



TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY (TESDA)

# **BID DOCUMENTS**

## **Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CenTEs**

2017-08

**Fifth Edition  
August 2016**

# Preface

These Philippine Bidding Documents (PBDs) for the procurement of Goods through Competitive Bidding have been prepared by the Government of the Philippines (GOP) for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations (GOCCs), government financial institutions (GFIs), state universities and colleges (SUCs), and local government units (LGUs) and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory<sup>1</sup> use in projects that are financed in whole or in part by the GOP or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184.

The Bidding Documents shall clearly and adequately define, among others: (a) the objectives, scope, and expected outputs and/or results of the proposed contract; (b) the eligibility requirements of bidders, such as track record to be determined by the Head of the Procuring Entity; (c) the expected contract duration, the estimated quantity in the case of procurement of goods, delivery schedule and/or time frame; and (d) the obligations, duties, and/or functions of the winning bidder.

In order to simplify the preparation of the Bidding Documents for each procurement, the PBDs groups the provisions that are intended to be used unchanged in Section II. Instructions to Bidders (ITB) and in Section IV. General Conditions of Contract (GCC). Data and provisions specific to each procurement and contract should be included in Section III. Bid Data Sheet (BDS); Section V. Special Conditions of Contract (SCC); Section VI. Schedule of Requirements; Section VII. Technical Specifications, and Section IX. Foreign-Assisted Projects. The forms to be used are provided in Section VIII. Bidding Forms.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Goods to be procured. In addition, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents, except for the notes introducing Section VIII. Bidding Forms where the information is useful for the Bidder. The following general directions should be observed when using the documents:

- (a) All the documents listed in the Table of Contents are normally required for the procurement of Goods. However, they should be adapted as necessary to the circumstances of the particular Project.
- (b) Specific details, such as the "name of the Procuring Entity" and "address for bid submission," should be furnished in the ITB, BDS, and

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<sup>1</sup> Unless the Treaty or International or Executive Agreement expressly provides use of foreign government/foreign or international financing institution procurement guidelines.

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SCC. The final documents should contain neither blank spaces nor options.

- (c) This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, SCC, Schedule of Requirements, and Specifications are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow. The Bidding Documents should contain no footnotes except Section VIII. Bidding Forms since these provide important guidance to Bidders.
- (d) The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.
- (e) If modifications must be made to bidding requirements, they can be presented in the BDS. Modifications for specific Project or Contract details should be provided in the SCC as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the BDS or SCC these terms shall be printed in bold type face on Section I. Instructions to Bidders and Section III. General Conditions of Contract, respectively.

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# ***Section I. Invitation to Bid***

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TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY  
**ISO 9001 : 2008 CERTIFIED**

*Tatak ng Integridad, Serbisyonang Dekalidad, Kaagapay sa Pag-unlad*



**INVITATION TO BID**

The **Technical Education and Skills Development Authority (TESDA)**, through the General Appropriations Act for FY 2016 intends to apply the total sum of **Two Hundred Twenty-Nine Million Nine Hundred Ninety-Nine Thousand Nine Hundred Eighty-Six Pesos and 215/1000 (Php229,999,986.215)** being the Approved Budget for the Contract (ABC) to payments under the contract for each lot as identified below for the **Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs**. Bids received in excess of the ABC for each lot shall be automatically rejected at bid opening.

LOT NO.	QUALIFICATIONS	ABC (in Philippine Peso)
1	Agricultural Crops Production NC III	8,820,414.096
2	Agricultural Mechanization	11,620,864.992
3	Aquaculture	13,735,532.276
4	Automotive Servicing	17,232,526.124
5	Electrical Installation and Maintenance NC III	18,964,410.752
6	Food Processing	3,386,089.916
7	CNC Lathe and Milling Machine Operation NC III	40,624,320.006
8	Welding	17,363,932.554
9	Refrigeration and Air-Conditioning Servicing NC III	17,744,811.744
10	Warehousing Services	8,201,193.440
11	Mechatronics NC IV	8,979,602.369
12	Food and Beverages Services NC III	4,055,102.340
13	Commercial Cooking NC III	4,070,116.336
14	Information and Communication Technology (ICT)	50,920,147.212
15	Science Lab (Chemistry and Physics)	1,813,619.414
16	Surveying Equipment	1,909,600.004
17	Air Conditioning Unit	557,702.640
<b>TOTAL</b>		<b>229,999,986.215</b>

The **TESDA** now invites bids for **Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs**. Delivery of the Goods is required within ninety (90) calendar days from receipt of the winning bidder of the Notice to Proceed. Bidders should have completed, within five (5) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. Instructions to Bidders.

Bidding will be conducted through open competitive bidding procedures using a non-discretionary "pass/fail" criterion as specified in the 2016 Revised Implementing Rules and Regulations of Republic Act No. 9184, otherwise known as the "Government Procurement Reform Act".

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Bidding is open to all interested bidders, whether local or foreign, subject to the conditions for eligibility provided in the IRR of RA 9184.

Interested bidders may obtain further information from TESDA and inspect the Bidding Documents at the address given below during office hours from 8:00 a.m. to 5:00 p.m. starting **12 October 2017**.

A complete set of Bidding Documents may be purchased by interested Bidders beginning on **12 October 2017** from the address written below and upon payment of a non-refundable fee relative to the cost of the Bidding Documents which shall be based on the following standard rates:

<b>Approved Budget for the Contract</b>	<b>Maximum Cost of Bidding Documents (in Philippine Peso)</b>
500,000 and below	500.00
More than 500,000 up to 1 Million	1,000.00
More than 1 Million up to 5 Million	5,000.00
More than 5 Million up to 10 Million	10,000.00
More than 10 Million up to 50 Million	25,000.00
More than 50 Million up to 500 Million	50,000.00
More than 500 Million	75,000.00

The amount of the Bidding Documents shall depend on the ABC of the lot/s that will be participated in by the prospective Bidder. At any rate, the standard rates as provided by the Government Procurement Policy Board (GPPB) shall apply.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

TESDA will hold a Pre-Bid Conference on **23 October 2017 at 2:00 p.m.** at CSA Conference Room, 2<sup>nd</sup> Floor, TESDA Administration Building, Taguig City, which shall be open to prospective bidders.

Bids must be duly received by the BAC Secretariat at the CSA Conference Room, 2<sup>nd</sup> Floor, TESDA Administration Building, Taguig City, on or before **07 November 2017 at 10:00 a.m.** All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 18.

Bid opening shall be on **07 November 2017 at 10:15 a.m.** at the CSA Conference Room, 2<sup>nd</sup> Floor, TESDA Administration Building, Taguig City. Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

TESDA reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of Republic Act No. 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

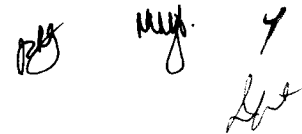
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For further information, please refer to:

Maria Gracia P. Dela Rama  
Head, BAC Secretariat  
3rd Floor, Procurement Division  
TESDA Administration Building  
South Luzon Expressway, Taguig City  
Telefax: (02) 893-8296  
E-mail: bacsecretariat@tesda.gov.ph



ATTY. DIOSDADO O. PADILLA  
BAC Chairperson





## ***Section II. Instructions to Bidders***

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## A. General

### 1. Scope of Bid

- 1.1. The Procuring Entity named in the **BDS** invites bids for the supply and delivery of the Goods as described in Section VII. Technical Specifications.
- 1.2. The name, identification, and number of lots specific to this bidding are provided in the **BDS**. The contracting strategy and basis of evaluation of lots is described in **ITB** Clause 28.

### 2. Source of Funds

The Procuring Entity has a budget or has received funds from the Funding Source named in the **BDS**, and in the amount indicated in the **BDS**. It intends to apply part of the funds received for the Project, as defined in the **BDS**, to cover eligible payments under the contract.

### 3. Corrupt, Fraudulent, Collusive, and Coercive Practices

- 3.1. Unless otherwise specified in the **BDS**, the Procuring Entity as well as the bidders and suppliers shall observe the highest standard of ethics during the procurement and execution of the contract. In pursuance of this policy, the Procuring Entity:
  - (a) defines, for purposes of this provision, the terms set forth below as follows:
    - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves, others, or induce others to do so, by misusing the position in which they are placed, and includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; entering, on behalf of the government, into any contract or transaction manifestly and grossly disadvantageous to the same, whether or not the public officer profited or will profit thereby, and similar acts as provided in RA 3019.
    - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Entity, and includes collusive practices among Bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive

the Procuring Entity of the benefits of free and open competition.

(iii) "collusive practices" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels.

(iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract;

(v) "obstructive practice" is

(aa) deliberately destroying, falsifying, altering or concealing of evidence material to an administrative proceedings or investigation or making false statements to investigators in order to materially impede an administrative proceedings or investigation of the Procuring Entity or any foreign government/foreign or international financing institution into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the administrative proceedings or investigation or from pursuing such proceedings or investigation; or

(bb) acts intended to materially impede the exercise of the inspection and audit rights of the Procuring Entity or any foreign government/foreign or international financing institution herein.

(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in any of the practices mentioned in this Clause for purposes of competing for the contract.

3.2. Further, the Procuring Entity will seek to impose the maximum civil, administrative, and/or criminal penalties available under applicable laws on individuals and organizations deemed to be involved in any of the practices mentioned in ITB Clause 3.1(a).

3.3. Furthermore, the Funding Source and the Procuring Entity reserve the right to inspect and audit records and accounts of a bidder or supplier in the bidding for and performance of a contract themselves or through independent auditors as reflected in the GCC Clause 3.

#### 4. Conflict of Interest

- 4.1. All Bidders found to have conflicting interests shall be disqualified to participate in the procurement at hand, without prejudice to the imposition of appropriate administrative, civil, and criminal sanctions. A Bidder may be considered to have conflicting interests with another Bidder in any of the events described in paragraphs (a) through (c) below and a general conflict of interest in any of the circumstances set out in paragraphs (d) through (g) below:
- (a) A Bidder has controlling shareholders in common with another Bidder;
  - (b) A Bidder receives or has received any direct or indirect subsidy from any other Bidder;
  - (c) A Bidder has the same legal representative as that of another Bidder for purposes of this bid;
  - (d) A Bidder has a relationship, directly or through third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder or influence the decisions of the Procuring Entity regarding this bidding process;
  - (e) A Bidder submits more than one bid in this bidding process. However, this does not limit the participation of subcontractors in more than one bid;
  - (f) A Bidder who participated as a consultant in the preparation of the design or technical specifications of the Goods and related services that are the subject of the bid; or
  - (g) A Bidder who lends, or temporarily seconds, its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- 4.2. In accordance with Section 47 of the IRR of RA 9184, all Bidding Documents shall be accompanied by a sworn affidavit of the Bidder that it is not related to the Head of the Procuring Entity (HoPE), members of the Bids and Awards Committee (BAC), members of the Technical Working Group (TWG), members of the BAC Secretariat, the head of the Project Management Office (PMO) or the end-user unit, and the project consultants, by consanguinity or affinity up to the third civil degree. On the part of the Bidder, this Clause shall apply to the following persons:
- (a) If the Bidder is an individual or a sole proprietorship, to the Bidder himself;
  - (b) If the Bidder is a partnership, to all its officers and members;



- (c) If the Bidder is a corporation, to all its officers, directors, and controlling stockholders;
- (d) If the Bidder is a cooperative, to all its officers, directors, and controlling shareholders or members; and
- (e) If the Bidder is a joint venture (JV), the provisions of items (a), (b), (c), or (d) of this Clause shall correspondingly apply to each of the members of the said JV, as may be appropriate.

Relationship of the nature described above or failure to comply with this Clause will result in the automatic disqualification of a Bidder.

## 5. Eligible Bidders

- 5.1. Unless otherwise provided in the **BDS**, the following persons shall be eligible to participate in this bidding:
  - (a) Duly licensed Filipino citizens/sole proprietorships;
  - (b) Partnerships duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the interest belongs to citizens of the Philippines;
  - (c) Corporations duly organized under the laws of the Philippines, and of which at least sixty percent (60%) of the outstanding capital stock belongs to citizens of the Philippines;
  - (d) Cooperatives duly organized under the laws of the Philippines; and
  - (e) Persons/entities forming themselves into a Joint Venture (JV), *i.e.*, a group of two (2) or more persons/entities that intend to be jointly and severally responsible or liable for a particular contract: Provided, however, that Filipino ownership or interest of the JV concerned shall be at least sixty percent (60%).
- 5.2. Foreign bidders may be eligible to participate when any of the following circumstances exist, as specified in the **BDS**:
  - (a) When a Treaty or International or Executive Agreement as provided in Section 4 of RA 9184 and its IRR allow foreign bidders to participate;
  - (b) Citizens, corporations, or associations of a country, the laws or regulations of which grant reciprocal rights or privileges to citizens, corporations, or associations of the Philippines;
  - (c) When the Goods sought to be procured are not available from local suppliers; or

(d) When there is a need to prevent situations that defeat competition or restrain trade.

5.3. Government owned or –controlled corporations (GOCCs) may be eligible to participate only if they can establish that they (a) are legally and financially autonomous, (b) operate under commercial law, and (c) are not attached agencies of the Procuring Entity.

5.4. Unless otherwise provided in the **BDS**, the Bidder must have completed a Single Largest Completed Contract (SLCC) similar to the Project and the value of which, adjusted, if necessary, by the Bidder to current prices using the Philippine Statistics Authority (PSA) consumer price index, must be at least equivalent to a percentage of the ABC stated in the **BDS**.

For this purpose, contracts similar to the Project shall be those described in the **BDS**, and completed within the relevant period stated in the Invitation to Bid and **ITB** Clause 12.1(a)(ii).

5.5. The Bidder must submit a computation of its Net Financial Contracting Capacity (NFCC), which must be at least equal to the ABC to be bid, calculated as follows:

$NFCC = [(Current\ assets\ minus\ current\ liabilities)\ (15)]\ minus\ the\ value\ of\ all\ outstanding\ or\ uncompleted\ portions\ of\ the\ projects\ under\ ongoing\ contracts,\ including\ awarded\ contracts\ yet\ to\ be\ started,\ coinciding\ with\ the\ contract\ to\ be\ bid.$

The values of the domestic bidder's current assets and current liabilities shall be based on the latest Audited Financial Statements submitted to the BIR.

For purposes of computing the foreign bidders' NFCC, the value of the current assets and current liabilities shall be based on their audited financial statements prepared in accordance with international financial reporting standards.

If the prospective bidder opts to submit a committed Line of Credit, it must be at least equal to ten percent (10%) of the ABC to be bid. If issued by a foreign universal or commercial bank, it shall be confirmed or authenticated by a local universal or commercial bank.

## 6. Bidder's Responsibilities

6.1. The Bidder or its duly authorized representative shall submit a sworn statement in the form prescribed in Section VIII. Bidding Forms as required in **ITB** Clause 12.1(b)(iii).

6.2. The Bidder is responsible for the following:



- (a) Having taken steps to carefully examine all of the Bidding Documents;
- (b) Having acknowledged all conditions, local or otherwise, affecting the implementation of the contract;
- (c) Having made an estimate of the facilities available and needed for the contract to be bid, if any;
- (d) Having complied with its responsibility to inquire or secure Supplemental/Bid Bulletin(s) as provided under **ITB** Clause 10.4.
- (e) Ensuring that it is not “blacklisted” or barred from bidding by the GOP or any of its agencies, offices, corporations, or LGUs, including foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the GPPB;
- (f) Ensuring that each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
- (g) Authorizing the HoPE or its duly authorized representative/s to verify all the documents submitted;
- (h) Ensuring that the signatory is the duly authorized representative of the Bidder, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Bidder in the bidding, with the duly notarized Secretary’s Certificate attesting to such fact, if the Bidder is a corporation, partnership, cooperative, or joint venture;
- (i) Complying with the disclosure provision under Section 47 of RA 9184 and its IRR in relation to other provisions of RA 3019;
- (j) Complying with existing labor laws and standards, in the case of procurement of services; Moreover, bidder undertakes to:
  - (i) Ensure the entitlement of workers to wages, hours of work, safety and health and other prevailing conditions of work as established by national laws, rules and regulations; or collective bargaining agreement; or arbitration award, if and when applicable.

In case there is a finding by the Procuring Entity or the DOLE of underpayment or non-payment of workers’ wage and wage-related benefits, bidder agrees that the performance security or portion of the contract amount shall be withheld in favor of the complaining workers

pursuant to appropriate provisions of Republic Act No. 9184 without prejudice to the institution of appropriate actions under the Labor Code, as amended, and other social legislations.

- (ii) Comply with occupational safety and health standards and to correct deficiencies, if any.

In case of imminent danger, injury or death of the worker, bidder undertakes to suspend contract implementation pending clearance to proceed from the DOLE Regional Office and to comply with Work Stoppage Order; and

- (iii) Inform the workers of their conditions of work, labor clauses under the contract specifying wages, hours of work and other benefits under prevailing national laws, rules and regulations; or collective bargaining agreement; or arbitration award, if and when applicable, through posting in two (2) conspicuous places in the establishment's premises; and
- (k) Ensuring that it did not give or pay, directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

Failure to observe any of the above responsibilities shall be at the risk of the Bidder concerned.

- 6.3. The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents.
- 6.4. It shall be the sole responsibility of the Bidder to determine and to satisfy itself by such means as it considers necessary or desirable as to all matters pertaining to the contract to be bid, including: (a) the location and the nature of this Project; (b) climatic conditions; (c) transportation facilities; and (d) other factors that may affect the cost, duration, and execution or implementation of this Project.
- 6.5. The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible bidder out of the data furnished by the procuring entity. However, the Procuring Entity shall ensure that all information in the Bidding Documents, including bid/supplemental bid bulletin/s issued, are correct and consistent.
- 6.6. Before submitting their bids, the Bidder is deemed to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect this Project in any way.

- 6.7. The Bidder shall bear all costs associated with the preparation and submission of his bid, and the Procuring Entity will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 6.8. The Bidder should note that the Procuring Entity will accept bids only from those that have paid the applicable fee for the Bidding Documents at the office indicated in the Invitation to Bid.

## 7. Origin of Goods

Unless otherwise indicated in the **BDS**, there is no restriction on the origin of goods other than those prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, subject to **ITB** Clause 27.1.

## 8. Subcontracts

- 8.1. Unless otherwise specified in the **BDS**, the Bidder may subcontract portions of the Goods to an extent as may be approved by the Procuring Entity and stated in the **BDS**. However, subcontracting of any portion shall not relieve the Bidder from any liability or obligation that may arise from the contract for this Project.
- 8.2. Subcontractors must submit the documentary requirements under **ITB** Clause 12 and comply with the eligibility criteria specified in the **BDS**. In the event that any subcontractor is found by the Procuring Entity to be ineligible, the subcontracting of such portion of the Goods shall be disallowed.
- 8.3. The Bidder may identify the subcontractor to whom a portion of the Goods will be subcontracted at any stage of the bidding process or during contract implementation. If the Bidder opts to disclose the name of the subcontractor during bid submission, the Bidder shall include the required documents as part of the technical component of its bid.

## B. Contents of Bidding Documents

### 9. Pre-Bid Conference

- 9.1. (a) If so specified in the **BDS**, a pre-bid conference shall be held at the venue and on the date indicated therein, to clarify and address the Bidders' questions on the technical and financial components of this Project.  
  
(b) The pre-bid conference shall be held at least twelve (12) calendar days before the deadline for the submission and receipt of bids, but not earlier than seven (7) calendar days from the posting of the invitation to bid/bidding documents in the PhilGEPS website. If the Procuring Entity



determines that, by reason of the method, nature, or complexity of the contract to be bid, or when international participation will be more advantageous to the GOP, a longer period for the preparation of bids is necessary, the pre-bid conference shall be held at least thirty (30) calendar days before the deadline for the submission and receipt of bids, as specified in the **BDS**.

- 9.2. Bidders are encouraged to attend the pre-bid conference to ensure that they fully understand the Procuring Entity's requirements. Non-attendance of the Bidder will in no way prejudice its bid; however, the Bidder is expected to know the changes and/or amendments to the Bidding Documents as recorded in the minutes of the pre-bid conference and the Supplemental/Bid Bulletin. The minutes of the pre-bid conference shall be recorded and prepared not later than five (5) calendar days after the pre-bid conference. The minutes shall be made available to prospective bidders not later than five (5) days upon written request.
- 9.3. Decisions of the BAC amending any provision of the bidding documents shall be issued in writing through a Supplemental/Bid Bulletin at least seven (7) calendar days before the deadline for the submission and receipt of bids.

## **10. Clarification and Amendment of Bidding Documents**

- 10.1. Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such request must be in writing and submitted to the Procuring Entity at the address indicated in the **BDS** at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.
- 10.2. The BAC shall respond to the said request by issuing a Supplemental/Bid Bulletin, to be made available to all those who have properly secured the Bidding Documents, at least seven (7) calendar days before the deadline for the submission and receipt of Bids.
- 10.3. Supplemental/Bid Bulletins may also be issued upon the Procuring Entity's initiative for purposes of clarifying or modifying any provision of the Bidding Documents not later than seven (7) calendar days before the deadline for the submission and receipt of Bids. Any modification to the Bidding Documents shall be identified as an amendment.
- 10.4. Any Supplemental/Bid Bulletin issued by the BAC shall also be posted in the PhilGEPS and the website of the Procuring Entity concerned, if available, and at any conspicuous place in the premises of the Procuring Entity concerned. It shall be the responsibility of all Bidders who have properly secured the Bidding Documents to inquire and secure Supplemental/Bid Bulletins that may be issued by the BAC. However, Bidders who have submitted bids before the issuance of the Supplemental/Bid Bulletin must be informed and allowed to modify or withdraw their bids in accordance with **ITB** Clause 23.

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## C. Preparation of Bids

### 11. Language of Bids

The eligibility requirements or statements, the bids, and all other documents to be submitted to the BAC must be in English. If the eligibility requirements or statements, the bids, and all other documents submitted to the BAC are in foreign language other than English, it must be accompanied by a translation of the documents in English. The documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country; and shall be authenticated by the appropriate Philippine foreign service establishment/post or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. The English translation shall govern, for purposes of interpretation of the bid.

### 12. Documents Comprising the Bid: Eligibility and Technical Components

12.1. Unless otherwise indicated in the **BDS**, the first envelope shall contain the following eligibility and technical documents:

(a) Eligibility Documents –

Class "A" Documents:

- (i) PhilGEPS Certificate of Registration and Membership in accordance with Section 8.5.2 of the IRR, except for foreign bidders participating in the procurement by a Philippine Foreign Service Office or Post, which shall submit their eligibility documents under Section 23.1 of the IRR, provided, that the winning bidder shall register with the PhilGEPS in accordance with section 37.1.4 of the IRR.
- (ii) Statement of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; and

Statement of the Bidder's SLCC similar to the contract to be bid, in accordance with ITB Clause 5.4, within the relevant period as provided in the **BDS**.

The two statements required shall indicate for each contract the following:

- (ii.1) name of the contract;
- (ii.2) date of the contract;

- (ii.3) contract duration;
  - (ii.4) owner's name and address;
  - (ii.5) kinds of Goods;
  - (ii.6) For Statement of Ongoing Contracts - amount of contract and value of outstanding contracts;
  - (ii.7) For Statement of SLCC - amount of completed contracts, adjusted by the Bidder to current prices using PSA's consumer price index, if necessary for the purpose of meeting the SLCC requirement;
  - (ii.8) date of delivery; and
  - (ii.9) end user's acceptance or official receipt(s) or sales invoice issued for the contract, if completed, which shall be attached to the statements.
- (iii) NFCC computation in accordance with ITB Clause 5.5 or a committed Line of Credit from a universal or commercial bank.

