad

**Duration:**

- CREDIT- 12 (4+ 8) (T+P) (12 hours) : Basic Learning's which includes Session I and Session II
- CREDIT- 20 (6+14) (T+P) (20 hours) : Basic + Advance Learning's which includes Session I, II , III and one case study.

**Mode of Training:** Offline

**Admission capacity:** 20

**Registration fees:** Rs. 100

**Justification**

The aim of this short term training program is to teach students, create awareness and promote students to earn by themselves using Remote sensing and GIS application in the field of Agriculture/ Agricultural Engineering/ Forestry/ Horticulture. Remote sensing and GIS works on the open source data which can be analyzed by different open source softwares. It is a very cost effective and time saving technology when used for application in large areas. The young generation is digital gadgets friendly; they are interested to get knowledge available on digital frame.

**Program content:**

The program will comprise of online sessions on the following topics:

**Session I:**

- Basic fundamentals of remote sensing and GIS.
- Different sensors use for collection of data.
- Applications in various fields of agriculture.
- Different open source data available and free of cost software useful in the RS & GIS.

**Session II: (Hydrologic modeling)**

- Hands on practice sessions.
- Delineation of watershed.
- Suitability analysis using different thematic maps.
- Assignment for practice.

### ANNEXURE III

#### Short Term Certificate Course

**Course Title:** Designing and Development of user-friendly small farm equipments.

**Objectives:**

1. To educate Agril. Engg. Students about basics of designing Agricultural Machinery.
2. To make the students aware about ergonomic designing procedure of small farm equipment.
3. To give hands on experience in fabrication of small farm equipments.

**Course coordinator/s:** Dr. Swagatika Jena and Dr. Hitesh Sanchavat

**Duration:**

- Four Days(4hours/ day) for both theory and practical

**Mode of Training:** Offline

**Admission capacity:** 10 to 20 for Offline mode

**Registration fees:** Rs. 500

**Justification**

The aim of this short-term training program is to teach students and rural youth about farm machinery design procedure. Consideration of ergonomic concept and its usefulness for making the small farm tools user friendly. The training program is to create awareness and develop entrepreneurial skills among the students in the field of Agricultural Engineering.

**Program content:**

The program will cover following topics:

Session I:

- Basic fundamentals of farm machinery design.
- Material selection for farm machinery

Session II:

- Detailed drawing of farm machinery
- Practical of welding, grinding, black smithy work etc.

Session III:

- Fabrication of small farm machinery tools hand wheel hoe, stalk puller & serrated sickle etc.
- Painting and practical demonstration in field condition.

**OUTCOME:** The course will be beneficial to students of engineering colleges who are desirous of seeking knowledge that is linked to their basic courses of design and development of farm machinery. It will enhance the employability of students, become entrepreneur or proceed for new start up.



ANNEXURE IV

SHORT TERM CERTIFICATE COURSE

**Course Title:** Value addition in fruits and vegetables of tribal region of South Gujarat

**Objectives:**

1. **Understanding Indigenous Crop Varieties:** To introduce the trainees to the diverse fruit and vegetable crops cultivated in the tribal regions of South Gujarat, focusing on their unique characteristics, nutritional value, and economic importance.
2. **Skill Development in Value Addition Techniques:** To equip trainees with practical knowledge and hands-on skills in value addition processes like preservation, dehydration, pickling, and production of processed goods from tribal fruits and vegetables.
3. **Community Development and Self-Reliance:** To encourage the involvement of rural youth in local food systems, enabling them to contribute to economic growth, nutritional security, and cultural preservation through the value-added processing of tribal crops.

**Course Director:** Dr. P.K. Shrivastava

**Course coordinator/s: PI:** Er. R. G. Burbade and **Co-PI:** Dr. S. N. Singh

**Duration:** 3 days (4 hours/ day)

**Mode of Training:** Offline

**Trainee Eligibility:** Minimum 10<sup>th</sup> Pass, 12<sup>th</sup> Pass, Any Diploma or Degree graduate.

**Intake capacity:** 25

**Registration fees:** Rs. 100

**Justification:**

The tribal region of South Gujarat is rich in biodiversity, especially in its variety of indigenous fruits and vegetables. However, a large portion of this produce is either underutilized or wasted due to lack of proper storage, processing, and marketing infrastructure. Value addition plays a pivotal role in enhancing the shelf life, nutritional value, and marketability of these crops, which in turn can significantly improve the livelihoods of tribal communities. By transforming raw produce into processed goods such as dried fruits, pickles, jams, and juices, farmers can tap into local, national, and international markets, ensuring a steady source of income. The scope of value addition in fruits and vegetables is vast, especially in a region like South Gujarat where traditional knowledge of cultivation exists but is often disconnected from modern processing technologies. This course is essential for bridging that gap by providing rural youth, as well as