Class "B" Document:

- (iv) If applicable, the Joint Venture Agreement (JVA) in case the joint venture is already in existence, or duly notarized statements from all the potential joint venture partners in accordance with Section 23.1(b) of the IRR.
- (b) Technical Documents –
- (i) Bid security in accordance with **ITB** Clause 18. If the Bidder opts to submit the bid security in the form of:
    - (i.1) a bank draft/guarantee or an irrevocable letter of credit issued by a foreign bank, it shall be accompanied by a confirmation from a Universal or Commercial Bank; or
    - (i.2) a surety bond, it shall be accompanied by a certification by the Insurance Commission that the surety or insurance company is authorized to issue such instruments;
  - (ii) Conformity with technical specifications, as enumerated and specified in Sections VI and VII of the Bidding Documents; and

- (iii) Sworn statement in accordance with Section 25.3 of the IRR of RA 9184 and using the form prescribed in Section VIII. Bidding Forms.
- (iv) For foreign bidders claiming eligibility by reason of their country's extension of reciprocal rights to Filipinos, a certification from the relevant government office of their country stating that Filipinos are allowed to participate in their government procurement activities for the same item or product.

### **13. Documents Comprising the Bid: Financial Component**

13.1. Unless otherwise stated in the **BDS**, the financial component of the bid shall contain the following:

- (a) Financial Bid Form, which includes bid prices and the applicable Price Schedules, in accordance with **ITB** Clauses 15.1 and 15.4;
- (b) If the Bidder claims preference as a Domestic Bidder, a certification from the DTI issued in accordance with **ITB** Clause 27, unless otherwise provided in the **BDS**; and
- (c) Any other document related to the financial component of the bid as stated in the **BDS**.

13.2. (a) Unless otherwise stated in the **BDS**, all bids that exceed the ABC shall not be accepted.

(b) Unless otherwise indicated in the **BDS**, for foreign-funded procurement, a ceiling may be applied to bid prices provided the following conditions are met:

- (i) Bidding Documents are obtainable free of charge on a freely accessible website. If payment of Bidding Documents is required by the procuring entity, payment could be made upon the submission of bids.
- (ii) The procuring entity has procedures in place to ensure that the ABC is based on recent estimates made by the responsible unit of the procuring entity and that the estimates reflect the quality, supervision and risk and inflationary factors, as well as prevailing market prices, associated with the types of works or goods to be procured.
- (iii) The procuring entity has trained cost estimators on estimating prices and analyzing bid variances.
- (iv) The procuring entity has established a system to monitor and report bid prices relative to ABC and engineer's/procuring entity's estimate.

- (v) The procuring entity has established a monitoring and evaluation system for contract implementation to provide a feedback on actual total costs of goods and works.

## 14. Alternative Bids

- 14.1 Alternative Bids shall be rejected. For this purpose, alternative bid is an offer made by a Bidder in addition or as a substitute to its original bid which may be included as part of its original bid or submitted separately therewith for purposes of bidding. A bid with options is considered an alternative bid regardless of whether said bid proposal is contained in a single envelope or submitted in two (2) or more separate bid envelopes.
- 14.2 Each Bidder shall submit only one Bid, either individually or as a partner in a JV. A Bidder who submits or participates in more than one bid (other than as a subcontractor if a subcontractor is permitted to participate in more than one bid) will cause all the proposals with the Bidder's participation to be disqualified. This shall be without prejudice to any applicable criminal, civil and administrative penalties that may be imposed upon the persons and entities concerned.

## 15. Bid Prices

- 15.1. The Bidder shall complete the appropriate Schedule of Prices included herein, stating the unit prices, total price per item, the total amount and the expected countries of origin of the Goods to be supplied under this Project.
- 15.2. The Bidder shall fill in rates and prices for all items of the Goods described in the Schedule of Prices. Bids not addressing or providing all of the required items in the Bidding Documents including, where applicable, Schedule of Prices, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a zero (0) or a dash (-) for the said item would mean that it is being offered for free to the Government, except those required by law or regulations to be accomplished.
- 15.3. The terms Ex Works (EXW), Cost, Insurance and Freight (CIF), Cost and Insurance Paid to (CIP), Delivered Duty Paid (DDP), and other trade terms used to describe the obligations of the parties, shall be governed by the rules prescribed in the current edition of the International Commercial Terms (INCOTERMS) published by the International Chamber of Commerce, Paris.
- 15.4. Prices indicated on the Price Schedule shall be entered separately in the following manner:
  - (a) For Goods offered from within the Procuring Entity's country:





- (i) The price of the Goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable);
  - (ii) The cost of all customs duties and sales and other taxes already paid or payable;
  - (iii) The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and
  - (iv) The price of other (incidental) services, if any, listed in the **BDS**.
- (b) For Goods offered from abroad:
- (i) Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted DDP with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.
  - (ii) The price of other (incidental) services, if any, listed in the **BDS**.
- (c) For Services, based on the form which may be prescribed by the Procuring Entity, in accordance with existing laws, rules and regulations

15.5. Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation or price escalation on any account. A bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected, pursuant to **ITB** Clause 24.

All bid prices for the given scope of work in the contract as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances. Upon the recommendation of the Procuring Entity, price escalation may be allowed in extraordinary circumstances as may be determined by the National Economic and Development Authority in accordance with the Civil Code of the Philippines, and upon approval by the GPPB. Nevertheless, in cases where the cost of the awarded contract is affected by any applicable new laws, ordinances, regulations, or other acts of the GOP, promulgated after the date of bid opening, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss-no gain basis.

## 16. Bid Currencies

- 16.1. Prices shall be quoted in the following currencies:
- (a) For Goods that the Bidder will supply from within the Philippines, the prices shall be quoted in Philippine Pesos.
  - (b) For Goods that the Bidder will supply from outside the Philippines, the prices may be quoted in the currency(ies) stated in the **BDS**. However, for purposes of bid evaluation, bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the *Bangko Sentral ng Pilipinas* (BSP) reference rate bulletin on the day of the bid opening.
- 16.2. If so allowed in accordance with **ITB** Clause 16.1, the Procuring Entity for purposes of bid evaluation and comparing the bid prices will convert the amounts in various currencies in which the bid price is expressed to Philippine Pesos at the foregoing exchange rates.
- 16.3. Unless otherwise specified in the **BDS**, payment of the contract price shall be made in Philippine Pesos.

## 17. Bid Validity

- 17.1. Bids shall remain valid for the period specified in the **BDS** which shall not exceed one hundred twenty (120) calendar days from the date of the opening of bids.
- 17.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Procuring Entity may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. The bid security described in **ITB** Clause 18 should also be extended corresponding to the extension of the bid validity period at the least. A Bidder may refuse the request without forfeiting its bid security, but his bid shall no longer be considered for further evaluation and award. A Bidder granting the request shall not be required or permitted to modify its bid.

## 18. Bid Security

- 18.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount stated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the following schedule:

Form of Bid Security	Amount of Bid Security (Not Less than the Percentage of the ABC)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.  <i>For biddings conducted by</i>	Two percent (2%)

Form of Bid Security	Amount of Bid Security (Not Less than the Percentage of the ABC)
<p><i>LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i></p>	
<p>(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.</p> <p><i>For biddings conducted by LGUs, Bank Draft/Guarantee, or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i></p>	
<p>(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.</p>	<p>Five percent (5%)</p>

The Bid Securing Declaration mentioned above is an undertaking which states, among others, that the Bidder shall enter into contract with the procuring entity and furnish the performance security required under ITB Clause 33.2, within ten (10) calendar days from receipt of the Notice of Award, and commits to pay the corresponding amount as fine, and be suspended for a period of time from being qualified to participate in any government procurement activity in the event it violates any of the conditions stated therein as provided in the guidelines issued by the GPPB.

- 18.2. The bid security should be valid for the period specified in the **BDS**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

- 18.3. No bid securities shall be returned to Bidders after the opening of bids and before contract signing, except to those that failed or declared as post-disqualified, upon submission of a written waiver of their right to file a request for reconsideration and/or protest, or upon the lapse of the reglementary period to file a request for reconsideration or protest. Without prejudice on its forfeiture, bid securities shall be returned only after the Bidder with the Lowest Calculated Responsive Bid (LCRB) has signed the contract and furnished the performance security, but in no case later than the expiration of the bid security validity period indicated in **ITB** Clause 18.2.
- 18.4. Upon signing and execution of the contract pursuant to **ITB** Clause 32, and the posting of the performance security pursuant to **ITB** Clause 33, the successful Bidder's bid security will be discharged, but in no case later than the bid security validity period as indicated in the **ITB** Clause 18.2.
- 18.5. The bid security may be forfeited:
- (a) if a Bidder:
    - (i) withdraws its bid during the period of bid validity specified in **ITB** Clause 17;
    - (ii) does not accept the correction of errors pursuant to **ITB** Clause 28.3(b);
    - (iii) has a finding against the veracity of any of the documents submitted as stated in **ITB** Clause 29.2;
    - (iv) submission of eligibility requirements containing false information or falsified documents;
    - (v) submission of bids that contain false information or falsified documents, or the concealment of such information in the bids in order to influence the outcome of eligibility screening or any other stage of the public bidding;
    - (vi) allowing the use of one's name, or using the name of another for purposes of public bidding;
    - (vii) withdrawal of a bid, or refusal to accept an award, or enter into contract with the Government without justifiable cause, after the Bidder had been adjudged as having submitted the LCRB;
    - (viii) refusal or failure to post the required performance security within the prescribed time;

- (ix) refusal to clarify or validate in writing its bid during post-qualification within a period of seven (7) calendar days from receipt of the request for clarification;
  - (x) any documented attempt by a Bidder to unduly influence the outcome of the bidding in his favor;
  - (xi) failure of the potential joint venture partners to enter into the joint venture after the bid is declared successful; or
  - (xii) all other acts that tend to defeat the purpose of the competitive bidding, such as habitually withdrawing from bidding, submitting late Bids or patently insufficient bid, for at least three (3) times within a year, except for valid reasons.
- (b) if the successful Bidder:
- (i) fails to sign the contract in accordance with **ITB** Clause 32; or
  - (ii) fails to furnish performance security in accordance with **ITB** Clause 33.

## 19. Format and Signing of Bids

- 19.1. Bidders shall submit their bids through their duly authorized representative using the appropriate forms provided in Section VIII. Bidding Forms on or before the deadline specified in the **ITB** Clauses 21 in two (2) separate sealed bid envelopes, and which shall be submitted simultaneously. The first shall contain the technical component of the bid, including the eligibility requirements under **ITB** Clause 12.1, and the second shall contain the financial component of the bid. This shall also be observed for each lot in the case of lot procurement.
- 19.2. Forms as mentioned in **ITB** Clause 19.1 must be completed without any alterations to their format, and no substitute form shall be accepted. All blank spaces shall be filled in with the information requested.
- 19.3. The Bidder shall prepare and submit an original of the first and second envelopes as described in **ITB** Clauses 12 and 13. In addition, the Bidder shall submit copies of the first and second envelopes. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 19.4. Each and every page of the Bid Form, including the Schedule of Prices, under Section VIII hereof, shall be signed by the duly authorized representative/s of the Bidder. Failure to do so shall be a ground for the rejection of the bid.



- 19.5. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s of the Bidder.

## 20. Sealing and Marking of Bids

- 20.1. Bidders shall enclose their original eligibility and technical documents described in **ITB** Clause 12 in one sealed envelope marked "ORIGINAL - TECHNICAL COMPONENT", and the original of their financial component in another sealed envelope marked "ORIGINAL - FINANCIAL COMPONENT", sealing them all in an outer envelope marked "ORIGINAL BID".
- 20.2. Each copy of the first and second envelopes shall be similarly sealed duly marking the inner envelopes as "COPY NO. \_\_\_\_ - TECHNICAL COMPONENT" and "COPY NO. \_\_\_\_ - FINANCIAL COMPONENT" and the outer envelope as "COPY NO. \_\_\_\_", respectively. These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 20.3. The original and the number of copies of the Bid as indicated in the **BDS** shall be typed or written in ink and shall be signed by the Bidder or its duly authorized representative/s.
- 20.4. All envelopes shall:
- (a) contain the name of the contract to be bid in capital letters;
  - (b) bear the name and address of the Bidder in capital letters;
  - (c) be addressed to the Procuring Entity's BAC in accordance with **ITB** Clause 1.1;
  - (d) bear the specific identification of this bidding process indicated in the **ITB** Clause 1.2; and
  - (e) bear a warning "DO NOT OPEN BEFORE..." the date and time for the opening of bids, in accordance with **ITB** Clause 21.
- 20.5. Bid envelopes that are not properly sealed and marked, as required in the bidding documents, shall not be rejected, but the Bidder or its duly authorized representative shall acknowledge such condition of the bid as submitted. The BAC or the Procuring Entity shall assume no responsibility for the misplacement of the contents of the improperly sealed or marked bid, or for its premature opening.

## D. Submission and Opening of Bids

### 21. Deadline for Submission of Bids

Bids must be received by the Procuring Entity's BAC at the address and on or before the date and time indicated in the **BDS**.

## **22. Late Bids**

Any bid submitted after the deadline for submission and receipt of bids prescribed by the Procuring Entity, pursuant to ITB Clause 21, shall be declared "Late" and shall not be accepted by the Procuring Entity. The BAC shall record in the minutes of bid submission and opening, the Bidder's name, its representative and the time the late bid was submitted.

## **23. Modification and Withdrawal of Bids**

- 23.1. The Bidder may modify its bid after it has been submitted; provided that the modification is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids. The Bidder shall not be allowed to retrieve its original bid, but shall be allowed to submit another bid equally sealed and properly identified in accordance with ITB Clause 20, linked to its original bid marked as "TECHNICAL MODIFICATION" or "FINANCIAL MODIFICATION" and stamped "received" by the BAC. Bid modifications received after the applicable deadline shall not be considered and shall be returned to the Bidder unopened.
- 23.2. A Bidder may, through a Letter of Withdrawal, withdraw its bid after it has been submitted, for valid and justifiable reason; provided that the Letter of Withdrawal is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids. The Letter of Withdrawal must be executed by the duly authorized representative of the Bidder identified in the Omnibus Sworn Statement, a copy of which should be attached to the letter.
- 23.3. Bids requested to be withdrawn in accordance with ITB Clause 23.1 shall be returned unopened to the Bidders. A Bidder, who has acquired the bidding documents, may also express its intention not to participate in the bidding through a letter which should reach and be stamped by the BAC before the deadline for submission and receipt of bids. A Bidder that withdraws its bid shall not be permitted to submit another bid, directly or indirectly, for the same contract.
- 23.4. No bid may be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Financial Bid Form. Withdrawal of a bid during this interval shall result in the forfeiture of the Bidder's bid security, pursuant to ITB Clause 18.5, and the imposition of

administrative, civil and criminal sanctions as prescribed by RA 9184 and its IRR.

## 24. Opening and Preliminary Examination of Bids

- 24.1. The BAC shall open the bids in public, immediately after the deadline for the submission and receipt of bids, as specified in the **BDS**. In case the Bids cannot be opened as scheduled due to justifiable reasons, the BAC shall take custody of the Bids submitted and reschedule the opening of Bids on the next working day or at the soonest possible time through the issuance of a Notice of Postponement to be posted in the PhilGEPS website and the website of the Procuring Entity concerned.
- 24.2. Unless otherwise specified in the **BDS**, the BAC shall open the first bid envelopes and determine each Bidder's compliance with the documents prescribed in **ITB** Clause 12, using a non-discretionary "pass/fail" criterion. If a Bidder submits the required document, it shall be rated "passed" for that particular requirement. In this regard, bids that fail to include any requirement or are incomplete or patently insufficient shall be considered as "failed". Otherwise, the BAC shall rate the said first bid envelope as "passed".
- 24.3. Unless otherwise specified in the **BDS**, immediately after determining compliance with the requirements in the first envelope, the BAC shall forthwith open the second bid envelope of each remaining eligible bidder whose first bid envelope was rated "passed". The second envelope of each complying bidder shall be opened within the same day. In case one or more of the requirements in the second envelope of a particular bid is missing, incomplete or patently insufficient, and/or if the submitted total bid price exceeds the ABC unless otherwise provided in **ITB** Clause 13.2, the BAC shall rate the bid concerned as "failed". Only bids that are determined to contain all the bid requirements for both components shall be rated "passed" and shall immediately be considered for evaluation and comparison.
- 24.4. Letters of Withdrawal shall be read out and recorded during bid opening, and the envelope containing the corresponding withdrawn bid shall be returned to the Bidder unopened.
- 24.5. All members of the BAC who are present during bid opening shall initial every page of the original copies of all bids received and opened.
- 24.6. In the case of an eligible foreign bidder as described in **ITB** Clause 5, the following Class "A" Documents may be substituted with the appropriate equivalent documents, if any, issued by the country of the foreign Bidder concerned, which shall likewise be uploaded and maintained in the PhilGEPS in accordance with Section 8.5.2 of the IRR:



- (a) Registration certificate from the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or CDA for cooperatives;
  - (b) Mayor's/Business permit issued by the local government where the principal place of business of the bidder is located; and
  - (c) Audited Financial Statements showing, among others, the prospective bidder's total and current assets and liabilities stamped "received" by the Bureau of Internal Revenue or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two years from the date of bid submission.
- 24.7. Each partner of a joint venture agreement shall likewise submit the requirements in **ITB** Clause 12.1(a)(i). Submission of documents required under **ITB** Clauses 12.1(a)(ii) to 12.1(a)(iii) by any of the joint venture partners constitutes compliance.
- 24.8. The Procuring Entity shall prepare the minutes of the proceedings of the bid opening that shall include, as a minimum: (a) names of Bidders, their bid price (per lot, if applicable, and/or including discount, if any), bid security, findings of preliminary examination, and whether there is a withdrawal or modification; and (b) attendance sheet. The BAC members shall sign the abstract of bids as read.
- 24.8 The bidders or their duly authorized representatives may attend the opening of bids. The BAC shall ensure the integrity, security, and confidentiality of all submitted bids. The Abstract of Bids as read and the minutes of the bid opening shall be made available to the public upon written request and payment of a specified fee to recover cost of materials.
- 24.9 To ensure transparency and accurate representation of the bid submission, the BAC Secretariat shall notify in writing all bidders whose bids it has received through its PhilGEPS-registered physical address or official e-mail address. The notice shall be issued within seven (7) calendar days from the date of the bid opening.

## **E. Evaluation and Comparison of Bids**

### **25. Process to be Confidential**

- 25.1. Members of the BAC, including its staff and personnel, as well as its Secretariat and TWG, are prohibited from making or accepting any kind of communication with any bidder regarding the evaluation of their bids until the issuance of the Notice of Award, unless otherwise allowed in the case of **ITB** Clause 26.

25.2. Any effort by a bidder to influence the Procuring Entity in the Procuring Entity's decision in respect of bid evaluation, bid comparison or contract award will result in the rejection of the Bidder's bid.

## **26. Clarification of Bids**

To assist in the evaluation, comparison, and post-qualification of the bids, the Procuring Entity may ask in writing any Bidder for a clarification of its bid. All responses to requests for clarification shall be in writing. Any clarification submitted by a Bidder in respect to its bid and that is not in response to a request by the Procuring Entity shall not be considered.

## **27. Domestic Preference**

27.1. Unless otherwise stated in the **BDS**, the Procuring Entity will grant a margin of preference for the purpose of comparison of bids in accordance with the following:

- (a) The preference shall be applied when the lowest Foreign Bid is lower than the lowest bid offered by a Domestic Bidder.
- (b) For evaluation purposes, the lowest Foreign Bid shall be increased by fifteen percent (15%).
- (c) In the event that the lowest bid offered by a Domestic Bidder does not exceed the lowest Foreign Bid as increased, then the Procuring Entity shall award the contract to the Domestic Bidder at the amount of the lowest Foreign Bid.
- (d) If the Domestic Bidder refuses to accept the award of contract at the amount of the Foreign Bid within two (2) calendar days from receipt of written advice from the BAC, the Procuring Entity shall award to the bidder offering the Foreign Bid, subject to post-qualification and submission of all the documentary requirements under these Bidding Documents.

27.2. A Bidder may be granted preference as a Domestic Bidder subject to the certification from the DTI that the Bidder is offering unmanufactured articles, materials or supplies of the growth or production of the Philippines, or manufactured articles, materials, or supplies manufactured or to be manufactured in the Philippines substantially from articles, materials, or supplies of the growth, production, or manufacture, as the case may be, of the Philippines.

## **28. Detailed Evaluation and Comparison of Bids**

28.1. The Procuring Entity will undertake the detailed evaluation and comparison of bids which have passed the opening and preliminary examination of bids, pursuant to ITB Clause 24, in order to determine the Lowest Calculated Bid.

- 28.2. The Lowest Calculated Bid shall be determined in two steps:
- (a) The detailed evaluation of the financial component of the bids, to establish the correct calculated prices of the bids; and
  - (b) The ranking of the total bid prices as so calculated from the lowest to the highest. The bid with the lowest price shall be identified as the Lowest Calculated Bid.
- 28.3. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all bids rated "passed," using non-discretionary pass/fail criteria. The BAC shall consider the following in the evaluation of bids:
- (a) Completeness of the bid. Unless the **BDS** allows partial bids, bids not addressing or providing all of the required items in the Schedule of Requirements including, where applicable, Schedule of Prices, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a zero (0) or a dash (-) for the said item would mean that it is being offered for free to the Procuring Entity, except those required by law or regulations to be provided for; and
  - (b) Arithmetical corrections. Consider computational errors and omissions to enable proper comparison of all eligible bids. It may also consider bid modifications. Any adjustment shall be calculated in monetary terms to determine the calculated prices.
- 28.4. Based on the detailed evaluation of bids, those that comply with the above-mentioned requirements shall be ranked in the ascending order of their total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, to identify the Lowest Calculated Bid. Total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, which exceed the ABC shall not be considered, unless otherwise indicated in the **BDS**.
- 28.5. The Procuring Entity's evaluation of bids shall be based on the bid price quoted in the Bid Form, which includes the Schedule of Prices.
- 28.6. Bids shall be evaluated on an equal footing to ensure fair competition. For this purpose, all bidders shall be required to include in their bids the cost of all taxes, such as, but not limited to, value added tax (VAT), income tax, local taxes, and other fiscal levies and duties which shall be itemized in the bid form and reflected in the detailed estimates. Such bids, including said taxes, shall be the basis for bid evaluation and comparison.
- 28.7. If so indicated pursuant to **ITB** Clause 1.2, Bids are being invited for individual lots or for any combination thereof, provided that all Bids and

combinations of Bids shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid prices quoted shall correspond to all items specified for each lot and to all quantities specified for each item of a lot. Bid Security as required by ITB Clause 18 shall be submitted for each contract (lot) separately. The basis for evaluation of lots is specified in BDS Clause 28.3.

## 29. Post-Qualification

- 29.1. The BAC shall determine to its satisfaction whether the Bidder that is evaluated as having submitted the Lowest Calculated Bid complies with and is responsive to all the requirements and conditions specified in ITB Clauses 5, 12, and 13.
- 29.2. Within a non-extendible period of five (5) calendar days from receipt by the bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the BDS.  
  
Failure to submit any of the post-qualification requirements on time, or a finding against the veracity thereof, shall disqualify the bidder for award. Provided in the event that a finding against the veracity of any of the documents submitted is made, it shall cause the forfeiture of the bid security in accordance with Section 69 of the IRR of RA 9184.
- 29.3. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted pursuant to ITB Clauses 12 and 13, as well as other information as the Procuring Entity deems necessary and appropriate, using a non-discretionary "pass/fail" criterion, which shall be completed within a period of twelve (12) calendar days.
- 29.4. If the BAC determines that the Bidder with the Lowest Calculated Bid passes all the criteria for post-qualification, it shall declare the said bid as the LCRB, and recommend to the HoPE the award of contract to the said Bidder at its submitted price or its calculated bid price, whichever is lower.
- 29.5. A negative determination shall result in rejection of the Bidder's Bid, in which event the Procuring Entity shall proceed to the next Lowest Calculated Bid with a fresh period to make a similar determination of that Bidder's capabilities to perform satisfactorily. If the second Bidder, however, fails the post qualification, the procedure for post qualification shall be repeated for the Bidder with the next Lowest Calculated Bid, and so on until the LCRB is determined for recommendation for contract award.

- 29.6. Within a period not exceeding fifteen (15) calendar days from the determination by the BAC of the LCRB and the recommendation to award the contract, the HoPE or his duly authorized representative shall approve or disapprove the said recommendation.
- 29.7. In the event of disapproval, which shall be based on valid, reasonable, and justifiable grounds as provided for under Section 41 of the IRR of RA 9184, the HoPE shall notify the BAC and the Bidder in writing of such decision and the grounds for it. When applicable, the BAC shall conduct a post-qualification of the Bidder with the next Lowest Calculated Bid. A request for reconsideration may be filed by the bidder with the HoPE in accordance with Section 37.1.3 of the IRR of RA 9184.

### 30. Reservation Clause

- 30.1. Notwithstanding the eligibility or post-qualification of a Bidder, the Procuring Entity concerned reserves the right to review its qualifications at any stage of the procurement process if it has reasonable grounds to believe that a misrepresentation has been made by the said Bidder, or that there has been a change in the Bidder's capability to undertake the project from the time it submitted its eligibility requirements. Should such review uncover any misrepresentation made in the eligibility and bidding requirements, statements or documents, or any changes in the situation of the Bidder which will affect its capability to undertake the project so that it fails the preset eligibility or bid evaluation criteria, the Procuring Entity shall consider the said Bidder as ineligible and shall disqualify it from submitting a bid or from obtaining an award or contract.
- 30.2. Based on the following grounds, the Procuring Entity reserves the right to reject any and all bids, declare a Failure of Bidding at any time prior to the contract award, or not to award the contract, without thereby incurring any liability, and make no assurance that a contract shall be entered into as a result of the bidding:
- (a) If there is *prima facie* evidence of collusion between appropriate public officers or employees of the Procuring Entity, or between the BAC and any of the Bidders, or if the collusion is between or among the bidders themselves, or between a Bidder and a third party, including any act which restricts, suppresses or nullifies or tends to restrict, suppress or nullify competition;
  - (b) If the Procuring Entity's BAC is found to have failed in following the prescribed bidding procedures; or
  - (c) For any justifiable and reasonable ground where the award of the contract will not redound to the benefit of the GOP as follows:

- (i) If the physical and economic conditions have significantly changed so as to render the project no longer economically, financially or technically feasible as determined by the HoPE;
- (ii) If the project is no longer necessary as determined by the HoPE; and
- (iii) If the source of funds for the project has been withheld or reduced through no fault of the Procuring Entity.

30.3. In addition, the Procuring Entity may likewise declare a failure of bidding when:

- (a) No bids are received;
- (b) All prospective Bidders are declared ineligible;
- (c) All bids fail to comply with all the bid requirements or fail post-qualification; or
- (d) The bidder with the LCRB refuses, without justifiable cause to accept the award of contract, and no award is made in accordance with Section 40 of the IRR of RA 9184.

## **F. Award of Contract**

### **31. Contract Award**

- 31.1. Subject to **ITB** Clause 29, the HoPE or its duly authorized representative shall award the contract to the Bidder whose bid has been determined to be the LCRB.
- 31.2. Prior to the expiration of the period of bid validity, the Procuring Entity shall notify the successful Bidder in writing that its bid has been accepted, through a Notice of Award duly received by the Bidder or its representative personally or sent by registered mail or electronically, receipt of which must be confirmed in writing within two (2) days by the Bidder with the LCRB and submitted personally or sent by registered mail or electronically to the Procuring Entity.
- 31.3. Notwithstanding the issuance of the Notice of Award, award of contract shall be subject to the following conditions:
  - (a) Submission of the following documents within ten (10) calendar days from receipt of the Notice of Award:
    - (i) Valid JVA, if applicable; or

- (ii) In the case of procurement by a Philippine Foreign Service Office or Post, the PhilGEPS Registration Number of the winning foreign Bidder;
  - (b) Posting of the performance security in accordance with **ITB** Clause 33;
  - (c) Signing of the contract as provided in **ITB** Clause 32; and
  - (d) Approval by higher authority, if required, as provided in Section 37.3 of the IRR of RA 9184.
- 31.4. At the time of contract award, the Procuring Entity shall not increase or decrease the quantity of goods originally specified in Section VI. Schedule of Requirements.

## **32. Signing of the Contract**

- 32.1. At the same time as the Procuring Entity notifies the successful Bidder that its bid has been accepted, the Procuring Entity shall send the Contract Form to the Bidder, which contract has been provided in the Bidding Documents, incorporating therein all agreements between the parties.
- 32.2. Within ten (10) calendar days from receipt of the Notice of Award, the successful Bidder shall post the required performance security, sign and date the contract and return it to the Procuring Entity.
- 32.3. The Procuring Entity shall enter into contract with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 32.4. The following documents shall form part of the contract:
- (a) Contract Agreement;
  - (b) Bidding Documents;
  - (c) Winning bidder's bid, including the Technical and Financial Proposals, and all other documents/statements submitted (e.g., bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
  - (d) Performance Security;
  - (e) Notice of Award of Contract; and
  - (f) Other contract documents that may be required by existing laws and/or specified in the **BDS**.

## **33. Performance Security**

- 33.1. To guarantee the faithful performance by the winning Bidder of its obligations under the contract, it shall post a performance security within a maximum period of ten (10) calendar days from the receipt of the Notice of Award from the Procuring Entity and in no case later than the signing of the contract.
- 33.2. The Performance Security shall be denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount not less than the percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Not less than the Percentage of the Total Contract Price)
<p>(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.</p> <p><i>For biddings conducted by the LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i></p>	
<p>(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.</p> <p><i>For biddings conducted by the LGUs, the Bank Draft/Guarantee or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i></p>	<p>Five percent (5%)</p>
<p>(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to</p>	<p>Thirty percent (30%)</p>

9



Form of Performance Security	Amount of Performance Security (Not less than the Percentage of the Total Contract Price)
issue such security.	

33.3. Failure of the successful Bidder to comply with the above-mentioned requirement shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event the Procuring Entity shall have a fresh period to initiate and complete the post qualification of the second Lowest Calculated Bid. The procedure shall be repeated until the LCRB is identified and selected for recommendation of contract award. However if no Bidder passed post-qualification, the BAC shall declare the bidding a failure and conduct a re-bidding with re-advertisement, if necessary.

#### **34. Notice to Proceed**

Within seven (7) calendar days from the date of approval of the contract by the appropriate government approving authority, the Procuring Entity shall issue the Notice to Proceed (NTP) together with a copy or copies of the approved contract to the successful Bidder. All notices called for by the terms of the contract shall be effective only at the time of receipt thereof by the successful Bidder.

#### **35. Protest Mechanism**

Decisions of the procuring entity at any stage of the procurement process may be questioned in accordance with Section 55 of the IRR of RA 9184.

## Section III. Bid Data Sheet

### Bid Data Sheet

ITB Clause																																											
1.1	<p>The Procuring Entity is the <b>Technical Education and Skills Development Authority</b>. The name of the Contract is <b>Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CenTEs</b>.</p> <p>The identification number of the Contract is <b>TESDA-CO-2017-08</b>.</p>																																										
1.2	<p>The lot(s) and reference are:</p> <ol style="list-style-type: none"> <li>1. Agricultural Crops Production NC III</li> <li>2. Agricultural Mechanization</li> <li>3. Aquaculture</li> <li>4. Automotive Servicing</li> <li>5. Electrical Installation and Maintenance NC III</li> <li>6. Food Processing</li> <li>7. CNC Lathe and Milling Machine Operation NC III</li> <li>8. Welding</li> <li>9. Refrigeration and Air-Conditioning Servicing NC III</li> <li>10. Warehousing Services</li> <li>11. Mechatronics NC IV</li> <li>12. Food and Beverages Services NC III</li> <li>13. Commercial Cooking NC III</li> <li>14. Information and Communication Technology (ICT)</li> <li>15. Science Lab (Chemistry and Physics)</li> <li>16. Surveying Equipment</li> <li>17. Air Conditioning Unit</li> </ol>																																										
2	<p>The Funding Source is:</p> <p>The Government of the Philippines (GOP) through the <b>General Appropriations Act (GAA) FY 2016 in the amount of Two Hundred Twenty-Nine Million Nine Hundred Ninety-Nine Thousand Nine Hundred Eighty-Six Pesos and 215/1000 Only (Php229,999,986.215)</b> broken into:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 10%;">LOT NO.</th> <th style="width: 60%;">TITLE</th> <th style="width: 30%;">ABC (in Philippine Peso)</th> </tr> </thead> <tbody> <tr><td>1</td><td>Agricultural Crops Production NC III</td><td style="text-align: right;">8,820,414.096</td></tr> <tr><td>2</td><td>Agricultural Mechanization</td><td style="text-align: right;">11,620,864.992</td></tr> <tr><td>3</td><td>Aquaculture</td><td style="text-align: right;">13,735,532.276</td></tr> <tr><td>4</td><td>Automotive Servicing</td><td style="text-align: right;">17,232,526.124</td></tr> <tr><td>5</td><td>Electrical Installation and Maintenance NC III</td><td style="text-align: right;">18,964,410.752</td></tr> <tr><td>6</td><td>Food Processing</td><td style="text-align: right;">3,386,089.916</td></tr> <tr><td>7</td><td>CNC Lathe and Milling Machine Operation NC III</td><td style="text-align: right;">40,624,320.006</td></tr> <tr><td>8</td><td>Welding</td><td style="text-align: right;">17,363,932.554</td></tr> <tr><td>9</td><td>Refrigeration and Air-Conditioning Servicing NC III</td><td style="text-align: right;">17,744,811.744</td></tr> <tr><td>10</td><td>Warehousing Services</td><td style="text-align: right;">8,201,193.440</td></tr> <tr><td>11</td><td>Mechatronics NC IV</td><td style="text-align: right;">8,979,602.369</td></tr> <tr><td>12</td><td>Food and Beverages Services NC III</td><td style="text-align: right;">4,055,102.340</td></tr> <tr><td>13</td><td>Commercial Cooking NC III</td><td style="text-align: right;">4,070,116.336</td></tr> </tbody> </table>	LOT NO.	TITLE	ABC (in Philippine Peso)	1	Agricultural Crops Production NC III	8,820,414.096	2	Agricultural Mechanization	11,620,864.992	3	Aquaculture	13,735,532.276	4	Automotive Servicing	17,232,526.124	5	Electrical Installation and Maintenance NC III	18,964,410.752	6	Food Processing	3,386,089.916	7	CNC Lathe and Milling Machine Operation NC III	40,624,320.006	8	Welding	17,363,932.554	9	Refrigeration and Air-Conditioning Servicing NC III	17,744,811.744	10	Warehousing Services	8,201,193.440	11	Mechatronics NC IV	8,979,602.369	12	Food and Beverages Services NC III	4,055,102.340	13	Commercial Cooking NC III	4,070,116.336
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5.1	<p>Additional Eligibility of the Bidders:</p> <ol style="list-style-type: none"> <li>The Bidder must have been in the business for at least five (5) years from the date of opening of bids;</li> <li>If the bidder had a contract with TESDA, prior the bid opening for this project, said bidder must have satisfactorily performed its obligations without any adverse findings issued by competent authorities relative to the quality and cost of the goods supplied and delivered including period of delivery.</li> <li>Pursuant to Section 23.4.1.3. of the 2016 Revised Implementing Rules and Regulations of Republic Act No. 9184, otherwise known as the Government Procurement Reform Act, which prescribes that the procuring entity may clarify in the Bidding Documents the definition or description of what it considers to be a similar project, a contract is similar to the contract to be bid if it involves goods of the same nature and complexity as those which are the subject of the public bidding concerned. In the case of this procurement, the goods subject of this public bidding pertain to training tools and equipment relevant to the provision of technical education and skills development which will be used as training tools and equipment per identified qualification for the implementation of higher level DAC qualification of the 23 CentExs. As such, the goods covered under the completed single contract of the bidder which must be equivalent to at least fifty percent (50%) of the ABC must have the same major categories of goods subject of this public bidding for the said contract to qualify as a contract similar to the contract to be bid.</li> <li>The bidder must submit its clearances from the National Labor Relations Commission (NLRC), Department of Labor and Employment (DOLE), Pag-IBIG Fund, Social Security System (SSS) and Philippine Health Insurance Corporation (PhilHealth) during the bid opening as part of the eligibility requirements. Said clearances must be issued within three (3) months from the date of the bid opening.</li> </ol>																	
5.2	Foreign bidders, except those falling under ITB Clause 5.2(b), may not participate in this Project.																	
5.4	The Bidder must have completed, within the period specified in the Invitation to Bid and ITB Clause 12.1(a)(ii), a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.																	
7	No further instructions.																	
8.1	Subcontracting is not allowed.																	
8.2	Not applicable																	
9.1	The Procuring Entity will hold a pre-bid conference for this Project on <b>23 October 2017, 2:00 p.m.</b> at the <b>CSA Conference Room, 2<sup>nd</sup> Floor, TESDA Administration Building, Tagulug City.</b>																	

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10.1	<p>The Procuring Entity's address is:</p> <p><b>Technical Education and Skills Development Authority</b>  <b>East Service Road</b>  <b>South Luzon Expressway</b>  <b>Taguig City, Metro Manila</b>  <b>Tel/Fax No. 893-8296</b>  <b>Email address: bacsecretariat@tesda.gov.ph</b></p>																																																						
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18.1	<p>The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:</p> <ol style="list-style-type: none"> <li>The amount of not less than 2% of ABC, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or</li> <li>The amount of not less than 5% of ABC if bid security is in Surety Bond.</li> </ol>																																																																											
	<table border="1"> <thead> <tr> <th>LOT NO.</th> <th>TITLE</th> <th>2% of ABC (in Philippine Peso)</th> <th>5% of ABC (in Philippine Peso)</th> </tr> </thead> <tbody> <tr><td>1</td><td>Agricultural Crops Production NC III</td><td>176,408.282</td><td>441,020.705</td></tr> <tr><td>2</td><td>Agricultural Mechanization</td><td>232,417.300</td><td>581,043.250</td></tr> <tr><td>3</td><td>Aquaculture</td><td>274,710.646</td><td>686,776.614</td></tr> <tr><td>4</td><td>Automotive Servicing</td><td>344,650.522</td><td>861,626.306</td></tr> <tr><td>5</td><td>Electrical Installation and Maintenance NC III</td><td>379,288.215</td><td>948,220.538</td></tr> <tr><td>6</td><td>Food Processing</td><td>67,721.798</td><td>169,304.496</td></tr> <tr><td>7</td><td>CNC Lathe and Milling Machine Operation NC III</td><td>812,486.400</td><td>2,031,216.000</td></tr> <tr><td>8</td><td>Welding</td><td>347,278.651</td><td>868,196.628</td></tr> <tr><td>9</td><td>Refrigeration and Air-Conditioning Servicing NC III</td><td>354,896.235</td><td>887,240.587</td></tr> <tr><td>10</td><td>Warehousing Services</td><td>164,023.869</td><td>410,059.672</td></tr> <tr><td>11</td><td>Mechatronics NC IV</td><td>179,592.047</td><td>448,980.118</td></tr> <tr><td>12</td><td>Food and Beverages Services NC III</td><td>81,102.047</td><td>202,755.117</td></tr> <tr><td>13</td><td>Commercial Cooking NC III</td><td>81,402.327</td><td>203,505.817</td></tr> <tr><td>14</td><td>Information and Communication Technology (ICT)</td><td>1,018,402.944</td><td>2,546,007.361</td></tr> <tr><td>15</td><td>Science Lab (Chemistry and Physics)</td><td>36,272.388</td><td>90,680.971</td></tr> <tr><td>16</td><td>Surveying Equipment</td><td>38,192.000</td><td>95,480.000</td></tr> <tr><td>17</td><td>Air Conditioning Unit</td><td>11,154.053</td><td>27,885.132</td></tr> </tbody> </table>	LOT NO.	TITLE	2% of ABC (in Philippine Peso)	5% of ABC (in Philippine Peso)	1	Agricultural Crops Production NC III	176,408.282	441,020.705	2	Agricultural Mechanization	232,417.300	581,043.250	3	Aquaculture	274,710.646	686,776.614	4	Automotive Servicing	344,650.522	861,626.306	5	Electrical Installation and Maintenance NC III	379,288.215	948,220.538	6	Food Processing	67,721.798	169,304.496	7	CNC Lathe and Milling Machine Operation NC III	812,486.400	2,031,216.000	8	Welding	347,278.651	868,196.628	9	Refrigeration and Air-Conditioning Servicing NC III	354,896.235	887,240.587	10	Warehousing Services	164,023.869	410,059.672	11	Mechatronics NC IV	179,592.047	448,980.118	12	Food and Beverages Services NC III	81,102.047	202,755.117	13	Commercial Cooking NC III	81,402.327	203,505.817	14	Information and Communication Technology (ICT)	1,018,402.944	2,546,007.361	15	Science Lab (Chemistry and Physics)	36,272.388	90,680.971	16	Surveying Equipment	38,192.000	95,480.000	17	Air Conditioning Unit	11,154.053	27,885.132			
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21	<p>The address for submission of bids is:  <b>TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY</b>  <b>ATTY. DIOSDADO O. PADILLA</b>  Chairperson, BAC  TESDA Complex, TESDA Administration Building  East Service Road, SLEX  Taguig City, Philippines</p> <p>The deadline for submission of bids is <b>07 November 2017 at 10:00 a.m.</b></p>																																																																											
24.1	<p>The place of bid opening is:  <b>CSA Conference Room, 2<sup>nd</sup> Floor,</b>  <b>TESDA Administration Building</b>  <b>Taguig City</b></p> <p>The date and time of bid opening is <b>07 November 2017 at 10:15 a.m.</b></p>																																																																											
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32.4(f)	<i>List additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, or state "No additional requirement."</i>																																																																											

Handwritten signatures and initials, including a large 'P' and 'M' and a vertical line.

## ***Section IV. General Conditions of Contract***

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# 1. Definitions

1.1. In this Contract, the following terms shall be interpreted as indicated:

- (a) "The Contract" means the agreement entered into between the Procuring Entity and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Goods" means all of the supplies, equipment, machinery, spare parts, other materials and/or general support services which the Supplier is required to provide to the Procuring Entity under the Contract.
- (d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
- (e) "GCC" means the General Conditions of Contract contained in this Section.
- (f) "SCC" means the Special Conditions of Contract.
- (g) "The Procuring Entity" means the organization purchasing the Goods, as named in the SCC.
- (h) "The Procuring Entity's country" is the Philippines.
- (i) "The Supplier" means the individual contractor, manufacturer distributor, or firm supplying/manufacturing the Goods and Services under this Contract and named in the SCC.
- (j) The "Funding Source" means the organization named in the SCC.
- (k) "The Project Site," where applicable, means the place or places named in the SCC.
- (l) "Day" means calendar day.
- (m) The "Effective Date" of the contract will be the date of signing the contract, however the Supplier shall commence performance of its obligations only upon receipt of the Notice to Proceed and copy of the approved contract.

- (n) "Verified Report" refers to the report submitted by the Implementing Unit to the HoPE setting forth its findings as to the existence of grounds or causes for termination and explicitly stating its recommendation for the issuance of a Notice to Terminate.

## 2. Corrupt, Fraudulent, Collusive, and Coercive Practices

2.1. Unless otherwise provided in the SCC, the Procuring Entity as well as the bidders, contractors, or suppliers shall observe the highest standard of ethics during the procurement and execution of this Contract. In pursuance of this policy, the Procuring Entity:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves, others, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; entering, on behalf of the Government, into any contract or transaction manifestly and grossly disadvantageous to the same, whether or not the public officer profited or will profit thereby, and similar acts as provided in Republic Act 3019.
  - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Entity, and includes collusive practices among Bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the Procuring Entity of the benefits of free and open competition.
  - (iii) "collusive practices" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels.
  - (iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract;
  - (v) "obstructive practice" is

- (aa) deliberately destroying, falsifying, altering or concealing of evidence material to an administrative proceedings or investigation or making false statements to investigators in order to materially impede an administrative proceedings or investigation of the Procuring Entity or any foreign government/foreign or international financing institution into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the administrative proceedings or investigation or from pursuing such proceedings or investigation; or
- (bb) acts intended to materially impede the exercise of the inspection and audit rights of the Procuring Entity or any foreign government/foreign or international financing institution herein.

- (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in any of the practices mentioned in this Clause for purposes of competing for the contract.

2.2. Further the Funding Source, Borrower or Procuring Entity, as appropriate, will seek to impose the maximum civil, administrative and/or criminal penalties available under the applicable law on individuals and organizations deemed to be involved with any of the practices mentioned in GCC Clause 2.1(a).

### **3. Inspection and Audit by the Funding Source**

The Supplier shall permit the Funding Source to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Funding Source, if so required by the Funding Source.

### **4. Governing Law and Language**

- 4.1. This Contract shall be interpreted in accordance with the laws of the Republic of the Philippines.
- 4.2. This Contract has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract. All correspondence and other documents pertaining to this Contract exchanged by the parties shall be written in English.

### **5. Notices**

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- 5.1. Any notice, request, or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request, or consent shall be deemed to have been given or made when received by the concerned party, either in person or through an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the **SCC**, which shall be effective when delivered and duly received or on the notice's effective date, whichever is later.
- 5.2. A Party may change its address for notice hereunder by giving the other Party notice of such change pursuant to the provisions listed in the **SCC** for **GCC** Clause 5.1.

## 6. Scope of Contract

- 6.1. The Goods and Related Services to be provided shall be as specified in Section VI. Schedule of Requirements.
- 6.2. This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. Any additional requirements for the completion of this Contract shall be provided in the **SCC**.

## 7. Subcontracting

- 7.1. Subcontracting of any portion of the Goods, if allowed in the **BDS**, does not relieve the Supplier of any liability or obligation under this Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants or workmen as fully as if these were the Supplier's own acts, defaults, or negligence, or those of its agents, servants or workmen.
- 7.2. If subcontracting is allowed, the Supplier may identify its subcontractor during contract implementation. Subcontractors disclosed and identified during the bidding may be changed during the implementation of this Contract. In either case, subcontractors must submit the documentary requirements under **ITB** Clause 12 and comply with the eligibility criteria specified in the **BDS**. In the event that any subcontractor is found by the Procuring Entity to be ineligible, the subcontracting of such portion of the Goods shall be disallowed.

## 8. Procuring Entity's Responsibilities

- 8.1. Whenever the performance of the obligations in this Contract requires that the Supplier obtain permits, approvals, import, and other licenses from local public authorities, the Procuring Entity shall, if so needed by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner.

8.2. The Procuring Entity shall pay all costs involved in the performance of its responsibilities in accordance with **GCC** Clause 6.

## 9. Prices

9.1. For the given scope of work in this Contract as awarded, all bid prices are considered fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances and upon prior approval of the GPPB in accordance with Section 61 of R.A. 9184 and its IRR or except as provided in this Clause.

9.2. Prices charged by the Supplier for Goods delivered and/or services performed under this Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any change in price resulting from a Change Order issued in accordance with **GCC** Clause 29.

## 10. Payment

10.1. Payments shall be made only upon a certification by the HoPE to the effect that the Goods have been rendered or delivered in accordance with the terms of this Contract and have been duly inspected and accepted. Except with the prior approval of the President no payment shall be made for services not yet rendered or for supplies and materials not yet delivered under this Contract. Ten percent (10%) of the amount of each payment shall be retained by the Procuring Entity to cover the Supplier's warranty obligations under this Contract as described in **GCC** Clause 17.

10.2. The Supplier's request(s) for payment shall be made to the Procuring Entity in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and/or Services performed, and by documents submitted pursuant to the **SCC** provision for **GCC** Clause 6.2, and upon fulfillment of other obligations stipulated in this Contract.

10.3. Pursuant to **GCC** Clause 10.2, payments shall be made promptly by the Procuring Entity, but in no case later than sixty (60) days after submission of an invoice or claim by the Supplier. Payments shall be in accordance with the schedule stated in the **SCC**.

10.4. Unless otherwise provided in the **SCC**, the currency in which payment is made to the Supplier under this Contract shall be in Philippine Pesos.

10.5. Unless otherwise provided in the **SCC**, payments using Letter of Credit (LC), in accordance with the Guidelines issued by the GPPB, is allowed. For this purpose, the amount of provisional sum is indicated in the **SCC**. All charges for the opening of the LC and/or incidental expenses thereto shall be for the account of the Supplier.