ANNEXURE V

SHORT TERM CERTIFICATE COURSE

**Course Title:** Value addition in cereals and pulses of tribal region of South Gujarat

**Objectives:**

1. **Insightful interaction on Crop Produced in Tribal Region of South Gujarat:** to introduce the trainees about cereals and pulses crop cultivated in tribal region of South Gujarat and also knowing their physico-chemical properties. Also interacting with trainees about their potentials in food processing sector.
2. **Skills Development through various Unit Operations Techniques:** to equip trainees with practical knowledge and hands-on skills in cleaning, grading, drying & dehydration, milling and materials conveying systems for cereals and pulses crop cultivated in tribal region of South Gujarat.
3. **Skills Development through Value Addition Techniques:** to equip trainees with practical knowledge and hands-on skills in value additions through extrusion, baking and roasting process from cereals and pulses crop cultivated in tribal region of South Gujarat.
4. **Community Development and Self-Reliance:** To encourage rural youth in local food systems, enabling them to contribute to economic growth, nutritional food security and cultural preservation through the value-added processing of crops grown in the tribal districts.

**Course Director:** Dr. P.K. Shrivastava

**Course coordinator/s:** PI: Dr. S. N. Singhand Co-PI: Er. R. G. Burbade

**Duration:** 3 days (4 hours/ day)

**Mode of Training:** Offline

**Trainee Eligibility:** Minimum 10<sup>th</sup> Pass, 12<sup>th</sup> Pass, Any Diploma or Degree graduate.

**Intake capacity:** 25

**Registration fees:** Rs. 100

**Justification:**

Narmada is primarily an agricultural district with Cotton and Pigeon pea as the predominant crops. The other major crops cultivated are Raggi, Maize, Wheat, Paddy, Pulses, Sugarcane, Banana, etc. About 58.20% of land holdings are with small and marginal



ANNEXURE VI

**Short Term Certificate Course**

**Course Title:** Training on Tractor, Power tiller Driving and its repair maintenance.

**Objectives:**

1. To educate the trainees about basics skills of driving Tractor and Power Tiller.
2. To make the trainees students aware about periodic maintenance schedule in Tractor and Power Tiller.
3. To give hands on experience in basic repair of Tractor, Power tiller.

**Course coordinator/s:** Dr. Hitesh Sanchavat and Dr. Swagatika Jena

**Duration:**

- Two Days (4 hours/ day) for both theory and practical

**Mode of Training:** Offline

**Eligibility :** Minimum 10<sup>th</sup> pass

**Admission capacity:** 10 to 20 for Offline mode

**Registration fees:** Rs. 100

**Justification**

The increasing level of mechanization has tremendously changed the scenario of agriculture and also the development and establishment of farm machinery manufacturing industries in the state in particular, and in the country in general. Obviously, this phase is warranting the demand of skilled hands in tractor maintenance and operations. The person trained in farm mechanization must deal with the maintenance and repair of tractor, power tiller and other farm implements. In addition, trained person should be able to specifically identify the problem, trouble shooting, of farm machine. Trainees capability will improve the capabilities of negotiating tractor operators and mechanics while getting the repair of the faulty part/s. This training program intends to create awareness and develop entrepreneurial skills among students/farmers who wish to initiate custom hiring services in the region for farm machines and tractors.

**Program content:**

The program will cover following topics:

**Session I:**

- Impart knowledge of selection criteria of tractor and power tiller etc.

**Session II:**

- Tractor and Power tiller driving
- Repair and maintenance scheduling of Tractor and Power Tillers.

## Short-Term Certificate Course

**Course Title:** Estimating and Costing of Soil & Water Conservation Structure a Tool for Sustainable Development.

### Objectives:

- a) To educate Agricultural engineers & rural youth about the knowledge and benefits of water conservation structures.
- b) To empower youth with skills in site selection, cost estimation processes for soil and water conservation structures.
- c) To make the trainees aware of government policies, and the benefits of water conservation structures, generate employment in local areas and for self-employment to start a Start-Up.

**Course Director:** Dr. P.K. Shrivastava

**Course coordinator/s:** Dr. Surendra Pratap Singh and Dr. A. P. Lakkad

**Duration:** 6 days (4 hours/ day)

**Mode of Training:** Offline

**Trainee Eligibility:** Students of Agricultural Engineering

**Intake capacity:** 20 for Offline mode

**Registration fees:** Rs. 100

### Scope

With mounting problem of water scarcity due to climatic variability and to cater the water needs for Agriculture and domestic needs of rural society, government launches so many schemes for conservation of soil and water. Lot of government funds get wasted due to either improper design or improper selection of site or poor quality material of construction. Agricultural engineers have very good scope in watershed development programmes taken up by state department or NGO's or by Village panchayats. At graduate level the time given is too less to cover the details of design, construction and estimation of structures. This gap could be covered by the training programme proposed to be carried out at CAET.

### Program Module:

The program will contain of following modules and will cover the following sub-topics:

#### Module 1: Perspective on Soil and Water Conservation

- Soil Erosion
- Soil Conservation
- Soil Conservation Approaches