## 11. Advance Payment and Terms of Payment

- 11.1. Advance payment shall be made only after prior approval of the President, and shall not exceed fifteen percent (15%) of the Contract amount, unless otherwise directed by the President or in cases allowed under Annex "D" of RA 9184.
- 11.2. All progress payments shall first be charged against the advance payment until the latter has been fully exhausted.
- 11.3. For Goods supplied from abroad, unless otherwise indicated in the SCC, the terms of payment shall be as follows:
- (a) On Contract Signature: Fifteen Percent (15%) of the Contract Price shall be paid within sixty (60) days from signing of the Contract and upon submission of a claim and a bank guarantee for the equivalent amount valid until the Goods are delivered and in the form provided in Section VIII. Bidding Forms.
  - (b) On Delivery: Sixty-five percent (65%) of the Contract Price shall be paid to the Supplier within sixty (60) days after the date of receipt of the Goods and upon submission of the documents (i) through (vi) specified in the SCC provision on Delivery and Documents.
  - (c) On Acceptance: The remaining twenty percent (20%) of the Contract Price shall be paid to the Supplier within sixty (60) days after the date of submission of the acceptance and inspection certificate for the respective delivery issued by the Procuring Entity's authorized representative. In the event that no inspection or acceptance certificate is issued by the Procuring Entity's authorized representative within forty five (45) days of the date shown on the delivery receipt, the Supplier shall have the right to claim payment of the remaining twenty percent (20%) subject to the Procuring Entity's own verification of the reason(s) for the failure to issue documents (vii) and (viii) as described in the SCC provision on Delivery and Documents.

## 12. Taxes and Duties

The Supplier, whether local or foreign, shall be entirely responsible for all the necessary taxes, stamp duties, license fees, and other such levies imposed for the completion of this Contract.

## 13. Performance Security

- 13.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any the forms prescribed in the **ITB** Clause 33.2.

- 13.2. The performance security posted in favor of the Procuring Entity shall be forfeited in the event it is established that the winning bidder is in default in any of its obligations under the contract.
- 13.3. The performance security shall remain valid until issuance by the Procuring Entity of the Certificate of Final Acceptance.
- 13.4. The performance security may be released by the Procuring Entity and returned to the Supplier after the issuance of the Certificate of Final Acceptance subject to the following conditions:
  - (a) There are no pending claims against the Supplier or the surety company filed by the Procuring Entity;
  - (b) The Supplier has no pending claims for labor and materials filed against it; and
  - (c) Other terms specified in the **SCC**.
- 13.5. In case of a reduction of the contract value, the Procuring Entity shall allow a proportional reduction in the original performance security, provided that any such reduction is more than ten percent (10%) and that the aggregate of such reductions is not more than fifty percent (50%) of the original performance security.

#### **14. Use of Contract Documents and Information**

- 14.1. The Supplier shall not, except for purposes of performing the obligations in this Contract, without the Procuring Entity's prior written consent, disclose this Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Entity. Any such disclosure shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.
- 14.2. Any document, other than this Contract itself, enumerated in **GCC** Clause 14.1 shall remain the property of the Procuring Entity and shall be returned (all copies) to the Procuring Entity on completion of the Supplier's performance under this Contract if so required by the Procuring Entity.

#### **15. Standards**

The Goods provided under this Contract shall conform to the standards mentioned in the Section VII. Technical Specifications; and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the institution concerned.

#### **16. Inspection and Tests**

- 16.1. The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Entity. The **SCC** and Section VII. Technical Specifications shall specify what inspections and/or tests the Procuring Entity requires and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 16.2. If applicable, the inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring Entity. The Supplier shall provide the Procuring Entity with results of such inspections and tests.
- 16.3. The Procuring Entity or its designated representative shall be entitled to attend the tests and/or inspections referred to in this Clause provided that the Procuring Entity shall bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 16.4. The Procuring Entity may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Procuring Entity, and shall repeat the test and/or inspection, at no cost to the Procuring Entity, upon giving a notice pursuant to **GCC** Clause 5.
- 16.5. The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Procuring Entity or its representative, shall release the Supplier from any warranties or other obligations under this Contract.

## **17. Warranty**

- 17.1. The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials, except when the technical specifications required by the Procuring Entity provides otherwise.
- 17.2. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.



- 17.3. In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier for a minimum period specified in the **SCC**. The obligation for the warranty shall be covered by, at the Supplier's option, either retention money in an amount equivalent to at least one percent (1%) of every progress payment, or a special bank guarantee equivalent to at least one percent (1%) of the total Contract Price or other such amount if so specified in the **SCC**. The said amounts shall only be released after the lapse of the warranty period specified in the **SCC**; provided, however, that the Supplies delivered are free from patent and latent defects and all the conditions imposed under this Contract have been fully met.
- 17.4. The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC** and with all reasonable speed, repair or replace the defective Goods or parts thereof, without cost to the Procuring Entity.
- 17.5. If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in **GCC** Clause 17.4, the Procuring Entity may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring Entity may have against the Supplier under the Contract and under the applicable law.

## **18. Delays in the Supplier's Performance**

- 18.1. Delivery of the Goods and/or performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring Entity in Section VI. Schedule of Requirements.
- 18.2. If at any time during the performance of this Contract, the Supplier or its Subcontractor(s) should encounter conditions impeding timely delivery of the Goods and/or performance of Services, the Supplier shall promptly notify the Procuring Entity in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, and upon causes provided for under **GCC** Clause 22, the Procuring Entity shall evaluate the situation and may extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of Contract.
- 18.3. Except as provided under **GCC** Clause 22, a delay by the Supplier in the performance of its obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to **GCC** Clause 19, unless an extension of time is agreed upon pursuant to **GCC** Clause 29 without the application of liquidated damages.

## **19. Liquidated Damages**

Subject to **GCC** Clauses 18 and 22, if the Supplier fails to satisfactorily deliver any or all of the Goods and/or to perform the Services within the period(s)



specified in this Contract inclusive of duly granted time extensions if any, the Procuring Entity shall, without prejudice to its other remedies under this Contract and under the applicable law, deduct from the Contract Price, as liquidated damages, the applicable rate of one tenth (1/10) of one (1) percent of the cost of the unperformed portion for every day of delay until actual delivery or performance. The maximum deduction shall be ten percent (10%) of the amount of contract. Once the maximum is reached, the Procuring Entity may rescind or terminate the Contract pursuant to **GCC** Clause 23, without prejudice to other courses of action and remedies open to it.

## **20. Settlement of Disputes**

- 20.1. If any dispute or difference of any kind whatsoever shall arise between the Procuring Entity and the Supplier in connection with or arising out of this Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 20.2. If after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Procuring Entity or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 20.3. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under this Contract.
- 20.4. In the case of a dispute between the Procuring Entity and the Supplier, the dispute shall be resolved in accordance with Republic Act 9285 ("R.A. 9285"), otherwise known as the "Alternative Dispute Resolution Act of 2004."
- 20.5. Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Procuring Entity shall pay the Supplier any monies due the Supplier.

## **21. Liability of the Supplier**

- 21.1. The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines, subject to additional provisions, if any, set forth in the **SCC**.
- 21.2. Except in cases of criminal negligence or willful misconduct, and in the case of infringement of patent rights, if applicable, the aggregate liability of the Supplier to the Procuring Entity shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

## 22. Force Majeure

- 22.1. The Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that the Supplier's delay in performance or other failure to perform its obligations under the Contract is the result of a *force majeure*.
- 22.2. For purposes of this Contract the terms "*force majeure*" and "fortuitous event" may be used interchangeably. In this regard, a fortuitous event or *force majeure* shall be interpreted to mean an event which the Supplier could not have foreseen, or which though foreseen, was inevitable. It shall not include ordinary unfavorable weather conditions; and any other cause the effects of which could have been avoided with the exercise of reasonable diligence by the Supplier. Such events may include, but not limited to, acts of the Procuring Entity in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 22.3. If a *force majeure* situation arises, the Supplier shall promptly notify the Procuring Entity in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Entity in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the *force majeure*.

## 23. Termination for Default

- 23.1. The Procuring Entity shall terminate this Contract for default when any of the following conditions attends its implementation:
- (a) Outside of *force majeure*, the Supplier fails to deliver or perform any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Procuring Entity pursuant to a request made by the Supplier prior to the delay, and such failure amounts to at least ten percent (10%) of the contract price;
  - (b) As a result of *force majeure*, the Supplier is unable to deliver or perform any or all of the Goods, amounting to at least ten percent (10%) of the contract price, for a period of not less than sixty (60) calendar days after receipt of the notice from the Procuring Entity stating that the circumstance of force majeure is deemed to have ceased; or
  - (c) The Supplier fails to perform any other obligation under the Contract.
- 23.2. In the event the Procuring Entity terminates this Contract in whole or in part, for any of the reasons provided under GCC Clauses 23 to 26, the Procuring Entity may procure, upon such terms and in such manner as

it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Procuring Entity for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of this Contract to the extent not terminated.

- 23.3. In case the delay in the delivery of the Goods and/or performance of the Services exceeds a time duration equivalent to ten percent (10%) of the specified contract time plus any time extension duly granted to the Supplier, the Procuring Entity may terminate this Contract, forfeit the Supplier's performance security and award the same to a qualified Supplier.

## **24. Termination for Insolvency**

The Procuring Entity shall terminate this Contract if the Supplier is declared bankrupt or insolvent as determined with finality by a court of competent jurisdiction. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Procuring Entity and/or the Supplier.

## **25. Termination for Convenience**

- 25.1. The Procuring Entity may terminate this Contract, in whole or in part, at any time for its convenience. The HoPE may terminate a contract for the convenience of the Government if he has determined the existence of conditions that make Project Implementation economically, financially or technically impractical and/or unnecessary, such as, but not limited to, fortuitous event(s) or changes in law and national government policies.
- 25.2. The Goods that have been delivered and/or performed or are ready for delivery or performance within thirty (30) calendar days after the Supplier's receipt of Notice to Terminate shall be accepted by the Procuring Entity at the contract terms and prices. For Goods not yet performed and/or ready for delivery, the Procuring Entity may elect:
- (a) to have any portion delivered and/or performed and paid at the contract terms and prices; and/or
  - (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed and/or performed goods and for materials and parts previously procured by the Supplier.
- 25.3. If the Supplier suffers loss in its initial performance of the terminated contract, such as purchase of raw materials for goods specially manufactured for the Procuring Entity which cannot be sold in open market, it shall be allowed to recover partially from this Contract, on a *quantum meruit* basis. Before recovery may be made, the fact of loss must be established under oath by the Supplier to the satisfaction of the Procuring Entity before recovery may be made.

## 26. Termination for Unlawful Acts

26.1. The Procuring Entity may terminate this Contract in case it is determined *prima facie* that the Supplier has engaged, before or during the implementation of this Contract, in unlawful deeds and behaviors relative to contract acquisition and implementation. Unlawful acts include, but are not limited to, the following:

- (a) Corrupt, fraudulent, and coercive practices as defined in ITB Clause 3.1(a);
- (b) Drawing up or using forged documents;
- (c) Using adulterated materials, means or methods, or engaging in production contrary to rules of science or the trade; and
- (d) Any other act analogous to the foregoing.

## 27. Procedures for Termination of Contracts

27.1. The following provisions shall govern the procedures for termination of this Contract:

- (a) Upon receipt of a written report of acts or causes which may constitute ground(s) for termination as aforementioned, or upon its own initiative, the Implementing Unit shall, within a period of seven (7) calendar days, verify the existence of such ground(s) and cause the execution of a Verified Report, with all relevant evidence attached;
- (b) Upon recommendation by the Implementing Unit, the HoPE shall terminate this Contract only by a written notice to the Supplier conveying the termination of this Contract. The notice shall state:
  - (i) that this Contract is being terminated for any of the ground(s) afore-mentioned, and a statement of the acts that constitute the ground(s) constituting the same;
  - (ii) the extent of termination, whether in whole or in part;
  - (iii) an instruction to the Supplier to show cause as to why this Contract should not be terminated; and
  - (iv) special instructions of the Procuring Entity, if any.
- (c) The Notice to Terminate shall be accompanied by a copy of the Verified Report;
- (d) Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Supplier shall submit to the HoPE a verified position paper stating why this Contract should not be

1

terminated. If the Supplier fails to show cause after the lapse of the seven (7) day period, either by inaction or by default, the HoPE shall issue an order terminating this Contract;

- (e) The Procuring Entity may, at any time before receipt of the Supplier's verified position paper described in item (d) above withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Supplier's receipt of the notice;
- (f) Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the HoPE shall decide whether or not to terminate this Contract. It shall serve a written notice to the Supplier of its decision and, unless otherwise provided, this Contract is deemed terminated from receipt of the Supplier of the notice of decision. The termination shall only be based on the ground(s) stated in the Notice to Terminate;
- (g) The HoPE may create a Contract Termination Review Committee (CTRC) to assist him in the discharge of this function. All decisions recommended by the CTRC shall be subject to the approval of the HoPE; and
- (h) The Supplier must serve a written notice to the Procuring Entity of its intention to terminate the contract at least thirty (30) calendar days before its intended termination. The Contract is deemed terminated if it is not resumed in thirty (30) calendar days after the receipt of such notice by the Procuring Entity.

## **28. Assignment of Rights**

The Supplier shall not assign his rights or obligations under this Contract, in whole or in part, except with the Procuring Entity's prior written consent.

## **29. Contract Amendment**

Subject to applicable laws, no variation in or modification of the terms of this Contract shall be made except by written amendment signed by the parties.

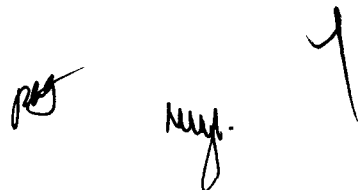
## **30. Application**

These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of this Contract.

## Section V. Special Conditions of Contract

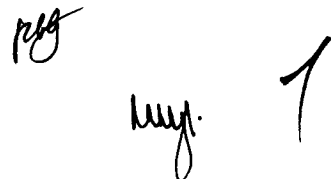
### Special Conditions of Contract

GCC Clause																																																							
1.1(g)	The Procuring Entity is <b>Technical Education and Skills Development Authority (TESDA)</b> .																																																						
1.1(i)	The Supplier is:																																																						
1.1(j)	<p>The Funding Source is:</p> <p>The Government of the Philippines (GOP) through the <b>General Appropriations Act (GAA) FY 2016 in the amount of Two Hundred Twenty-Nine Million Nine Hundred Ninety-Nine Thousand Nine Hundred Eighty-Six Pesos and 215/1000 Only (Php229,999,986.215)</b> broken into:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">LOT NO.</th> <th style="text-align: center;">TITLE</th> <th style="text-align: center;">ABC (in Philippine Peso)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td>Agricultural Crops Production NC III</td><td style="text-align: right;">8,820,414.096</td></tr> <tr><td style="text-align: center;">2</td><td>Agricultural Mechanization</td><td style="text-align: right;">11,620,864.992</td></tr> <tr><td style="text-align: center;">3</td><td>Aquaculture</td><td style="text-align: right;">13,735,532.276</td></tr> <tr><td style="text-align: center;">4</td><td>Automotive Servicing</td><td style="text-align: right;">17,232,526.124</td></tr> <tr><td style="text-align: center;">5</td><td>Electrical Installation and Maintenance NC III</td><td style="text-align: right;">18,964,410.752</td></tr> <tr><td style="text-align: center;">6</td><td>Food Processing</td><td style="text-align: right;">3,386,089.916</td></tr> <tr><td style="text-align: center;">7</td><td>CNC Lathe and Milling Machine Operation NC III</td><td style="text-align: right;">40,624,320.006</td></tr> <tr><td style="text-align: center;">8</td><td>Welding</td><td style="text-align: right;">17,363,932.554</td></tr> <tr><td style="text-align: center;">9</td><td>Refrigeration and Air-Conditioning Servicing NC III</td><td style="text-align: right;">17,744,811.744</td></tr> <tr><td style="text-align: center;">10</td><td>Warehousing Services</td><td style="text-align: right;">8,201,193.440</td></tr> <tr><td style="text-align: center;">11</td><td>Mechatronics NC IV</td><td style="text-align: right;">8,979,602.369</td></tr> <tr><td style="text-align: center;">12</td><td>Food and Beverages Services NC III</td><td style="text-align: right;">4,055,102.340</td></tr> <tr><td style="text-align: center;">13</td><td>Commercial Cooking NC III</td><td style="text-align: right;">4,070,116.336</td></tr> <tr><td style="text-align: center;">14</td><td>Information and Communication Technology (ICT)</td><td style="text-align: right;">50,920,147.212</td></tr> <tr><td style="text-align: center;">15</td><td>Science Lab (Chemistry and Physics)</td><td style="text-align: right;">1,813,619.414</td></tr> <tr><td style="text-align: center;">16</td><td>Surveying Equipment</td><td style="text-align: right;">1,909,600.004</td></tr> <tr><td style="text-align: center;">17</td><td>Air Conditioning Unit</td><td style="text-align: right;">557,702.640</td></tr> </tbody> </table>	LOT NO.	TITLE	ABC (in Philippine Peso)	1	Agricultural Crops Production NC III	8,820,414.096	2	Agricultural Mechanization	11,620,864.992	3	Aquaculture	13,735,532.276	4	Automotive Servicing	17,232,526.124	5	Electrical Installation and Maintenance NC III	18,964,410.752	6	Food Processing	3,386,089.916	7	CNC Lathe and Milling Machine Operation NC III	40,624,320.006	8	Welding	17,363,932.554	9	Refrigeration and Air-Conditioning Servicing NC III	17,744,811.744	10	Warehousing Services	8,201,193.440	11	Mechatronics NC IV	8,979,602.369	12	Food and Beverages Services NC III	4,055,102.340	13	Commercial Cooking NC III	4,070,116.336	14	Information and Communication Technology (ICT)	50,920,147.212	15	Science Lab (Chemistry and Physics)	1,813,619.414	16	Surveying Equipment	1,909,600.004	17	Air Conditioning Unit	557,702.640
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2.1	No further instructions.																																																						



## Special Conditions of Contract



GCC Clause	
5.1	<p>The Procuring Entity's address for Notices is:</p> <p><b>GUILING "GENE" A. MAMONDIONG</b>            Director General/Secretary  <b>Technical Education and Skills Development Authority</b>            East Service Road            South Luzon Expressway            Taguig City, Metro Manila  <b>Philippines</b></p> <p><b>Tel/Fax No. 893-8296</b></p> <p>The Supplier's address for Notices is:</p> <p>_____</p> <p>_____</p> <p>_____</p>
6.2	<p><b>Delivery and Documents –</b></p> <p>For purposes of the Contract, "EXW," "FOB," "FCA," "CIF," "CIP," "DDP" and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of INCOTERMS published by the International Chamber of Commerce, Paris. The Delivery terms of this Contract shall be as follows:</p> <p><i>For Goods Supplied from Abroad, state "The delivery terms applicable to the Contract are DDP delivered to various regional offices of TESDA. In accordance with INCOTERMS."</i></p> <p><i>For Goods Supplied from Within the Philippines, state "The delivery terms applicable to this Contract are to various regional offices of TESDA. Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination."</i></p> <p>Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI. Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are as follows:</p> <p><i>For Goods supplied from within the Philippines:</i></p> <p>Upon delivery of the Goods to the Project Site, the Supplier shall notify the Procuring Entity and present the following documents to the Procuring Entity:</p> <p>(i) Original and four copies of the Supplier's invoice showing Goods'</p>







## Special Conditions of Contract

GCC Clause	
	<p>description, quantity, unit price, and total amount;</p> <p>(ii) Original and four copies delivery receipt/note, railway receipt, or truck receipt;</p> <p>(iii) Original Supplier's factory inspection report;</p> <p>(iv) Original and four copies of the Manufacturer's and/or Supplier's warranty certificate;</p> <p>(v) Original and four copies of the certificate of origin (for imported Goods);</p> <p>(vi) Delivery receipt detailing number and description of items received signed by the authorized receiving personnel;</p> <p>(vii) Certificate of Acceptance/Inspection Report signed by the Procuring Entity's representative at the Project Site; and</p> <p>(viii) Four copies of the Invoice Receipt for Property signed by the Procuring Entity's representative at the Project Site.</p> <p><i>For Goods supplied from abroad:</i></p> <p>Upon shipment, the Supplier shall notify the Procuring Entity and the insurance company by cable the full details of the shipment, including Contract Number, description of the Goods, quantity, vessel, bill of lading number and date, port of loading, date of shipment, port of discharge etc. Upon delivery to the Project Site, the Supplier shall notify the Procuring Entity and present the following documents as applicable with the documentary requirements of any letter of credit issued taking precedence:</p> <p>(i) Original and four copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</p> <p>(ii) Original and four copies of the negotiable, clean shipped on board bill of lading marked "freight pre-paid" and five copies of the non-negotiable bill of lading;</p> <p>(iii) Original Supplier's factory inspection report;</p> <p>(iv) Original and four copies of the Manufacturer's and/or Supplier's warranty certificate;</p> <p>(v) Original and four copies of the certificate of origin (for imported Goods);</p> <p>(vi) Delivery receipt detailing number and description of items received signed by the Procuring Entity's representative at the Project Site;</p> <p>(vii) Certificate of Acceptance/Inspection Report signed by the Procuring Entity's representative at the Project Site; and</p> <p>(viii) Four copies of the Invoice Receipt for Property signed by the Procuring Entity's representative at the Project Site.</p>

  
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## Special Conditions of Contract

GCC Clause	
	<p>For purposes of this Clause the Procuring Entity's Representative at the Project Site is the TESDA-Central Office.</p> <p><b>Incidental Services –</b></p> <p>The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements:</p> <p><i>Select appropriate requirements and delete the rest.</i></p> <ul style="list-style-type: none"> <li>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</li> <li>(b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;</li> <li>(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;</li> <li>(d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and</li> <li>(e) training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.</li> </ul> <p>The Contract price for the Goods shall include the prices charged by the Supplier for incidental services and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.</p> <p><b>Spare Parts –</b></p> <p>The Supplier is required to provide all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:</p> <p><i>Select appropriate requirements and delete the rest.</i></p> <ul style="list-style-type: none"> <li>(a) such spare parts as the Procuring Entity may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under this Contract; and</li> <li>(b) in the event of termination of production of the spare parts: <ul style="list-style-type: none"> <li>i. advance notification to the Procuring Entity of the pending termination, in sufficient time to permit the Procuring Entity to</li> </ul> </li> </ul>

  
 7

## Special Conditions of Contract

GCC Clause	
	<p>procure needed requirements; and</p> <p>ii. following such termination, furnishing at no cost to the Procuring Entity, the blueprints, drawings, and specifications of the spare parts, if requested.</p> <p>The spare parts required are listed in Section VI. Schedule of Requirements and the cost thereof are included in the Contract Price</p> <p>The Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods for a period of <i>[insert here the time period specified. If not used insert time period of three times the warranty period]</i>.</p> <p>Other spare parts and components shall be supplied as promptly as possible, but in any case within <i>[insert appropriate time period]</i> months of placing the order.</p> <p><b>Packaging –</b></p> <p>The Supplier shall provide such packaging of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in this Contract. The packaging shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packaging case size and weights shall take into consideration, where appropriate, the remoteness of the GOODS' final destination and the absence of heavy handling facilities at all points in transit.</p> <p>The packaging, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified below, and in any subsequent instructions ordered by the Procuring Entity.</p> <p>The outer packaging must be clearly marked on at least four (4) sides as follows:</p> <p>Name of the Procuring Entity</p> <p>Name of the Supplier</p> <p>Contract Description</p> <p>Final Destination</p> <p>Gross weight</p> <p>Any special lifting instructions</p> <p>Any special handling instructions</p> <p>Any relevant HAZCHEM classifications</p> <p>A packaging list identifying the contents and quantities of the package is to be</p>



*July*

*Aug.*

7

## Special Conditions of Contract

GCC Clause	
	<p>placed on an accessible point of the outer packaging if practical. If not practical the packaging list is to be placed inside the outer packaging but outside the secondary packaging.</p> <p><b>Insurance –</b></p> <p>The Goods supplied under this Contract shall be fully insured by the Supplier in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery. The Goods remain at the risk and title of the Supplier until their final acceptance by the Procuring Entity.</p> <p><b>Transportation –</b></p> <p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.</p> <p>Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.</p> <p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered <i>force majeure</i> in accordance with <b>GCC</b> Clause 22.</p> <p>The Procuring Entity accepts no liability for the damage of Goods during transit other than those prescribed by INCOTERMS for DDP Deliveries. In the case of Goods supplied from within the Philippines or supplied by domestic Suppliers risk and title will not be deemed to have passed to the Procuring Entity until their receipt and final acceptance at the final destination.</p> <p><b>Patent Rights –</b></p> <p>The Supplier shall indemnify the Procuring Entity against all third-party claims of</p>

  
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## Special Conditions of Contract

GCC Clause	
	infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.
10.4	Not applicable
10.5	Payment using LC is not allowed.
11.3	Maintain the GCC Clause.
13.4(c)	No further instructions
16.1	None
17.3	<p><i>If the Goods pertain to Expendable Supplies:</i> Three (3) months after acceptance by the Procuring Entity of the delivered Goods or after the Goods are consumed, whichever is earlier.</p> <p><i>If the Goods pertain to Non-expendable Supplies:</i> One (1) year after acceptance by the Procuring Entity of the delivered Goods.</p>
17.4	The period for correction of defects in the warranty period is <i>[insert number of days]</i> .
21.1	No additional provision.

  
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# Section VI. Schedule of Requirements

## A. List of Goods and Related Services

The goods and related services refer to supply, delivery, installation, testing and training of end-user's representatives on the use of training tools and equipment. **Only bids for all the items in each lot shall be accepted. The bidding shall be done by lot. However, evaluation and award of contract will be undertaken depending on whatever is most advantageous to the government in terms of technical specifications and costs.**

Lot No.	TITLE
1	Agricultural Crops Production NC III
2	Agricultural Mechanization
3	Aquaculture
4	Automotive Servicing
5	Electrical Installation and Maintenance NC III
6	Food Processing
7	CNC Lathe and Milling Machine Operation NC III
8	Welding
9	Refrigeration and Air-Conditioning Servicing NC III
10	Warehousing Services
11	Mechatronics NC IV
12	Food and Beverages Services NC III
13	Commercial Cooking NC III
14	Information and Communication Technology (ICT)
15	Science Lab (Chemistry and Physics)
16	Surveying Equipment
17	Air Conditioning Unit

## B. Delivery and Completion Schedule

The delivery period shall start from the date of the receipt of the Notice to Proceed by the winning bidder. No partial shipment shall be allowed. **Completion of the contract shall be made not later than ninety (90) calendar days from the date of the receipt by the winning bidder of the Notice to Proceed.**

## C. Project Sites

The distribution lists pertaining to the project sites with the corresponding addresses and lot/s are hereto attached.

Handwritten signatures and initials in the bottom right corner of the page. There are three distinct marks: a signature that appears to be 'PAB', a signature that appears to be 'Muyt', and a simple checkmark or flourish.

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 7. CNC Lathe and Milling Machine Operation NC III**

1	CNC Milling Machine	<p>General Specifications: CNC Vertical Milling Machine Table Size: Length 750 mm - 1000 mm; Width 350 - 550 mm, Table Load Capacity: 500-1400 kg, Travel X-axis: mm - 850 mm, Y - axis: 400 mm - 600 mm, Z - axis: 500 mm - 600 mm, Maximum Spindle speed: 8,000 - 12,000 rpm; Direct Drive, Spindle Taper: BT 40, Tool Storage Capacity: 20 tools - 30 tools only, Electricals: 220 volts / 3 phase / 60 Hz, Spindle Motor Power: 20 hp - 30 hp, Max Rapids on (x, y, z): 25.4 m/ min - 42 m/ min; Servomotors on all axes, 4th Axes Drive and wiring, Coolant system, Max tool diameter: 80 -95 mm, bearing lubrication: air / oil/ grease injection</p> <p>Important features Included: • 3 Units External CNC CONTROLLER SIMULATOR (Stand-alone exact replica (duplicate) of the CNC Controller of the machine for off-machine training on CNC programming, operation and simulation) • 4th Axis Rotary Table (Can be mounted horizontal / vertical, Worktable diameter: 160mm -350mm diameter, Accuracy: ±15sec, Servo Motor, complete with accessories)</p> <p>Machine Accuracy &amp; Control Specifications • Control type - Dialog, Conversational/ Intuitive Programming Sys. /EIA/ ISO PROGRAMMING • Working Memory - 2 mb up to 1 gb</p> <p>Minimum features and accessories included: • Fully enclosed machining center • USB port • ethernet interface • Automatic tool length measuring device/ Touch probe • Automatic voltage regulator 30KVA, 3 Phase, 220V • Air Compressor • Specified machining tool list: • 1 pc Drill Chuck • 1 pc Drill Chuck arbor BT 40 • 5 pcs Quick Change Milling (Collet) Chuck • 10 pc pull studs • 15 pc Collets (3-25 mm) • 1 pc Face mill arbor • 20 pcs Carbide Inserts • 1 set HSS End mills • 1 set HSS Drill Bits • 1 pc BT 40 Spindle taper cleaner • 1 pc mill vise • Coolant (pail) - 1 pc. • With operations/ maintenance manual in English Language</p>	1	unit
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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• 1 year warranty for spare parts and 2 years in support service</li> <li>• Includes Machine Commissioning and Training</li> </ul>		
2	Lathe Machine (Conventional)	<p>General Specifications: Horizontal Lathe Capacity</p> <ul style="list-style-type: none"> <li>• Max swing over bed: 380 mm - 560 mm</li> <li>• Max swing over gap: 600 mm - 780 mm</li> <li>• Max swing over cross-slide: 200 mm - 380 mm</li> <li>• Distance between centers: 1000 mm</li> <li>• Bed width: 220 mm - 350 mm</li> <li>• Cross slide travel: 230 mm - 300 mm</li> </ul> <p>Main Spindle</p> <ul style="list-style-type: none"> <li>• Spindle bore: <math>\Phi</math>50 mm - <math>\Phi</math>80 mm</li> <li>• Max Spindle speed: more than 1600 rpm</li> </ul> <p>Tailstock</p> <ul style="list-style-type: none"> <li>• Tailstock spindle taper: MT 3, 4 or 5</li> </ul> <p>Threading</p> <ul style="list-style-type: none"> <li>• Metric pitch threads: 0.2-14 mm/ pitch</li> <li>• Inch pitch threads: 2-75 TPI</li> </ul> <p>Feeding Range</p> <ul style="list-style-type: none"> <li>• Range of longitudinal feeds: 0.04-1 mm/rev</li> <li>• Range of cross feeds: 0.02-1.25 mm /rev</li> </ul> <p>Motor</p> <ul style="list-style-type: none"> <li>• Power Supply: 220 volts 60hz</li> <li>• Phase: 3 phase</li> <li>• Main spindle motor: 5 - 10 hp</li> <li>• Coolant pump motor: 1/8 hp</li> </ul> <p>Accessories included:</p> <ul style="list-style-type: none"> <li>• 1 pc - 3 Jaw chuck, 4 Jaw chuck , Face plate</li> <li>• 1 pc - live center , dead center</li> <li>• 1 pc - Steady rest, follower rest</li> <li>• 1 set - lathe dog (straight and bend tail)</li> <li>• 1 set tool holder (left hand, right hand, neutral &amp; threading tool)</li> <li>• 1 pc - drill chuck with arbor</li> <li>• quick change tool post</li> <li>• with Operations/ maintenance manual in English</li> <li>• With Digital Read Out</li> <li>• with sleeve for MT 4 and MT 5 Machines</li> <li>• 1 year warranty for spare parts and 2 years in support service                             <ul style="list-style-type: none"> <li>• Includes Machine Commissioning and Training</li> </ul> </li> </ul>	1	unit
3	Milling Machine (Conventional)	<p>General Specifications: Vertical Turret Type Milling Machine</p> <ul style="list-style-type: none"> <li>• Table Size: Length 1270 mm x Width 254 mm</li> <li>• Longitudinal Travel (x): 800 mm - 950 mm</li> <li>• Cross Travel (y): 305 mm - 410 mm</li> </ul>	1	unit





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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• Vertical Travel (Knee) (z): 305 mm - 410 mm</li> <li>• Max work piece weight: 300 - 400 kg</li> <li>• Spindle Motor: 2 hp to 3 hp</li> <li>• Maximum Spindle Speed: 2500 rpm-5500 rpm</li> <li>• Electricals: 220 V/ 3 phase/ 60 Hz</li> <li>Accessories included:                             <ul style="list-style-type: none"> <li>• 1 set - Dividing Head gear ratio 40:1 w/ sets of gear, footstock, 3 indexing plates, sector arm</li> <li>• 2 sets of module cutter (mod 1.5, 2.0, 2.5)</li> <li>• Spindle Arbor/ Milling Arbor</li> <li>• with operations/ maintenance manual in English Language</li> <li>• 1 year warranty for spare parts and 2 years in support service                                     <ul style="list-style-type: none"> <li>• Includes Machine Commissioning and Training</li> </ul> </li> </ul> </li> </ul>		
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit

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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw)                      Controllable Range: Pitch -90° to 30°                      Infrared Sensing System                      Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m)                      Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz                      (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S                      Video Output Port: GL300E HDMI, GL300F USB                      Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V                      Battery Type: liPo 4S                      Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m)                      Operating Range: 0 - 33 ft (0 - 10 m)                      Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m)                      Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s                      Electronic Shutter Speed: 8 - 1/ 8000 s                      PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG)                      Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB,</p>		

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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Write Speed $\geq 15$ MB/s, Class 10 or UHS-1 rating required  Charger Voltage: 17.4 V		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design	4	pc

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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch)		
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc

**Procurement of Training Tools and Equipment for the Higher Level  
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**RTC-Baguio – Manayon, Loakan Road, Baguio City**

<b>NO.</b>	<b>ITEM</b>	<b>AGENCY SPECS</b>	<b>QTY</b>	<b>UNIT</b>
19	PH Papers (Per Box)	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 3. Aquaculture</b>				
1	Dissolve Oxygen Meter	Display Type: LCD DO Measurement: 0 - 45 mg/L Temperature Compensation: -5 to 50°C	4	unit
2	Salinity Refractometer	Type: Analog Specific Gravity (SG): 1.000 - 1.070 Measurement Range: 0 to 100 %	5	unit
3	Soil PH Meter	Meter Type: Portable pH Range: 0 - 14 pH pH Resolution - ± 0.2 pH Humidity Range: 0 to 8%	5	unit
4	Water Thermometer	Meter Type: Digital Display Type: LCD Measuring Range: -200 to 1,370°C Resolution: 0.1°C, 1°C	4	unit
5	Digital Water PH Meter	Meter Type: Digital Display Type: LCD Measurement Range: -2 to 16 pH Resolution: 0.01 Accuracy: ± 0.1 Temperature Compensation: -10 to 120°C	4	unit
6	Secchi Disk	Type: Portable Size: 20 cm diameter with black and white sections - with calibrated line marked every half meter up to 20 meters	5	unit
7	Water Quality Test Kit	Test Range Ammonia Nitrogen: 0 - 3 ppm (mg/L) Nitrite Nitrogen: 0 - 0.8 ppm (mg/L) pH: 4 - 10 Alkalinity: 0 - 4000 ppm (mg/L) Carbon Dioxide: 0 - 100 ppm (mg/L) Chloride: 0 - 400 ppm (mg/L) Dissolved Oxygen: 0 - 20 ppm (mg/L) Total Hardness: 0 - 4000 ppm (mg/L) Temperature: -5 - 50°C	4	unit
8	Multiparameter Meter System	Meter Type: Portable/ Electrode Display Type: LCD Water Proof USB Connectivity pH Range: 0 - 14 Salinity Range: 0 - 70 Dissolved Oxygen Range: 0 to 50 ppm Temperature Range: -5 to 105°C	2	unit
9	Eckman Dredge	Material: Stainless Steel Sampling Area: 6" x 6"  Inclusive of the following accessories: Messenger Steel Aircraft Cable (100 meters)	4	unit
10	Portable Arc Welding Machine	Inverter type portable welding machine, ground clamp, power cables and welding cables, input power: 220 V, output current: 200 Ampere	4	unit

*Handwritten signatures and initials*

**Procurement of Training Tools and Equipment for the Higher Level  
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**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
11	Water Pump	Engine with water pump Engine: 7 - 10 hp Water pump - NS 100	2	unit
12	Freezer	Heavy duty; two door reach-in, stainless steel body; capacity: 500 liters; 220 V/ 60 Hz; single phase	2	unit
13	Grass Cutter	Engine Type: 4 Stroke Fuel: Gasoline Displacement: 35.8 cc Fuel Tank: 630 ml - 700 ml	4	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit



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**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller  Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 15. Science Lab (Chemistry and Physics)**

1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 mi Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware	10	set

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**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight		
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit	1	set

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Bangui Institute of Technology – Manayon, Bangui, Ilocos Norte**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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		Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment		
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**Lot 16. Surveying Equipment**

1	Total Station Surveying Equipment	<p>3.5" Large Dual Touch-screen HD Display                      Android Smartphone as data collector                      EDM Trigger, automatically measurement key                      500 Meters long range reflector less                      200,000.00 points memory data upload/ download                      Complete surveying/ construction/ road programs on board</p> <p>Electronic Bubble; direct data plotting on main screen</p> <p>Alphanumeric Keys for easy and quick data input                      MS Windows Compatible; GPS data ready                      Data Text, DXF, CSV/ AutoCAD ready</p> <p>Telescope                      - Length: 125 - 152 mm                      - Magnification: 30x                      - Image: Erect                      - Field of View: 1°20' - 1°30'                      - Resolve Power: 3"                      - Min. Focus Distance: 1.3 - 1.7 m</p> <p>Measurement Range: 1.5 to 5,000 meters</p>	1	unit
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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Pangasinan School of Arts & Trades – Alvear St. West, Lingayen, Pangasinan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 5. Electrical Installation and Maintenance NC III**

1	Electrical Motor Control Learning System	<p>This system teaches operation, installation, applications and troubleshooting of electric relay type motor control systems. The system contains the following items: Workstation Console, set of Control Stations, Hand-held Multimeter, Lead Set, Electric Motor, Motor Mounting Frame, Student Curriculum, and Instructor's guide.</p> <p>The following stations is supplied:                      Safety Switch Power Station (1 pc fused 3-phase safety switch, 2 pcs. Padlocks, 2 pcs. Safety tags, 4 pcs. Banana jacks, 1 pc Pre-attached power cord 4 poles, 5 wires, 1 pc. Lockout/Tagout mechanism, 1 pc. Fault Module with 2 faults, 1 pc. Mounting unit for right angle orientation to trainer), Operator Station (1 pc. Green flush push button (1 N.O., 1 N.C.), 1 pc. Black flush push button (1 N.O., 1 N.C.), 1 pc. Red mushroom push button (1 N.O., 1 N.C.), 1 pc. Three position selector switch (2 N.O.), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc 5-way binding post (ground), 1 Fault Module with 5 faults), Indicator Lamp Station (1 pc. Green indicator lamp, 1 pc. Push to test red indicator lamp, 1 pc. Yellow indicator lamp, 1 pc. 24 inch/ 61 cm green stackable banana lead, 7 pcs. 5-way binding posts (ground), 1 pc. Fault Module with five (5) faults), Control Transformer Station (1 pc. 250VA control transformer with protective cover, 1 pc. Dual fuse block with protective cover, 4 pcs. 1.25 AMP class CC fuses (2 installed, 2 loose), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with three (3) faults), Reversing Contactor Station (2 pcs. 4 pole contactors, 1 pc Mechanical/ electrical interlock, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post ground, 1 pc. Fault Module with 5 faults), Overload Relay Station (1 pc. A-B overload relay, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 3 faults), Manual Motor Starter Station (1 pc. manual starter, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground)), Multifunction Timer Station (1 pc. Multi-function timer with: on delay, off delay timing, interval, single shot timing, repeat cycle timing, pulse timing, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 4 faults), Drum Switch Station (1 pc. three phase reversing drum switch, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), Limit Switch Station (2 pcs. Industrial grade limit switch (SPDT), 1 pc. 24 inch/ 61 cm green</p>	1	unit
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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 3 faults), Control Relay Station (2 pcs. Four pole relays (2 N.O. / 2 N.C.), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 5 faults), Pressure/ Float Switch Station (1 pc. Pressure switch (SPDT), 1 pc. Float switch (N.O. or N.C.), 1 pc. 24 inch/ 61cm green stackable banana lead, 1 pc. 5-way binding post (ground), Motor Connection Station (1 pc. Multi-pin industrial motor connector, 5 pcs. Red banana jacks, 5 pcs. Yellow banana jacks, 1 pc. Fault Module with 3 faults), Hand-Held Digital Multi-Meter, Stackable Banana Lead Set - 50 Leads, 3 Phase Induction Motor A 1/3 HP, NEMA 56 Frame machine rated at 208-230/460 Volts, 3 phase, Windings accessible through a multi-pin connector. To include: 1 pc. Motor mounting plate, 1 pc. Single end shaft for safety, 1 pc. Motor winding identification escutcheon, 1 pc. Fault Module with (2) winding faults.</p> <p><b>Motor Mounting Frame</b> Is heavy duty steel frame construction, with pre-drilled holes for mounting of two motors, prony brake, electric brake, and flywheel. Minimum dimension is 27" W x 12" L x 4" H. The mounting surface is made of .125 in steel plate min, painted and silk-screened.</p> <p><b>Prony Brake</b> A shaft torque measurement and load device. It consist of a formed steel gauge unit, aluminum brake drum with mounting for 5/8 inch motor shafts, balanced pulley, spring force gauge, load adjustment knob, double set screw locking device, coolant spray bottle. Load range is 0 - 3.05 N-m</p> <p><b>HAND TOOL PACKAGE:</b> <b>FAULT TROUBLESHOOTING SYSTEM</b> (This system consist of a computer-based fault controller, (2) ribbon cables, (1) computer managed software, (1) installation/operation manual. This system is designed and programmed so that students can connect the system to a wide variety of industrial controls training systems to provide a means by which faults can be automatically inserted into a training system to provide student practice in troubleshooting the system. The characteristics of the system should be as follows: <b>Fault Controller</b> (Includes enclosure with 35 fault relays, 10A 115/230 VAC rating, 35 cables, ribbon cable for connection to a host computer, computer-based controller, internal power supply, 120/230 VAC 50/60 Hz.), Student Curriculum</p>		

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**Pangasinan School of Arts & Trades – Alvear St. West, Lingayen, Pangasinan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>(The student curriculum consist of (1) set of 10 Learning Activity Packets 73 skills in electric motor control. The topics covered includes: motor starters, reversing starters, overload relays, motor start/ stop control, control transformers, magnetic motor starters, two wire control, three wire control, sequence control, jogging, on and off delay timing, sensor switches, and motor timer control. Students will learn installation, operation, schematic reading, circuit design, and troubleshooting), Teacher's Assessment/ Portfolio Guides (A teacher's guide is provided. It contains student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and authentic assessment. A quiz is provided for each packet. A question is provided in each quiz for each cognitive objective taught. All tasks listed in the packet is listed on personalized student record sheets. The Instructor's Package includes directions for authentic skill assessment.)</p>		
2	Variable Frequency AC Drive Learning System	<p>Variable Frequency AC Drive Station</p> <p>Shall include the following:</p> <p>1 pc. Variable Frequency AC Drive with (Built in control keypad, Ability to program 30 different operating parameters, Capability of displaying 10 different operating conditions, Shall be capable of operating 3-phase motors from a single-phase supply, Ability to accept commands from four (4) different sources: Keypad, External pot, 4-20mA Signal, ± 10-90 VDC signal, Built in fault diagnostics, DC injection braking capability, PWM type output with adjustable carrier frequency (2 to 8 kHz), Provisions for addition of an external Dynamic Braking resistor, 1 pc. Two position fuse block with fuses, 3 pcs DPST push button switches, 3 pcs. SPDT toggle switches, 1 pc. 3 PST keylock safety switch, 1 pc. Potentiometer with 10 turn indicating dial, 1 pc. Fault Module with 5 faults)</p> <p>Motor Connection Station (Shall include one of plug-in connections for a 3-phase motor)</p> <p>Student Curriculum or Manual and with Teacher's Assessment/ Portfolio Guides</p>	1	unit
3	Electrical Measuring Instruments	<ul style="list-style-type: none"> <li>• Phase Sequence Indicator (Indication of the three phase via LCD, Indication of the phase rotation direction via LCD, Swift determination of the phase sequence in thee phase)</li> <li>• Voltage Range: 40 to 700 V</li> <li>• Frequency range: 15 to 400 Hz</li> </ul>	1	unit



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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• Safety Complying with: IEC 61010/EN61010, IEC61557-7/EN61557-7</li> <li>• Current Consumption: approx. 1 mA @ 700 V</li> <li>• Digital Storage Oscilloscope (4 channel, 60 MHz, 5V/div Maximum vertical sensitivity, 2mV Minimum vertical Sensitivity 50s/div Maximum time base, 5ns/div minimum time base, TFT LCD, 2mV minimum vertical sensitivity)</li> <li>• Clamp Meter Features and Benefits (Peak hold, Switchable low pass filter, TRMS measurement)</li> <li>• Troubleshooting of RCD nuisance tripping (Periodic measurement of leakage current @50 Hz to check for insulation deterioration, Accurate measurement of triple neutral current and other distorted waveforms, Differential current measurement for appliance testing, Auto ranging)</li> <li>• Safety category voltage: 300 V, 600 V, 1000 V, Safety category level: CAT II, CAT III, CAT IV</li> <li>• Absolute maximum resistance: 600k Ohm</li> <li>• AC current measurement resolution: 0.001mA</li> <li>• Best AC Current Accuracy: 1% + 8 digits, Best AC Voltage Accuracy: 1 % + 3 digits, Best DC Voltage Accuracy: 1 % + 2 Digits</li> <li>• Tachometer (Optical and Mechanical measurement of rotation speed, Rotation speed, speed and length measurement, Memorization of min. and max. values as well as the last value at power down, Automatic Stop</li> <li>• Rotation speed: 1.00 to 99,999 rpm optical, 1.0 to 19,999 rpm mechanical</li> <li>• Speed: 0.10 to 1999 m/min.</li> <li>• Accuracy: +/- 0.02% full scale (=/- 1 digit)</li> </ul>		
4	PLC Motor Control Learning System	<p>11-Gauge Steel Panel featuring:</p> <ul style="list-style-type: none"> <li>• Compact PLC- Micro Logix 1000 or 1200 PLC</li> <li>• 16 digital Input-24Vdc</li> <li>• 12 digital output relay</li> <li>• Power input; 220-240-VAC / 60Hz.</li> <li>• Connecting cables (300/ 1m. long)</li> <li>• AC Inputs (10)</li> <li>• Relay Outputs (6)</li> </ul> <p>Accessories:</p> <ul style="list-style-type: none"> <li>• Programming cable software</li> <li>• Power input- 220 V/ 60 Hz</li> <li>• Simulator: 24 VDC</li> <li>• 1 green push button (N.O.)</li> <li>• 1 red push button (N.C.)</li> <li>• 2- 3PSP Selector switch</li> </ul> <p>Output simulator:</p> <ul style="list-style-type: none"> <li>• Buzzer 24 VDC</li> <li>• 10 indicator lamp/ 24 VDC</li> <li>• Short circuit protection features;</li> </ul>	1	unit

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Mounting required: Panel type w/ aluminum frame stand</p> <p>Student Curriculum and students manual</p>		
5	Reduced Voltage Starting Learning System	<p>Each station includes the following components:                      Power Resistor Station                      (3 pcs.) Power Resistor Stations - (3 pcs.) 25 ohm, 100 watt                      Dual Transformer Station                      (2 pcs.) Control Transformers (250VA minimum)                      multiple tap primary (208, 277, 380 (VAC) single tap secondary (120 VAC)</p> <p>and with;                      Student Curriculum or Student manual</p>	1	unit
6	Electrical Machines Learning System	<p>Assembly system for rotating electric machines                      It includes the following components: Base plate, Supports with bearing, Coupling joints, Flexible coupling, Electronic speed transducer, Assembling screws, Wrenches, DC stator, AC stator, Rotor with commutator, Brush holder with 2 brushes, Cage rotor, Ring rotor, Brush holder with 6 brushes</p> <p>POWER SUPPLY                      Outputs in AC:                      • Three-phase: 24 V/ 14 A, 42 V/ 10 A                      • Single-phase: 0 – 48 V/ 5 A, 0 – 10 V/ 12 A                      Outputs in DC:                      • 32 V/ 14 A, 42 V/ 10 A, 0 – 40 V/ 5 A, 0 – 8 V/ 12 A</p> <p>Three-phase power supply from mains.</p> <p>LOADS AND RHEOSTAT                      • resistors: 3x15 Ohm, 90 W each, 1 Ohm + (0 – 2 Ohm), 80 W                      • capacitors: 3 x 80 µF, 150 V                      • rheostat: 0 - 80 Ohm, 1 A</p> <p>ELECTRICAL POWER DIGITAL MEASURING UNIT                      Measurement in direct current of: voltage, current, power and energy.                      Measurement in alternate current of: voltage, current, power, active energy, reactive energy, apparent energy, cos phi and frequency.</p> <p>Main technical features:                      • DC voltage: 300 VDC                      • DC current: 20 ADC                      • AC voltage: 450 VAC                      • AC current: 20 AAC                      • Power: 9000 W</p>	1	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Pangasinan School of Arts & Trades – Alvear St. West, Lingayen, Pangasinan				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• Power supply: single-phase from mains</li> <li>• Communication: RS485 with MODBUS RTU protocol.</li> </ul> ADAPTER BRACKET Necessary for connecting the locking device, the brake or the drive motor.		
7	Pneumatics & Electro-Pneumatic Training Set	The Electro-pneumatic training set includes basic pneumatic training components. The user can train on the basics of electro-pneumatic control. Training Contents: 1. Physical principle of electro-pneumatics 2. Function of electro-pneumatics training set 3. Relay control circuit 4. Electric self-holding circuit 5. Feature of magnetic proximity switch 6. Electric sequence control circuit 7. Step diagram  Consist of: 1. Push button switch set 2. Relay 3-fold - 2 Units 3. Limit switch electrical, left and right actuated 4. Optical sensor 5. Electric proximity switch 6. 3/2 way solenoid valve (N/C) 7. 5/2 way single solenoid valve - 3 units 8. 5/2 way double solenoid valve - 3 units 9. Pressure switch 10. One-way flow control valve - 4 units	1	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage	3	unit

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		English firmware/ User interface Supports home and cloud application		
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F	1	unit

*Handwritten signatures and initials*

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
9	Drone	<p>Body Construction: Aluminum, Bullet Style</p> <p>Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p>	1	unit

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)  Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required  Charger Voltage: 17.4 V		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm)	3	pc

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)		
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C	7	pc

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		With permanently fused markings, packed in protective sleeving		
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop	5	pc
		Bristles approximately 25 mm (1 inch) diameter		
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

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Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 9. Refrigeration and Air-Conditioning Servicing NC III</b>				
1	Variable Refrigerant Frequency Air Conditioning Unit with Central Controller	8 HP capacity outdoor unit with 4 fan coil unit (FCU) 1 HP wall mounted 2 HP ceiling suspended cassette type (FCU) 220 volts 1 phase 60 hz	2	unit
2	Inverter Type Air Conditioning Unit (Cassette)	PACU cassette type A/C unit; 220 volts AC, 60 hz, 3 phase, 4 hp capacity, 3.0 tons	4	unit
3	Inverter Type Air Conditioning Unit (Ceiling Concealed)	Package type A/C unit, ceiling concealed ducted inverter split type, 5.0 kw, 220 v0lts , 60 hz, 2 hp capacity	4	unit
4	Inverter Type Air Conditioning Unit (Floor Mounted)	Split type A/C unit , floor mounted, 220 volts AC, 60 hz, 3 phase, 4 hp capacity, 3 TR	4	unit
5	Inverter Type Air Conditioning Unit (Wall Mounted)	Split type A/C unit, wall mounted, 220 volts, 60 hz, 1 phase, cooling capacity, 10 kw, 3 hp capacity	4	unit
6	Oxy-acetylene with Complete Accessories	With complete accessories, cuts up to 15 mm, welds up to 5 mm with torch handle, equal pressure cutting attachment for acetylene and alternative fuels, mixer, 3 welding tips, cutting tips, single stage cylinder regulator for oxygen, safety goggle, igniter and flints, 10 way tank wrench, 6 m twin hose, brass handle with large flow capacity for heavy duty applications	4	unit
7	Welding Helmet (Auto-Darkening)	Auto darkening lense, wide vision, variable shade from DIN 9-13	5	pc
8	Portable Arc Welding Machine	Inverter type portable welding machine, ground clamp, power cables and welding cables, input power 220 V, output current: 200 Ampere	4	unit
9	Leak Detector	Intended for 404A, 410A, digital type heated diode sensor with mechanical pump, sensitivity level 2, sensitivity per year 0.25 ounce/ year, CFC's, HCHF and HFC, sensor 2D alkaline batteries spare, filter and hard plastic carrying case, unit cases heated diode sensor technology automatically compensate for changing background, contamination	4	unit
10	Anemometer SE	Digital type, measuring the current wind speed with minimum and average values, temperature display and percieve temperature (wind chill), wind strength can be set as meter, m/s, km/h, mph, knots	5	unit
11	Refrigerant Recovery Machine (Hydrocarbons)	220-240 VAC, 60hz, with recovery tank of 50 lbs capacity, direct liquid of 3.03 lbs per minute, direct vapor of 0.03 lb per minute, push/pull of 12.22 lbs per minute	4	unit
12	Vacuum Pump	Two-stage, 220 VAC, 60 hz, single phase, 5.0 CFM capacity	4	unit
13	Portable High Pressure Washer	220 volts, 60 hz, 1 hp capacity, single phase	5	unit
14	Freezer	Heavy duty; two door reach-in, stainless steel body; capacity: 500 liters; 220 V/ 60 Hz; single phase	4	unit
15	Beverage Chiller	35 cubic feet, digital controller, 220 V/ 60 Hz, single	4	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		phase		
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
8	CCTV System	<p>Interface: wired/ wireless</p> <p>8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;</p> <p>Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45</p> <p>Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style</p>	1	unit
9	Drone	<p>Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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		<p>Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG) Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
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10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC</p>	1	unit
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**Lot 15. Science Lab (Chemistry and Physics)**

1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion	7	pc

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving		
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch)	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value	10	set

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Isabela School of Arts and Trades – Calamagui 2nd, Ilagan, Isabela				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight		
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 4. Automotive Servicing</b>				
1	Parts Washer	Drum: Inside dimensions - 7" H X 28" W X 22" D Fluid Requirements: 10 gallons Input: 120 V/ 220VAC (60 Hz) Pump Volume: 210 GPH Output Pressure: 50 PSI Dimensions: 35" X 31" X 23" Open Height: 60"	2	unit
2	Tire Changer	Inside clamping: 13 - 26" Outside clamping: 11 - 24" Voltage: 220 V Motor Power: 0.75 kw/ 1.1 kw HP: 1 Operating Pressure: 90 psi	2	unit
3	Roller Cab/ Trolley Tool Set	5 Drawers Roller Cab with the following tool set: 1 set Screwdriver L-shape Wrench 1 set Double-open-end wrench 1 set 45 deg. Double wrench set 1 set Ratcheting combination wrench set 1 set Adjustable wrench set 1 set Standard pliers set 1 set Circlip plier set 1 set Impact socket set 1 set 3/8" Square drive socket set 1 set 1/4" Square drive socket set 1 set 1/2" Square drive socket set	2	unit
4	Lifter Wheel Aligner	Design: Scissor Lifting Capacity: 3500 - 5000 kg Lifting Height: 1700mm Motor: 220V/ 50 Hz	1	unit
5	Electronic Battery Tester	Battery Nominal Voltage: 12 V CCA : 125 A to 1400 A SAE/EN: 200 A to 900 A DIN/ IEC: 120 to 550 3-4 digit LED display	2	unit
6	Car Wheel Balancer	Power supply: 220 V/ 380 V Measuring time: 8-20 sec. Max. rim diameter: 10" - 24" Balancing speed: 42 - 220 rpm Max. rim width: 1.5" - 20" Max. wheel weight: 65 kg Balancing accuracy: ± 5g	1	unit
7	Global Diagnostic System (GDS) Professional Scanner	CPU: Dual Core 1 GHz Battery: 3000mh, rechargeable Extension Memory Card: 32 G Memory: 512 MB LCD: 7.0 inch LCD Resolution: 1024 x 600 Screen: capacitive touch screen Cameras: 2 mega rear and 0.3 mega front	2	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
8	Front Wheel Alignment Trainer	<p>Included item:</p> <p>Original vehicle steering wheel Camber caster steering axis inclination</p> <p>A set of two wheels- turntable with gauges allows for measurement of the degree of turn on both sides of zero (for calculation of toe-in &amp; toe-out)</p> <p>Ball joint inspection gauge for checking upper and lower ball joint condition, out of round tires and wheel run out.</p> <p>Technical Description: 1. The trainer consists of an original front end unit from a typical passenger vehicle. 2. It has been modified for quick adjustment of all alignment and steering geometry points. 3. The unit is mounted on a special stand which facilitates alignment procedures and utilization of test equipment and accessories. The trainer comes with two wheel rims with tires.</p> <p>Additional recommended accessories or options: Original vehicle steering wheel Camber/ caster steering axis inclination gauge A set of two wheel turntables with gauges allows for measuring of the degree of turn on both sides of zero for calculation of toe-in and toe-out Ball joint inspection gauge for checking upper and lower ball joint condition, out of round tires and wheel run out</p> <p>The following topics are covered in the instruction program: General theory on suspension and steering system including different types and geometry principles.</p> <p>Pre-alignment check procedures: tire pressure and wear, front wheel bearing play and adjustment, ball joint play inspection, shock absorber wear, steering gear looseness</p> <p>Caster: determination, adjustment and correction Camber: determination, adjustment and correction (positive and negative)</p>	1	unit
9	Anti-Lock Braking System with Traction Control System (TCS)	<p>The major components included are: Four rotating wheels with wheel sensors, with digital speed display for each wheel (4 digital displays);</p> <p>4 variable speed electrical drive systems for each wheel to control the individual speed of each wheel,</p>	1	unit



**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>master brake cylinder with pedal handle;</p> <p>ABS hydraulic actuator (modulator) unit which is controlled by the on-board computer system (ECU);</p> <p>Five brake line pressure gauges to show the pressure differentials from the master brake cylinder to the individual wheels;</p> <p>Brake Master Cylinder with Vacuum assists boosts mechanism and brake pedal assembly;</p> <p>The front of the trainer features precise schematic color graphic illustrations that clearly explain the operation of the entire ABS and braking system;</p> <p>A control panel is provided with an on/ off power switch, power system light (POWER ON), ABS warning light (indicated problems) and an ABS operational light (ABS ON). Also has Volt and Ampere meters to measure the DC input power and a brake light to show the operation of the braking system just as on the vehicle;</p> <p>Special Road Conditions and Performance Display Panel;</p> <p>Optional Electronic Fault insertion panel and Electrical Test Point;</p> <p>The trainer comes complete with a training course on ABS operation and servicing including student job sheets and a technical manual on ABS systems;</p> <p>A series of options to enhance the trainer such as fault insertion systems, power supplies and additional instructional materials, vacuum pump for power brake boost;</p> <p>Power Source: Note that 30A, 12 Volt DC power source is required from the shop to operate the trainer. If none is available an optional 12 VDC power supply can be ordered to provide this correct power</p>		
10	Half-Cut AUV Engine Management System	<p>Electrical control gasoline engine assembly, auto fault</p> <p>Automatic transmission assembly</p> <p>Electrical and electronic devices such as: ECM, TCM, AFS, CKP, CMP, O2 sensor, WTS, control relay and etc.</p> <p>Injector, filter, fuel tank, fuel pump, fuel equipment, DC 12 V/ 60 A, battery 12 volts</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Ignition coil built -in, spark plug, high voltage resistant cables</p> <p>Cooling system: radiator, overflow tank Exhaust system: Catalytic converter, Emission, Silencer</p> <p>Ignition switch with key Anti-vibration dampers and a urethane wheels Control box, fuel tank, accelerator lever Automatic transmission oil pressure gauge for each singular (1.5MPA*83,2.5 MPA*4)</p> <p>Vacuum pressure gauge (1 MPA) Fuel pressure gauge Battery voltage gauge (30 V)</p> <p>Note Includes : training manual/ module</p>		
11	Airbag System Trainer	<p>The trainer consist of the following components:</p> <p>Sectioned steering wheel with deployable and reusable airbag</p> <p>Pressure regulator with air filter, solenoid valve and compressed air connection</p> <p>Airbag system circuit diagram with connection and test points</p> <p>Set of two mm test connection leads Inflator unit Rear cable unit SRS control unit Airbag simulator with graphic and LED display Crash switch simulation system Dash sensor unit Fuse Power indicator light Ignition switch</p> <p>Technical Parameters: The steering unit with a typical restraint unit. Additional components and controls are mounted on the board to complete the system such as the impact crash sensor and controls. The airbag operation is demonstrated and realistic faults are also introduced to show typical problems in the units.</p> <p>A typical electronic circuit for the SRS system is incorporated into the trainer. This can be used also for realistic fault simulation to show typical problem in the units. After the circuit is connected, the airbag</p>	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		operation is both simulated via LED graphic display that shows the detonation and deployment of the air bag system in a simulated crash situation. And also the airbag deploys, synchronized with the LED graphic display unit, through the use of compressed air and a pressure regulator. The trainer comes with a comprehensive manual covering the operation of the trainer.		
12	Gas Tester	<p>The pump consists of a diaphragm with one way valve and thus the pump will only be heard to click when connected to the exhaust</p> <p>CO Function Specification:</p> <ul style="list-style-type: none"> <li>- Calibrated range: 0-10% CO</li> <li>- (indicates un-calibrated to 20% C)</li> <li>- Accuracy: +/-0.5% CO typical</li> <li>- (throughout the indicated range 0.5% CO to 6.5% CO)</li> </ul> <p>Kit Contents:</p> <ul style="list-style-type: none"> <li>- Gas tester instrument including collector box and pulse pump/ water trap assembly</li> <li>- Metal exhaust probe with retaining springs</li> <li>- Flexible plastic pipes (3 lengths)</li> <li>- Instruction handbooks</li> </ul>	2	unit
13	Recovery Machine	<p>Compact and Lightweight</p> <p>40% smaller footprint, easy to carry, weighing in at 18 lbs</p> <p>Oil-less compressor Capable of recovering both liquid and vapour</p> <p>Handles almost all refrigerants Works with all common CFC, HFC, HCFC Refrigerants including R-410A</p> <p>High efficiency cross flow design Lay-out of fan and condenser is maximized for shorter cycle times</p> <p>High pressure safety shut-off switch Automatically shuts off machine if pressure rises above PSI</p> <p>Easy to operate Rugged case</p> <p>Easy to read gauges, comfortable handle and simple 2 valve controls</p> <p>IEC connector and power cord</p>	2	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
14	Brake Fluid Exchanger	Remove and replace fluid from most types and models of vehicles' brake system. Also removes trapped air	2	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD ·4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		USB port: Type Bx1 Interface: wired/ wireless		
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller  Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRRC 3.1 mi (5 km)  Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m <sup>2</sup> , Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones  Voltage: 15.2 V Battery Type: liPo 4S	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Southern Isabela College of Arts & Trades – Calaoacan, Santiago City**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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		<p>Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
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10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC</p>	1	unit
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**Lot 15. Science Lab (Chemistry and Physics)**

1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion	7	pc

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CenTEs				
Southern Isabela College of Arts & Trades – Calaoacan, Santiago City				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving		
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch)	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic .150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value	10	set

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Southern Isabela College of Arts & Trades – Calaoacan, Santiago City				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight		
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set



**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 10. Warehousing Services**

1	Forklift Truck (Counter Balance)	Not less than 3000 mm max. lifting height capacity Lifting weight/ rated capacity- minimum 1 ton Battery Charger	2	unit
2	Forklift (Reach Truck)	Not less than 3000 mm max. lifting height capacity Lifting weight/ rated capacity- minimum 1 ton Battery Charger	2	unit
3	Trans-Stacker/ Transporter	Vertical Lift Hydraulic Dimension not lesser than 57" x 27" x 62" Not less than 1000 lbs capacity	4	unit
4	JIB Crane	1 ton capacity mobile 220 VAC, 3 phase	1	unit
5	Hand Hoist (Chain Block)	2 tons capacity heavy duty	3	unit
6	Shelving Unit	Not less than 36" x 30" x 85", 2 Layer Steel Heavy duty	17	unit
7	Trolley, Platform Type with Handle	Steel Handle Not less than 710 x 455 mm Up to 150 kg capacity With heavy duty wheels	6	unit
8	Pallet Truck	Hand Driven Steel Handle Hydraulic Not less than 2 tons capacity	3	unit
9	Drum Truck Trolley/ Lifter	Self-Standing with Kick Stand 180 kg capacity Adjustable drum truck allows for transporting Tipping Not less than 1520 mm x 600 mm x 1500 mm	3	unit
10	Step Ladder, Double Sided	Not less than 8 feet Double sided	4	unit

**Lot 14. Information and Communication Technology**

1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment	3	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Photo Quality WiFi Connectivity		
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras;	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style		
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller  Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)  Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m <sup>2</sup> , Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones  Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System  Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground  Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M  Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m  ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)  Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530,	1	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CenTEs				
RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		1920x1080, 1280x720  Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure  Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)  Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required  Charger Voltage: 17.4 V		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm)	5	pc

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends		
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total	7	pc

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**RTC-Guiguinto – Mac Arthur Highway, Tabang, Guiguinto, Bulacan**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving		
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 11. Mechatronics NC IV**

1	Automatic Production Line Trainer	<p><b>FEATURES:</b> Automatic Production Line Trainer (APL) contains comprehensive training programs for each unit station, automatic production line, pneumatic system, frequency inverter, PLC high-speed pulse and counter, servo motor, analog, network technology, human-machine interface, and configuration technology</p> <p>5 lines composed of: *Conveying unit/ Processing unit/ Feed unit/ Sorting unit/ Assembly unit Power supply: 3 phase, 5 line AC, 380 V, ±10%, 60 Hz Rack: Aluminum and Steel Includes Service Manual and warranty Workbooks and Software</p>	1	set
2	MPS (Modular Product System)	<p>Input Power: AC 220 V, 60 Hz Output Power: DC 24 V, 3A Interface: 1) Digital Input/ Output (default); 2) Fieldbus: Profibus</p> <p>Includes Sub-systems</p> <ol style="list-style-type: none"> <li>Distribution - separating parts from stack and feeding into a process</li> <li>Sorting - Sorts parts by color and moves them via an electrical conveyor belt</li> <li>Processing - Electrical rotary table models common industrial processes</li> <li>Separator - The separating station permits the creation of flexible assembly lines</li> <li>Handling - Modern pick and place application that moves part from pick-up point to one of several drop-off locations</li> </ol> <p>Includes Service Manual and warranty, and Workbooks and Software</p>	1	set
3	Human Machine Interface Package	<p>HMI Designer studio software - CD 24 voltage supply can be looped through with key panel Number of keys- 8, LED colors- red, yellow, green, blue, white Digital input -8 (2 additional fail safe inputs with KP8F) Digital output- 8</p> <p>Includes Service Manual and warranty, and Workbooks and Software</p>	1	set

**Lot 14. Information and Communication Technology**

1	Laptop	<p>i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display</p>	13	unit
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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License		
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment	3	unit
		Photo Quality WiFi Connectivity		
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio	1	unit



**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>input in live mode with an external microphone (not included) This port does not support recording of audio;</p> <p>Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45</p> <p>Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style</p>		
9	Drone	<p>Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m², Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m)</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC</p>	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	<p>Polypropylene (plastic) material 10 ml capacity</p>	10	pc
2	Graduated Cylinder	<p>Polypropylene (plastic) graduated cylinder 100 ml capacity</p>	5	pc
3	Test Tubes	<p>Glass material Large 15 ml capacity</p>	12	pc
4	Thermometer	<p>Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion</p> <p>Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C</p> <p>With permanently fused markings; packed in protective sleeving</p>	7	pc
5	Laboratory Tong	<p>Stainless steel 8 3/4" long</p>	5	pc

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTExs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Jacobo Z. Gonzales Mem. School of Arts and Trades – Brgy. San Antonio, Biñan, Laguna**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing		
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

*[Handwritten signatures and initials]*

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 1. Agricultural Crops Production NC III**

1	Farm Tractor	4 wheel drive with the following specifications: Engine: direct injection, vertical, water- cooled 4 cycle diesel No. of cylinder: 3 - 4 Engine gross power: 35 -50 hp Rated revolution: 2200 - 2700 rpm Hydraulic system: position control with attachment of any of the following: disc plow, disc harrow, rotary tiller, & trailer	1	unit
2	Rice Combine Harvester	Engine: 50-70 hp water-cooled diesel engine Travelling speed: 0-0.97 m/sec (low), 0-1.91 m/sec (high) Cutting width: 2,000 - 3,000 mm Threshing system: axial-flow type Harvesting capacity: 0.1 - 0.8 ha/hr	1	unit
3	Corn Sheller	Capacity: 1-5 tons per hour (@50 kg/cavan) Shelling Recovery: 95 - 99% Power Requirement : 7 - 14 hp diesel engine	4	unit
4	Double Pass Rice Mill	300 - 1500 kg/hr (10 - 30 cavan/ hr)	1	unit
5	Grain Moisture Meter	Measuring Range: Corn, 8-36% MC Measuring Range: Palay, 9-40% MC Accuracy: ±0.2 - 0.5 % MC (10-20%) Power source: AC/DC (battery-operated)	4	unit
6	Hand Tractor	Power requirement: 6 - 10 hp Overall length: 1500 - 2700 mm Overall width: 750 - 1200 mm Overall height: 800 - 1150 mm With attachments of any of the following: disc plow, harrow, and cage wheel	4	unit
7	Mechanical Rice Transplanter	Engine: Air-cooled, 4-stroke Power requirement: 1.5 - 4.5 kW Planting row: 4 rows Row distance: 30 cm Planting capacity: 1 - 1.5 ha/day	4	unit
8	PH Meter	Range: 0 - 14 pH Moisture: 0 - 10% (0-100%) Resolution: 0.01 - 0.2 pH Type: Portable/ pen-type	4	unit
9	Single Cylinder Diesel Engine	Water-cooled, horizontal, single-cylinder, 4-stroke diesel engine horsepower: 7 - 14 hp	4	unit
10	Thresher	Construction: all steel Power requirement: 10 - 14 hp	4	unit
11	Water Pump	Engine with water pump Engine: 7 - 10 hp Water pump - NS 100	4	unit

**Lot 14. Information and Communication Technology**

1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4	13	unit
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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License		
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and AV port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel;	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTexs**

**Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;</p> <p>Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style</p>		
9	Drone	<p>Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Altitude Range: 0 - 33 ft (0 - 10 m)                      Operating Range: 0 - 33 ft (0 - 10 m)                      Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m)                      Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s                      Electronic Shutter Speed: 8 - 1/ 8000 s                      PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG                      Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger                      Voltage: 17.4 V</p>		
10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC</p>	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	<p>Polypropylene (plastic) material                      10 ml capacity</p>	10	pc
2	Graduated Cylinder	<p>Polypropylene (plastic) graduated cylinder                      100 ml capacity</p>	5	pc
3	Test Tubes	<p>Glass material                      Large                      15 ml capacity</p>	12	pc
4	Thermometer	<p>Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion</p> <p>Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C</p> <p>With permanently fused markings; packed in protective</p>	7	pc

*[Handwritten signatures and initials]*



**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTexs**

**Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		sleeving		
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom	5	set

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Quezon National Agricultural School – Brgy. Silangang Malicboy, Pagbilao, Quezon				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		demonstrations or experiments in electricity and electronics laboratories		
17	Biological Microscope	<p>Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x</p> <p>Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see</p> <p>Basic condenser concentrates light onto the specimen</p> <p>Adjustable arm (0° to 60°) for comfortable viewing</p>	1	unit
18	Thermometer	<p>Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion</p> <p>Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C</p> <p>With permanently fused markings, packed in protective sleeving</p>	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	<p>300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop</p> <p>Bristles approximately 25 mm (1 inch) diameter</p>	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 8. Welding</b>				
1	SMAW/ GTAW Welding Machine	<ul style="list-style-type: none"> <li>• Input power: voltage/ Phase/ Hertz: 208 -230/ 1/ 50/ 60,</li> <li>• Output range: 40-300A AC/DC</li> <li>• Duty cycle: at least 40 - 60%</li> <li>• Output Current Voltage (OCV): 50 - 80 V</li> <li>• With Built - in High Frequency</li> <li>• with Maintenance / Operation Manual in English Language</li> <li>• Complete accessories:               <ul style="list-style-type: none"> <li>Electrode holder, heavy duty</li> <li>Heavy duty ground clamp</li> <li>TIG torch assembly</li> <li>Gas regulator with remote control (foot/hand)</li> <li>Power cables and welding cable</li> </ul> </li> </ul>	8	unit
2	GMAW/ FCAW Welding Machine	<ul style="list-style-type: none"> <li>• Process: GMAW, Flux Cored AW</li> <li>• Max. Open Current Voltage (OCV): 38 - 70 V</li> <li>• Wire speed: 50 – 700 IPM</li> <li>• Wire size range: 0.8 – 1.2mm</li> <li>• Complete accessories: MIG gun, Heavy duty ground clamp and cable, 230V input power cable, Adjustable Gas regulator/ flowmeter and hose</li> <li>• Amperage range: 30-300 A</li> <li>• Rated output: Current/ voltage/ duty cycle 250A/ 26V/ 40%</li> <li>• Input power: voltage/ Phase/ Hertz: 208 -230/ 1/ 50/ 60</li> </ul>	8	unit
3	Plasma Cutter	<ul style="list-style-type: none"> <li>• Maximum Cutting Capacity: 22.2 mm (7/ 8")</li> <li>• Input Power: 208-575 V/ 1/ 3 P/ 50/ 60Hz</li> <li>• Rated output: 96-104V @ 40-50% duty cycle</li> <li>• Input Current: 37.8 - 60 A</li> <li>• Output Range: 20 - 60 A</li> <li>• Complete accessories: Hand torch, Power cables, Air regulator and pressure gauge, 20 feet cable, Work clamp and cable</li> <li>• Air compressor: at least 3 h, 1 phase/ or Delivery range 70 - 115 psi (pressure capacity),</li> <li>• with Maintenance / Operation Manual in English Language</li> </ul>	2	unit
4	Stationary Electrode Oven	<ul style="list-style-type: none"> <li>For Stick Electrode and MIG Wires</li> <li>• Capacity: up to 300 lbs (136 kg)</li> <li>• Electrode length: up to 18 in. (450 mm)</li> <li>• Temperature range: 100 - 550 °F (38-288°C) adjustable (w/ thermostatic control and thermometer)</li> <li>• Input Voltage AC: 220 V/ 60 Hz</li> <li>• Heating Element: 1000 W</li> <li>• with Maintenance / Operation Manual in English Language</li> </ul>	1	unit
5	Ultrasonic Flaw Detector	<ul style="list-style-type: none"> <li>• Portable Phased Array Instrument for NDT (Non-Destructive Testing) 16PA</li> </ul>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• Phased Array Probe, 4 MHz, 16 element, 0.5 mm pitch</li> <li>• Phased array Wedges, ranging 35-75 degrees shear capacities for 0012 &amp; 013 probes/ Phased array wedges transducers for different degrees (45°, 60°, 70°, etc.)</li> <li>• Keypad: English, International, Language: English</li> <li>• Battery type: Lithium-ion rechargeable standard, (Lithium-ion / alkaline) including Battery charger: 220 VAC, 50 - 60 Hz</li> <li>• Operation manual</li> <li>• Standard Software's, CD, Removable SD Memory Card, SD adaptors to USB</li> <li>• Couplant-glycerin</li> <li>• Display Type: Full VGA multi-colored/transflective color LCD, 60 Hz update rate</li> <li>• With complete accessories to operate including its featured functions,</li> <li>• Angle beam transducers, pulser, adaptors, calibration block and others`.</li> <li>• Transducer connections: BNC or Number 1 LEMO</li> </ul>		
6	Oxy-acetylene Welding/ Cutting Outfit	Complete accessories: <ul style="list-style-type: none"> <li>• Oxygen and Acetylene Regulators</li> <li>• blow pipe torch handle</li> <li>• cutting and welding tips</li> <li>• cutting torch or equal pressure cutting attachment for acetylene and alternative fuels, twin hose</li> <li>• tip cleaner, spanner and flint lighter</li> </ul>	3	unit
7	Lathe Machine (Conventional)	Lathe Machine, General Specifications: Horizontal Lathe <ul style="list-style-type: none"> <li>• Max swing over bed - 350 - 560 mm</li> <li>• Max swing over gap - 500 - 780 mm</li> <li>• Max swing over cross-slide - 150 - 380 mm</li> <li>• Distance between centers -500 - 1000 mm</li> <li>• Bed width - 150 - 350 mm</li> <li>• Cross slide travel - 150 - 300 mm</li> </ul> Main Spindle <ul style="list-style-type: none"> <li>• Spindle bore - <math>\Phi</math>30 - 80 mm</li> <li>• Spindle speeds - 0-5000 rpm 18 steps</li> </ul> Tailstock <ul style="list-style-type: none"> <li>• Tailstock spindle diameter - 40 - 75 mm</li> <li>• Tailstock spindle taper - MT 3 or MT 4</li> </ul> Threading <ul style="list-style-type: none"> <li>• Metric pitch threads - 0.2 -14.0 mm / pitch"</li> <li>• Inch pitch threads - 2- 75 TPI</li> </ul> Feeding Range <ul style="list-style-type: none"> <li>• Range of longitudinal feeds - 0.04 -1 mm/ rev</li> <li>• Range of cross feeds - 0.02-1.25 mm/ rev</li> </ul> Motor <ul style="list-style-type: none"> <li>• Power Supply – 220 volts, 60hz</li> <li>• Phase – 1 or 3 phase</li> <li>• Main spindle motor - 3 - 7.5 hp</li> <li>• Coolant pump motor - .125 HP (1/8" hp)</li> </ul>	1	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Accessories included: • 1 pc - 3 Jaw chuck with internal and external jaws, • 1 pc - 4 Jaw chuck, • 1 pc - Face plate, • 1 pc - live center, • 1 pc - dead center, • 1 pc - Steady rest, • 1 pc - follower rest, • 1 set - lathe dog (straight and bend tail), • 1 set tool holder (straight, left, right), • 1 pc - drill chuck with arbor, • quick change tool post, • with Operations manual (English) • 1 year warranty for spare parts and 2 years in support service		
8	Pencil Grinder	High speed die grinder Capacity: Collet- 6 mm to 8 mm 220 - 240 VAC No load speed: 7,000 - 28,000 rpm Continuous rating input: 400 - 750 W	3	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD -4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 mi Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc



Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop	5	pc

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Simeon Suan Vocational Technical College – Brgy. Pag-asa, Bansud, Oriental Mindoro**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Bristles approximately 25 mm (1 inch) diameter		
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

Handwritten signatures and initials, including what appears to be 'MS' and 'SC'.

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
TESDA Women's Center– Gate 1 TESDA Complex, East Service Rd., SSH, Taguig City				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 8. Welding</b>				
1	SMAW/ GTAW Welding Machine	<ul style="list-style-type: none"> <li>• Input power: voltage/ Phase/ Hertz: 208 -230/ 1/ 50/ 60,</li> <li>• Output range: 40-300A AC/DC</li> <li>• Duty cycle: at least 40 - 60%</li> <li>• Output Current Voltage (OCV): 50 - 80 V</li> <li>• With Built - in High Frequency</li> <li>• with Maintenance / Operation Manual in English Language</li> <li>• Complete accessories: Electrode holder, heavy duty Heavy duty ground clamp TIG torch assembly Gas regulator with remote control (foot/hand) Power cables and welding cable</li> </ul>	8	unit
2	GMAW/ FCAW Welding Machine	<ul style="list-style-type: none"> <li>• Process: GMAW, Flux Cored AW</li> <li>• Max. Open Current Voltage (OCV): 38 - 70 V</li> <li>• Wire speed: 50 – 700 IPM</li> <li>• Wire size range: 0.8 – 1.2mm</li> <li>• Complete accessories: MIG gun, Heavy duty ground clamp and cable, 230V input power cable, Adjustable Gas regulator/ flowmeter and hose</li> <li>• Amperage range: 30-300 A</li> <li>• Rated output: Current/ voltage/ duty cycle 250A/ 26V/ 40%</li> <li>• Input power: voltage/ Phase/ Hertz: 208 -230/ 1/ 50/ 60</li> </ul>	8	unit
3	Plasma Cutter	<ul style="list-style-type: none"> <li>• Maximum Cutting Capacity: 22.2 mm (7/ 8")</li> <li>• Input Power: 208-575 V/ 1/ 3 P/ 50/ 60Hz</li> <li>• Rated output: 96-104V @ 40-50% duty cycle</li> <li>• Input Current: 37.8 - 60 A</li> <li>• Output Range: 20 - 60 A</li> <li>• Complete accessories: Hand torch, Power cables, Air regulator and pressure gauge, 20 feet cable, Work clamp and cable</li> <li>• Air compressor: at least 3 h, 1 phase/ or Delivery range 70 - 115 psi (pressure capacity),</li> <li>• with Maintenance / Operation Manual in English Language</li> </ul>	2	unit
4	Stationary Electrode Oven	<ul style="list-style-type: none"> <li>For Stick Electrode and MIG Wires</li> <li>• Capacity: up to 300 lbs (136 kg)</li> <li>• Electrode length: up to 18 in. (450 mm)</li> <li>• Temperature range: 100 - 550 °F (38-288°C) adjustable (w/ thermostatic control and thermometer)</li> <li>• Input Voltage AC: 220 V/ 60 Hz</li> <li>• Heating Element: 1000 W</li> <li>• with Maintenance / Operation Manual in English Language</li> </ul>	1	unit
5	Ultrasonic Flaw Detector	<ul style="list-style-type: none"> <li>• Portable Phased Array Instrument for NDT (Non-Destructive Testing) 16PA</li> </ul>	1	unit

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		<ul style="list-style-type: none"> <li>• Phased Array Probe, 4 MHz, 16 element, 0.5 mm pitch</li> <li>• Phased array Wedges, ranging 35-75 degrees shear capacities for 0012 &amp; 013 probes/ Phased array wedges transducers for different degrees (45°, 60°, 70°, etc.)</li> <li>• Keypad: English, International, Language: English</li> <li>• Battery type: Lithium-ion rechargeable standard, (Lithium-ion / alkaline) including Battery charger: 220 VAC, 50 - 60 Hz</li> <li>• Operation manual</li> <li>• Standard Software's, CD, Removable SD Memory Card, SD adaptors to USB</li> <li>• Couplant-glycerin</li> <li>• Display Type: Full VGA multi-colored/transflective color LCD, 60 Hz update rate</li> <li>• With complete accessories to operate including its featured functions,</li> <li>• Angle beam transducers, pulser, adaptors, calibration block and others`.</li> <li>• Transducer connections: BNC or Number 1 LEMO</li> </ul>		
6	Oxy-acetylene Welding/ Cutting Outfit	<p>Complete accessories:</p> <ul style="list-style-type: none"> <li>• Oxygen and Acetylene Regulators</li> <li>• blow pipe torch handle</li> <li>• cutting and welding tips</li> <li>• cutting torch or equal pressure cutting attachment for acetylene and alternative fuels, twin hose</li> <li>• tip cleaner, spanner and flint lighter</li> </ul>	3	unit
7	Lathe Machine (Conventional)	<p>Lathe Machine, General Specifications: Horizontal Lathe</p> <ul style="list-style-type: none"> <li>• Max swing over bed - 350 - 560 mm</li> <li>• Max swing over gap - 500 - 780 mm</li> <li>• Max swing over cross-slide - 150 - 380 mm</li> <li>• Distance between centers -500 - 1000 mm</li> <li>• Bed width - 150 - 350 mm</li> <li>• Cross slide travel - 150 - 300 mm</li> </ul> <p>Main Spindle</p> <ul style="list-style-type: none"> <li>• Spindle bore - <math>\Phi</math>30 - 80 mm</li> <li>• Spindle speeds - 0-5000 rpm 18 steps</li> </ul> <p>Tailstock</p> <ul style="list-style-type: none"> <li>• Tailstock spindle diameter - 40 - 75 mm</li> <li>• Tailstock spindle taper - MT 3 or MT 4</li> </ul> <p>Threading</p> <ul style="list-style-type: none"> <li>• Metric pitch threads - 0.2 -14.0 mm / pitch"</li> <li>• Inch pitch threads - 2- 75 TPI</li> </ul> <p>Feeding Range</p> <ul style="list-style-type: none"> <li>• Range of longitudinal feeds - 0.04 -1 mm/ rev</li> <li>• Range of cross feeds - 0.02-1.25 mm/ rev</li> </ul> <p>Motor</p> <ul style="list-style-type: none"> <li>• Power Supply – 220 volts, 60hz</li> <li>• Phase – 1 or 3 phase</li> <li>• Main spindle motor - 3 - 7.5 hp</li> <li>• Coolant pump motor - .125 HP (1/8" hp)</li> </ul>	1	unit

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		Accessories included: • 1 pc - 3 Jaw chuck with internal and external jaws, • 1 pc - 4 Jaw chuck, • 1 pc - Face plate, • 1 pc - live center, • 1 pc - dead center, • 1 pc - Steady rest, • 1 pc - follower rest, • 1 set - lathe dog (straight and bend tail), • 1 set tool holder (straight, left, right), • 1 pc - drill chuck with arbor, • quick change tool post, • with Operations manual (English) • 1 year warranty for spare parts and 2 years in support service		
8	Pencil Grinder	High speed die grinder Capacity: Collet- 6 mm to 8 mm 220 - 240 VAC No load speed: 7,000 - 28,000 rpm Continuous rating input: 400 - 750 W	3	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System	1	unit

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		<p>Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG) Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		

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10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 mi Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape	5	pc

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NO.	ITEM	AGENCY SPECS	QTY	UNIT
		75 ml capacity		
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch	5	pc

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		Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter		
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

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**Lot 5. Electrical Installation and Maintenance NC III**

1	Electrical Motor Control Learning System	<p>This system teaches operation, installation, applications and troubleshooting of electric relay type motor control systems. The system contains the following items: Workstation Console, set of Control Stations, Hand-held Multimeter, Lead Set, Electric Motor, Motor Mounting Frame, Student Curriculum, and Instructor's guide.</p> <p>The following stations is supplied:                      Safety Switch Power Station (1 pc fused 3-phase safety switch, 2 pcs. Padlocks, 2 pcs. Safety tags, 4 pcs. Banana jacks, 1 pc Pre-attached power cord 4 poles, 5 wires, 1 pc. Lockout/Tagout mechanism, 1 pc. Fault Module with 2 faults, 1 pc. Mounting unit for right angle orientation to trainer), Operator Station (1 pc. Green flush push button (1 N.O., 1 N.C.), 1 pc. Black flush push button (1 N.O., 1 N.C.), 1 pc. Red mushroom push button (1 N.O., 1 N.C.), 1 pc. Three position selector switch (2 N.O.), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc 5-way binding post (ground), 1 Fault Module with 5 faults), Indicator Lamp Station (1 pc. Green indicator lamp, 1 pc. Push to test red indicator lamp, 1 pc. Yellow indicator lamp, 1 pc. 24 inch/ 61 cm green stackable banana lead, 7 pcs. 5-way binding posts (ground), 1 pc. Fault Module with five (5) faults), Control Transformer Station (1 pc. 250VA control transformer with protective cover, 1 pc. Dual fuse block with protective cover, 4 pcs. 1.25 AMP class CC fuses (2 installed, 2 loose), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with three (3) faults), Reversing Contactor Station (2 pcs. 4 pole contactors, 1 pc Mechanical/ electrical interlock, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post ground, 1 pc. Fault Module with 5 faults), Overload Relay Station (1 pc. A-B overload relay, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 3 faults), Manual Motor Starter Station (1 pc. manual starter, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground)), Multifunction Timer Station (1 pc. Multi-function timer with: on delay, off delay timing, interval, single shot timing, repeat cycle timing, pulse timing, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 4 faults), Drum Switch Station (1 pc. three phase reversing drum switch, 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), Limit Switch Station (2 pcs. Industrial grade limit switch (SPDT), 1 pc. 24 inch/ 61 cm green</p>	1	unit
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		<p>stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 3 faults), Control Relay Station (2 pcs. Four pole relays (2 N.O. / 2 N.C.), 1 pc. 24 inch/ 61 cm green stackable banana lead, 1 pc. 5-way binding post (ground), 1 pc. Fault Module with 5 faults), Pressure/ Float Switch Station (1 pc. Pressure switch (SPDT), 1 pc. Float switch (N.O. or N.C.), 1 pc. 24 inch/ 61cm green stackable banana lead, 1 pc. 5-way binding post (ground), Motor Connection Station (1 pc. Multi-pin industrial motor connector, 5 pcs. Red banana jacks, 5 pcs. Yellow banana jacks, 1 pc. Fault Module with 3 faults), Hand-Held Digital Multi-Meter, Stackable Banana Lead Set - 50 Leads, 3 Phase Induction Motor A 1/3 HP, NEMA 56 Frame machine rated at 208-230/460 Volts, 3 phase, Windings accessible through a multi-pin connector. To include: 1 pc. Motor mounting plate, 1 pc. Single end shaft for safety, 1 pc. Motor winding identification escutcheon, 1 pc. Fault Module with (2) winding faults.</p> <p><b>Motor Mounting Frame</b> Is heavy duty steel frame construction, with pre-drilled holes for mounting of two motors, prony brake, electric brake, and flywheel. Minimum dimension is 27" W x 12" L x 4" H. The mounting surface is made of .125 in steel plate min, painted and silk-screened.</p> <p><b>Prony Brake</b> A shaft torque measurement and load device. It consist of a formed steel gauge unit, aluminum brake drum with mounting for 5/8 inch motor shafts, balanced pulley, spring force gauge, load adjustment knob, double set screw locking device, coolant spray bottle. Load range is 0 - 3.05 N-m</p> <p><b>HAND TOOL PACKAGE:</b> <b>FAULT TROUBLESHOOTING SYSTEM</b> (This system consist of a computer-based fault controller, (2) ribbon cables, (1) computer managed software, (1) installation/operation manual. This system is designed and programmed so that students can connect the system to a wide variety of industrial controls training systems to provide a means by which faults can be automatically inserted into a training system to provide student practice in troubleshooting the system. The characteristics of the system should be as follows: <b>Fault Controller</b> (Includes enclosure with 35 fault relays, 10A 115/230 VAC rating, 35 cables, ribbon cable for connection to a host computer, computer-based controller, internal power supply, 120/230 VAC 50/60 Hz.), Student Curriculum</p>		

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		<p>(The student curriculum consist of (1) set of 10 Learning Activity Packets 73 skills in electric motor control. The topics covered includes: motor starters, reversing starters, overload relays, motor start/ stop control, control transformers, magnetic motor starters, two wire control, three wire control, sequence control, jogging, on and off delay timing, sensor switches, and motor timer control. Students will learn installation, operation, schematic reading, circuit design, and troubleshooting), Teacher's Assessment/ Portfolio Guides (A teacher's guide is provided. It contains student data sheets, data sheet solutions, self-review answers, quizzes, quiz answers, student skill record sheets, and authentic assessment. A quiz is provided for each packet. A question is provided in each quiz for each cognitive objective taught. All tasks listed in the packet is listed on personalized student record sheets. The Instructor's Package includes directions for authentic skill assessment.)</p>		
2	Variable Frequency AC Drive Learning System	<p>Variable Frequency AC Drive Station</p> <p>Shall include the following:</p> <p>1 pc. Variable Frequency AC Drive with (Built in control keypad, Ability to program 30 different operating parameters, Capability of displaying 10 different operating conditions, Shall be capable of operating 3-phase motors from a single-phase supply, Ability to accept commands from four (4) different sources: Keypad, External pot, 4-20mA Signal, ± 10-90 VDC signal, Built in fault diagnostics, DC injection braking capability, PWM type output with adjustable carrier frequency (2 to 8 kHz), Provisions for addition of an external Dynamic Braking resistor, 1 pc. Two position fuse block with fuses, 3 pcs DPST push button switches, 3 pcs. SPDT toggle switches, 1 pc. 3 PST keylock safety switch, 1 pc. Potentiometer with 10 turn indicating dial, 1 pc. Fault Module with 5 faults)</p> <p>Motor Connection Station (Shall include one of plug-in connections for a 3-phase motor)</p> <p>Student Curriculum or Manual and with Teacher's Assessment/ Portfolio Guides</p>	1	unit
3	Electrical Measuring Instruments	<ul style="list-style-type: none"> <li>• Phase Sequence Indicator (Indication of the three phase via LCD, Indication of the phase rotation direction via LCD, Swift determination of the phase sequence in thee phase)</li> <li>• Voltage Range: 40 to 700 V</li> <li>• Frequency range: 15 to 400 Hz</li> </ul>	1	unit

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		<ul style="list-style-type: none"> <li>• Safety Complying with: IEC 61010/EN61010, IEC61557-7/EN61557-7</li> <li>• Current Consumption: approx. 1 mA @ 700 V</li> <li>• Digital Storage Oscilloscope (4 channel, 60 MHz, 5V/div Maximum vertical sensitivity, 2mV Minimum vertical Sensitivity 50s/div Maximum time base, 5ns/div minimum time base, TFT LCD, 2mV minimum vertical sensitivity)</li> <li>• Clamp Meter Features and Benefits (Peak hold, Switchable low pass filter, TRMS measurement)</li> <li>• Troubleshooting of RCD nuisance tripping (Periodic measurement of leakage current @50 Hz to check for insulation deterioration, Accurate measurement of triple neutral current and other distorted waveforms, Differential current measurement for appliance testing, Auto ranging)</li> <li>• Safety category voltage: 300 V, 600 V, 1000 V, Safety category level: CAT II, CAT III, CAT IV</li> <li>• Absolute maximum resistance: 600k Ohm</li> <li>• AC current measurement resolution: 0.001mA</li> <li>• Best AC Current Accuracy: 1% + 8 digits, Best AC Voltage Accuracy: 1 % + 3 digits, Best DC Voltage Accuracy: 1 % + 2 Digits</li> <li>• Tachometer (Optical and Mechanical measurement of rotation speed, Rotation speed, speed and length measurement, Memorization of min. and max. values as well as the last value at power down, Automatic Stop</li> <li>• Rotation speed: 1.00 to 99,999 rpm optical, 1.0 to 19,999 rpm mechanical</li> <li>• Speed: 0.10 to 1999 m/min.</li> <li>• Accuracy: +/- 0.02% full scale (=/- 1 digit)</li> </ul>		
4	PLC Motor Control Learning System	<p>11-Gauge Steel Panel featuring:</p> <ul style="list-style-type: none"> <li>• Compact PLC- Micro Logix 1000 or 1200 PLC</li> <li>• 16 digital Input-24Vdc</li> <li>• 12 digital output relay</li> <li>• Power input; 220-240-VAC / 60Hz.</li> <li>• Connecting cables (300/ 1m. long)</li> <li>• AC Inputs (10)</li> <li>• Relay Outputs (6)</li> </ul> <p>Accessories:</p> <ul style="list-style-type: none"> <li>• Programming cable software</li> <li>• Power input- 220 V/ 60 Hz</li> <li>• Simulator: 24 VDC</li> <li>• 1 green push button (N.O.)</li> <li>• 1 red push button (N.C.)</li> <li>• 2- 3PSP Selector switch</li> </ul> <p>Output simulator:</p> <ul style="list-style-type: none"> <li>• Buzzer 24 VDC</li> <li>• 10 indicator lamp/ 24 VDC</li> <li>• Short circuit protection features;</li> </ul>	1	unit

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		<p>Mounting required: Panel type w/ aluminum frame stand</p> <p>Student Curriculum and students manual</p>		
5	Reduced Voltage Starting Learning System	<p>Each station includes the following components:                      Power Resistor Station                      (3 pcs.) Power Resistor Stations - (3 pcs.) 25 ohm, 100 watt                      Dual Transformer Station                      (2 pcs.) Control Transformers (250VA minimum)                      multiple tap primary (208, 277, 380 (VAC) single tap secondary (120 VAC)</p> <p>and with;                      Student Curriculum or Student manual</p>	1	unit
6	Electrical Machines Learning System	<p>Assembly system for rotating electric machines                      It includes the following components: Base plate, Supports with bearing, Coupling joints, Flexible coupling, Electronic speed transducer, Assembling screws, Wrenches, DC stator, AC stator, Rotor with commutator, Brush holder with 2 brushes, Cage rotor, Ring rotor, Brush holder with 6 brushes</p> <p><b>POWER SUPPLY</b>                      Outputs in AC:                      • Three-phase: 24 V/ 14 A, 42 V/ 10 A                      • Single-phase: 0 – 48 V/ 5 A, 0 – 10 V/ 12 A                      Outputs in DC:                      • 32 V/ 14 A, 42 V/ 10 A, 0 – 40 V/ 5 A, 0 – 8 V/ 12 A</p> <p>Three-phase power supply from mains.</p> <p><b>LOADS AND RHEOSTAT</b>                      • resistors: 3x15 Ohm, 90 W each, 1 Ohm + (0 – 2 Ohm), 80 W                      • capacitors: 3 x 80 µF, 150 V                      • rheostat: 0 - 80 Ohm, 1 A</p> <p><b>ELECTRICAL POWER DIGITAL MEASURING UNIT</b>                      Measurement in direct current of: voltage, current, power and energy.                      Measurement in alternate current of: voltage, current, power, active energy, reactive energy, apparent energy, cos phi and frequency.</p> <p>Main technical features:                      • DC voltage: 300 VDC                      • DC current: 20 ADC                      • AC voltage: 450 VAC                      • AC current: 20 AAC                      • Power: 9000 W</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<ul style="list-style-type: none"> <li>• Power supply: single-phase from mains</li> <li>• Communication: RS485 with MODBUS RTU protocol.</li> </ul> <p>ADAPTER BRACKET Necessary for connecting the locking device, the brake or the drive motor.</p>		
7	Pneumatics & Electro-Pneumatic Training Set	<p>The Electro-pneumatic training set includes basic pneumatic training components. The user can train on the basics of electro-pneumatic control.</p> <p>Training Contents:</p> <ol style="list-style-type: none"> <li>1. Physical principle of electro-pneumatics</li> <li>2. Function of electro-pneumatics training set</li> <li>3. Relay control circuit</li> <li>4. Electric self-holding circuit</li> <li>5. Feature of magnetic proximity switch</li> <li>6. Electric sequence control circuit</li> <li>7. Step diagram</li> </ol> <p>Consist of:</p> <ol style="list-style-type: none"> <li>1. Push button switch set</li> <li>2. Relay 3-fold - 2 Units</li> <li>3. Limit switch electrical, left and right actuated</li> <li>4. Optical sensor</li> <li>5. Electric proximity switch</li> <li>6. 3/2 way solenoid valve (N/C)</li> <li>7. 5/2 way single solenoid valve - 3 units</li> <li>8. 5/2 way double solenoid valve - 3 units</li> <li>9. Pressure switch</li> <li>10. One-way flow control valve - 4 units</li> </ol>	1	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n	3	unit



**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		USB port for shared printing/storage English firmware/ User interface Supports home and cloud application		
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**




NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style		
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller  Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)  Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m <sup>2</sup> , Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones  Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System  Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground  Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M  Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m  ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)  Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720  Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)  Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required  Charger Voltage: 17.4 V		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim	3	pc

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)		
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C	7	pc

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**San Francisco Institute of Science and Technology – San Francisco, Malilipot, Albay**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		With permanently fused markings, packed in protective sleeving		
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
<b>Lot 3. Aquaculture</b>				
1	Dissolve Oxygen Meter	Display Type: LCD DO Measurement: 0 - 45 mg/L Temperature Compensation: -5 to 50°C	4	unit
2	Salinity Refractometer	Type: Analog Specific Gravity (SG): 1.000 - 1.070 Measurement Range: 0 to 100 %	5	unit
3	Soil PH Meter	Meter Type: Portable pH Range: 0 - 14 pH pH Resolution - ± 0.2 pH Humidity Range: 0 to 8%	5	unit
4	Water Thermometer	Meter Type: Digital Display Type: LCD Measuring Range: -200 to 1,370°C Resolution: 0.1°C, 1°C	4	unit
5	Digital Water PH Meter	Meter Type: Digital Display Type: LCD Measurement Range: -2 to 16 pH Resolution: 0.01 Accuracy: ± 0.1 Temperature Compensation: -10 to 120°C	4	unit
6	Secchi Disk	Type: Portable Size: 20 cm diameter with black and white sections - with calibrated line marked every half meter up to 20 meters	5	unit
7	Water Quality Test Kit	Test Range Ammonia Nitrogen: 0 - 3 ppm (mg/L) Nitrite Nitrogen: 0 - 0.8 ppm (mg/L) pH: 4 - 10 Alkalinity: 0 - 4000 ppm (mg/L) Carbon Dioxide: 0 - 100 ppm (mg/L) Chloride: 0 - 400 ppm (mg/L) Dissolved Oxygen: 0 - 20 ppm (mg/L) Total Hardness: 0 - 4000 ppm (mg/L) Temperature: -5 - 50°C	4	unit
8	Multiparameter Meter System	Meter Type: Portable/ Electrode Display Type: LCD Water Proof USB Connectivity pH Range: 0 - 14 Salinity Range: 0 - 70 Dissolved Oxygen Range: 0 to 50 ppm Temperature Range: -5 to 105°C	2	unit
9	Eckman Dredge	Material: Stainless Steel Sampling Area: 6" x 6"  Inclusive of the following accessories: Messenger Steel Aircraft Cable (100 meters)	4	unit
10	Portable Arc Welding Machine	Inverter type portable welding machine, ground clamp, power cables and welding cables, input power: 220 V,	4	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao, Camarines Sur				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		output current: 200 Ampere		
11	Water Pump	Engine with water pump Engine: 7 - 10 hp Water pump - NS 100	2	unit
12	Freezer	Heavy duty; two door reach-in, stainless steel body; capacity: 500 liters; 220 V/ 60 Hz; single phase	2	unit
13	Grass Cutter	Engine Type: 4 Stroke Fuel: Gasoline Displacement: 35.8 cc Fuel Tank: 630 ml - 700 ml	4	unit
<b>Lot 14. Information and Communication Technology</b>				
1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD -4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server	1	unit

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J. Sur*

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Windows and MAC Compatible		
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller  Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 -	1	unit



**Procurement of Training Tools and Equipment for the Higher Level  
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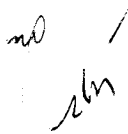

**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
10	DSLR Camera	<p>Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase;</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC		
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 m Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 mi Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch )	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.	10	set

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**Procurement of Training Tools and Equipment for the Higher Level  
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**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Calibrated in newtons		
15	Vernier Caliper	<p>Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value</p> <p>Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight</p>	10	set
16	Ammeters	<p>Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories</p>	5	set
17	Biological Microscope	<p>Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x</p> <p>Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see</p> <p>Basic condenser concentrates light onto the specimen</p> <p>Adjustable arm (0° to 60°) for comfortable viewing</p>	1	unit
18	Thermometer	<p>Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion</p> <p>Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C</p> <p>With permanently fused markings, packed in protective sleeving</p>	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	<p>300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop</p> <p>Bristles approximately 25 mm (1 inch) diameter</p>	5	pc

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**Procurement of Training Tools and Equipment for the Higher Level  
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**Camarines Sur Institute of Fisheries & Marine Sciences – Sta. Rosa del Norte, Pasacao,  
Camarines Sur**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set
<b>Lot 16. Surveying Equipment</b>				
1	Total Station Surveying Equipment	3.5" Large Dual Touch-screen HD Display Android Smartphone as data collector EDM Trigger, automatically measurement key 500 Meters long range reflector less 200,000.00 points memory data upload/ download Complete surveying/ construction/ road programs on board  Electronic Bubble; direct data plotting on main screen  Alphanumeric Keys for easy and quick data input MS Windows Compatible; GPS data ready Data Text, DXF, CSV/ AutoCAD ready  Telescope - Length: 125 - 152 mm - Magnification: 30x - Image: Erect - Field of View: 1°20' - 1°30' - Resolve Power: 3" - Min. Focus Distance: 1.3 - 1.7 m  Measurement Range: 1.5 to 5,000 meters	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 13. Commercial Cooking NC III**

1	Freezer	Heavy duty; two door reach-in, stainless steel body; capacity: 500 liters; 220 V/ 60 Hz; single phase	2	unit
2	Reach-in Chiller	Heavy duty; two door reach-in, stainless steel body; 500 liters capacity; 220 V/ 60 Hz; single phase	2	unit
3	Stove with Oven	Heavy duty; four burner gas stove with oven; cast iron top plate; stainless steel material; BTU per hour: 15,000 - 64,000	5	unit
4	Stock Pot	Heavy duty; Four burner stove; cast iron top plate; stainless steel material; countertop	5	unit
5	Deep Fat Fryer	Heavy duty; electrical twin tank fryer; stainless steel material; countertop; capacity 10 liters; 220 V/ 60 Hz; single phase; power: 2 Kw - 17 Kw	5	unit
6	Commercial Microwave Oven	Heavy duty; stainless steel body; capacity: 17 liters; 220 V/ 20 Hz; single phase; power: 1 kW- 3 kW	7	unit
7	Dishwashing Machine	Hood type 220 VAC/ 1 phase 800 - 1600 plates capacity per hour includes tray/ racks	1	unit
8	Blender Machine	Heavy duty; stainless steel blade; capacity: 2 liters; heavy duty; 220 V/ 60 Hz/ 1 phase; power: 1.1 kW - 2.7 kW	7	unit
9	Pressure Cooker	Heavy duty; stainless steel; capacity: 9 liters	5	unit
10	Meat Slicer	Aluminum and stainless steel body material; stainless steel blade; adjustable thickness slice; 220 V/ 60 Hz; single phase	2	unit
11	Meat Grinder	Aluminum and stainless steel body material; stainless steel blade; capacity: 5 - 10 lbs per minute; 220 V/ 60 Hz; single phase; power: 0.735 kW - 1.3 kW	2	unit
12	Salamander Griller	Twin basket; countertop; stainless steel and chrome material; voltage/ frequency: 220 V/ 60 Hz; single phase	5	unit
13	Exhaust Hood	60 cm width; heavy duty; stainless steel; wall mounted	10	unit

**Lot 14. Information and Communication Technology**

1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD ·4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment	3	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Photo Quality WiFi Connectivity		
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and AV port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached Storage	8 TB At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible	1	unit
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating	1	unit

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style		
9	Drone	<p>Max Flight Time: Approx. 30 minutes                      Satellite Positioning Systems: GPS/ GLONASS                      Gimbal</p> <p>Stabilization: 3-axis (pitch, roll, yaw)                      Controllable Range: Pitch -90° to 30°                      Infrared Sensing System                      Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m)                      Remote Controller</p> <p>Max Transmission Distance: 2.400 - 2.483 Ghz                      (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S                      Video Output Port: GL300E HDMI, GL300F USB                      Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m², Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V                      Battery Type: liPo 4S                      Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m)                      Operating Range: 0 - 33 ft (0 - 10 m)                      Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m)                      Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s                      Electronic Shutter Speed: 8 - 1/ 8000 s</p>	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720  Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure  Photo: JPEG, DNG (RAW), JPEG + DNG) Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)  Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required  Charger Voltage: 17.4 V		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC	1	unit
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc

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Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch)	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact polystyrene body with zero adjustment.  Calibrated in newtons	10	set
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CenTEs				
Dumalag Vocational & Technical School – Poblacion, Dumalag, Capiz				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set
<b>Lot 17. Air Conditioning Unit</b>				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
1	Air Conditioning Unit	Inverter type air conditioning unit  Split type AC unit, floor mounted, 4 hp, 220 volts/ 60 Hz/ 3 phase, cooling capacity: 10 kw	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Leon Ganson Polytechnic College – Brgy. Maya, Balasan, Iloilo**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
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**Lot 6. Food Processing**

1	Food Processor	Heavy Duty, 5 liters, stainless steel bowl, 220 V/ 60 Hz, 1 Hp	1	unit
2	Water Boiler	30 liters capacity, stainless steel, 220 V/ 60 Hz	1	unit
3	Beverage Chiller	35 cubic feet, digital controller, 220 V/ 60 Hz, single phase	2	unit
4	Freezer	Heavy duty; two door reach-in, stainless steel body; capacity: 500 liters; 220 V/ 60 Hz; single phase	2	unit
5	Stove with Oven	Heavy duty; four burner gas stove with oven; cast iron top plate; stainless steel material; BTU per hour: 15,000 - 64,000	10	unit
6	Dehydrator	single chamber, 15 trays, stainless steel, 220 V/ 60 Hz	1	unit
7	Exhaust Hood	60 cm width; heavy duty; stainless steel; wall mounted	10	unit
8	Smoke House	1 door, 220 V/ 60 Hz, single phase, Dimension: 0.440 m <sup>3</sup> - 1.62 m <sup>3</sup>	1	unit

**Lot 14. Information and Communication Technology**

1	Laptop	i7 (2.5GHZ- Minimum Speed) 8Gb RAM DDR4 512GB SSD 4GB Dedicated Video Card 15.6" Display Mouse Wired and wireless Ethernet connection At least two (2) USB Port Windows 10 or latest OS Microsoft Office (Full Installation) Educational License	13	unit
2	Inkjet Printer	With Print, Scan, Copy, Fax features Tank type ink system Supports A4 and Legal Paper sizes Approximately 15 page per minute (Black) Can scan documents over network environment  Photo Quality WiFi Connectivity	3	unit
3	Wireless Router	1 WAN and 4 LAN ports 802.11g, 802.11n USB port for shared printing/storage English firmware/ User interface Supports home and cloud application	3	unit
4	Smart TV	65 inch High Definition (3,840 × 2,160) SMART Features Ethernet and Wireless Connectivity USB, HDMI and A/V port with wall mount provision Multi-system compatible	1	unit
5	Tablet	128 GB Storage WiFi With installed MS Office Application	4	unit
6	Network Attached	8 TB	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CenTEs**

**Leon Ganzon Polytechnic College – Brgy. Maya, Balasan, Iloilo**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
	Storage	At least 2 Hard disk bay 2 LAN Port (Gigabit Interface) USB port English firmware/ User interface With file and media server Windows and MAC Compatible		
7	Multimedia Projector	Projection system LCD/ DLP chip technology Brilliant Color Images: with 16.7 M color reproduction Projected image size: 30 to 300 inches Distance: 1 to 13.5 meters Brightness: 5,000 - 6,000 lumens Resolution: WXGA (1024 x 768) pixels Lamp life: 3,000 hours USB port: Type Bx1 Interface: wired/ wireless	1	unit
8	CCTV System	8 Channel 1080p Digital Video Recorder; Video Format NTSC; Video Inputs: 8 channel; Video outputs: HDMI; Display Resolution: Up to 1080p; Audio Input 1 Channel, RCA Note: This supports audio input in live mode with an external microphone (not included) This port does not support recording of audio;  Audio Output 1 Channel, RCA Output; Recording Compression Format H.264; Recording Resolution: 1080p; Recording Modes: Motion, Continuous, Manual; HDD Interface/ Memory Type: SATA2; HDD: 2TB installed (expandable to 4TB); Network Interface: 1 X RJ45 Operating Power: DC 12V, 8 X 1080p Cameras; Video Quality: 1080p (2.1 Megapixel); Viewing Angle: 90; Night Vision distance: Up to 100 ft.; Indoor/ Outdoor or Outdoor, IP67 Operating Temperature: 4" F - 122" F Body Construction: Aluminum, Bullet Style	1	unit
9	Drone	Max Flight Time: Approx. 30 minutes Satellite Positioning Systems: GPS/ GLONASS Gimbal  Stabilization: 3-axis (pitch, roll, yaw) Controllable Range: Pitch -90° to 30° Infrared Sensing System Obstacle Sensory Range: 0.6 - 23 ft (0.2 - 7 m) Remote Controller	1	unit

**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Leon Ganzon Polytechnic College – Brgy. Maya, Balasan, Iloilo**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		<p>Max Transmission Distance: 2.400 - 2.483 Ghz (Unobstructed, free of interference), FCC 4.3 mi (7 km), CE 2.2 mi (3.5 km), SRRC 2.5 mi (4 km); 5.725 - 5.825 GHz (Unobstructed, free of interference), FCC 4.33 mi (7 km), CE 1.2 mi (2 km), SRRC 3.1 mi (5 km)</p> <p>Battery: 6000 mAh liPo 2S Video Output Port: GL300E HDMI, GL300F USB Mobile Device Holder: GL300E- Built-in display device (5.5 inch screen, 1920x1080, 1000cd/m<sup>2</sup>, Android system, 4 GB RAM + 16 GB ROM); GL300F- Tablets and smart phones</p> <p>Voltage: 15.2 V Battery Type: liPo 4S Vision System: Forward Vision System, Backward Vision System, Downward Vision System</p> <p>Velocity Range: ≤31 mph (50 kph) at 6.6 ft (2 m) above ground</p> <p>Altitude Range: 0 - 33 ft (0 - 10 m) Operating Range: 0 - 33 ft (0 - 10 m) Obstacle Sensory Range: 2 - 98 ft (0.7 - 30 m) Camera Sensor: 1" CMOS, Effective pixels: 20M</p> <p>Lens: FOV 84° 8.8 mm/ 24 mm (35 mm format equivalent) f/ 2.8-f/ 1.1 auto focus at 1 m</p> <p>ISO Range: Video 100- 3200 (Auto), 100- 6400 (Manual); Photo 100- 3200 (Auto), 100- 12800 (Manual)</p> <p>Mechanical Shutter Speed: 8 - 1/ 2000 s Electronic Shutter Speed: 8 - 1/ 8000 s PIV Image Size: 4096x2160, 3840x2160, 2720x1530, 1920x1080, 1280x720</p> <p>Still Photography Modes: Single Shot, Burst Shooting 3/5/7/10/14 frames, Auto Exposure</p> <p>Photo: JPEG, DNG (RAW), JPEG + DNG) Video: MP4/ MOV (AVC/ H.264; HEVC/ H.265)</p> <p>Supported SD Cards: Micro SD, Max Capacity 128 GB, Write Speed ≥15MB/s, Class 10 or UHS-1 rating required</p> <p>Charger Voltage: 17.4 V</p>		
10	DSLR Camera	Camera lens of at least 18 - 55 mm; 24.2MP APS-C CMOS Sensor Digic Image Processor; 3.0" 1.04M-	1	unit

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Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Leon Ganson Polytechnic College – Brgy. Maya, Balasan, Iloilo				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
		DOT Vari-angle Touchscreen Full HDn 1080p; Video recording at 60 fps 45-point All Cross Type Phase; Detect AF Dual Pixel CMOS AF; Up to 6 fps shooting and ISO 25,600 built in wi-fi with NFC		
<b>Lot 15. Science Lab (Chemistry and Physics)</b>				
1	Graduated Cylinder	Polypropylene (plastic) material 10 ml capacity	10	pc
2	Graduated Cylinder	Polypropylene (plastic) graduated cylinder 100 ml capacity	5	pc
3	Test Tubes	Glass material Large 15 ml capacity	12	pc
4	Thermometer	Lab Thermometer: Red Alcohol, 20 to 110° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 110° C; Divisions: 1C  With permanently fused markings; packed in protective sleeving	7	pc
5	Laboratory Tong	Stainless steel 8 3/4" long	5	pc
6	Safety Goggles	Direct ventilation perforated frame Recyclable clear vinyl body Polycarbonate lens Elastic adjustable headband for secure fit, can be worn over prescription glasses	13	pc
7	Beaker	Durable glass material 250 ml Borosilicate	5	pc
8	Erlenmeyer Flask	Durable glass material 250 ml Borosilicate	3	pc
9	Stirring Rod	Stir rod, borosilicate glass, 10 inch (250 mm) 10 inch (250 mm length x 6 mm OD) borosilicate glass stirring rod with polished ends	5	pc
10	Glass Funnel	Heavy duty borosilicate glass funnels Funnel has a well formed rim Top diameter: 4 inch (100 mm) Stem length: 4 inch (100 mm) Stem diameter: 0.35 inch (8 mm)	3	pc
11	Petri Dish	Strong borosilicate glass design Bottom dish: 60 x 15 mm (2.36 x 0.59 inch) Cover: 65 mm (2.5 inch)	4	pc
12	Watch Glass	100 mm Selected quality glass, polished ground edges	5	pc
13	Evaporating Dish	Porcelain crucible type Hemispherical shape 75 ml capacity	5	pc
14	Spring Balance	Newton's Spring Scale - 10N x 0.5N Made from anodized metal, richly plated, high impact	10	set

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**Procurement of Training Tools and Equipment for the Higher Level  
DAC Qualification of the 23 CentExs**

**Leon Ganson Polytechnic College – Brgy. Maya, Balasan, Iloilo**

NO.	ITEM	AGENCY SPECS	QTY	UNIT
		polystyrene body with zero adjustment. Calibrated in newtons		
15	Vernier Caliper	Science ware Digi-MAX Double scales Polymeric plastic 150 mm scale with 0.1 mm subdivisions 6 inch scale with 0.005 inch subdivisions Length: 9 inch (23 cm) Parallel jaws are 1.55 inch (40 mm) deep Inside jaws and round plastic rod depth gauge provide added value  Upper scale: 150 mm with 0.1 mm subdivisions Lower scale: 6 inch with 0.005 inch subdivisions Molded in rigid plastic, will not scratch like metal Non-conducting, corrosion resistant, and lightweight	10	set
16	Ammeters	Analog Tabletop micro ammeter perfect for physics classroom demonstrations or experiments in electricity and electronics laboratories	5	set
17	Biological Microscope	Feature-packed entry-level biological microscope 10x eyepiece and 4x, 10x, and 40x objective lenses combine to provide powers of 40x, 100x, and 400x  Fully coated glass optics All-metal body with monocular head 50 mm (2") mirror provides illumination to make details of specimen slides easier to see  Basic condenser concentrates light onto the specimen  Adjustable arm (0° to 60°) for comfortable viewing	1	unit
18	Thermometer	Lab Thermometer: Red Alcohol, 20 to 150° C, Total Immersion  Student Grade Thermometer: Red Alcohol, White Back; Length: 300 mm; Immersion: Total Range: -20 to 150°C; Divisions: 1C  With permanently fused markings, packed in protective sleeving	7	pc
19	PH Papers (Per Box )	High accuracy pH test paper, pH range from 1-14 pH 1-14 color chart in each pack, full range 1-14 80 strips per box	5	box
20	Safety Gloves	Lightly powdered latex gloves 50 pairs per pack, size 8 - 8.5 inch	5	pack
21	Test Tube Brush	300 mm / 12 Inch Nylon bristle mounted in heavy gauge twisted galvanized wire with loop  Bristles approximately 25 mm (1 inch) diameter	5	pc

Procurement of Training Tools and Equipment for the Higher Level DAC Qualification of the 23 CentExs				
Leon Ganson Polytechnic College – Brgy. Maya, Balasan, Iloilo				
NO.	ITEM	AGENCY SPECS	QTY	UNIT
22	Reagent Bottle	Dark glass with special cap/ stoppers 250 ml capacity	5	pc
23	Lens Mirror Prism	Physical Science Optical Experiments Kit Contains triangular prism, convex lens, and concave mirror fisica for Student's Optics Physics Experiment	1	set
<b>Lot 17. Air Conditioning Unit</b>				
1	Air Conditioning Unit	Inverter type air conditioning unit  Split type AC unit, floor mounted, 4 hp, 220 volts/ 60 Hz/ 3 phase, cooling capacity: 10 kw	1	unit

*Handwritten signatures and initials:*  
 P. M. S. J. M.