Republic of the Philippines
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Luzon Expressway, Taguig City

130ᵗʰ TESDA BOARD MEETING
08 June 2021, Tuesday, 9:00 a.m.
Teleconference Via Zoom Platform

Resolution No. 2021 - 20
(Page 1 of 4 pages)

APPROVING AND PROMULGATING THE AMENDED TRAINING REGULATIONS FOR RAC SERVICING (PACU-CRE) NC III to COMMERCIAL AIR-CONDITIONING INSTALLATION AND SERVICING NC III

WHEREAS, TESDA Board Resolution No. 2012-0011 was issued on "Approving the Amendments to the Training Regulations from Refrigeration and Air-conditioning (RAC) Servicing NC II to RAC Servicing NC III (Package-Type Air-conditioning Unit/Commercial Refrigeration Equipment)" last 17 September 2012 during the 83ʳᵈ TESDA Board Meeting;

WHEREAS, it is the policy of TESDA to review after three (3) years any Training Regulations (TRs) promulgated by the TESDA Board;

WHEREAS, there is a need to review the existing Training Regulations in view of the developments in technology and current trends and practices in the industry;

WHEREAS, the **Refrigeration and Air-conditioning Technicians for Development of the Philippines (RACTAP) Inc.** with the assistance of the Qualifications and Standards Office (QSO) of TESDA has reviewed the existing Training Regulations for RAC Servicing NC III (Package-Type Air-conditioning Unit/Commercial Refrigeration Equipment) to *Commercial Air-conditioning Installation and Servicing NC III* to respond to the current skills requirements of the industry with its new technologies and industry manpower set-up and recommended amendments;

WHEREAS, the industry experts and partners, headed by the **officers of the Refrigeration and Air-conditioning Technicians for Development of the Philippines (RACTAP) Inc.** with the technical assistance of the Qualifications and Standards Office (QSO) of TESDA endorsed the proposed revisions of the foregoing Training Regulations;

WHEREAS, during the 135ᵗʰ and 136ᵗʰ Standards Setting and Systems Development (SSSD) Committee Meetings held on 10 May 2021 and 02 June 2021, respectively, the Committee deliberated upon and agreed to favorably recommend the approval and promulgation of the amended Training Regulations for RAC Servicing NC III (Package-Type Air-conditioning Unit/Commercial Refrigeration Equipment) *to*

Republic of the Philippines
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Luzon Expressway, Taguig City

130th TESDA BOARD MEETING
08 June 2021, Tuesday, 9:00 a.m.
Teleconference Via Zoom Platform

Resolution No. 2021 - 24
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APPROVING AND PROMULGATING THE AMENDED TRAINING REGULATIONS FOR RAC SERVICING (PACU-CRE) NC III to COMMERCIAL AIR-CONDITIONING INSTALLATION AND SERVICING NC III

Commercial Air-conditioning Installation and Servicing NC III which is attached as Annex "A" and made an integral part of this Resolution;

WHEREAS, during the 130th TESDA Board Meeting on 08 June 2021, the TESDA Board deliberated and considered the proposed Training Regulations for Commercial Air-conditioning Installation and Servicing NC III;

NOW, THEREFORE, BE IT RESOLVED AS IT IS HEREBY RESOLVED, that the aforementioned Training Regulations for Commercial Air-conditioning Installation and Servicing NC III as herein appended are hereby approved and promulgated;

BE IT RESOLVED, FINALLY, that:

(1) Copies of this Resolution and the abovementioned Training Regulations be published in the Official Gazette or in a newspaper of general circulation, and disseminated to all concerned, and the same shall be effective fifteen (15) days upon publication;

(2) All programs registered under the current RAC Servicing NC III (Package-Type Air-conditioning Unit/Commercial Refrigeration Equipment) must comply with the requirements of the abovementioned Training Regulations. The one-year period of re-registration under this Training Regulations shall commence on the date of effectivity as indicated in the Implementing Guidelines/TESDA Circular for the deployment of the Training Regulations to be issued by the TESDA Secretariat; and

(3) Graduates of TVET programs covered by the aforementioned Training Regulations shall be required to undergo mandatory assessment under the national assessment and certification program.

Adopted this 8th day of June 2021.

Republic of the Philippines
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Luzon Expressway, Taguig City

130th TESDA BOARD MEETING
08 June 2021, Tuesday, 9:00 a.m.
Teleconference Via Zoom Platform

Resolution No. 2021 - 26
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APPROVING AND PROMULGATING THE AMENDED TRAINING REGULATIONS FOR RAC SERVICING (PACU-CRE) NC III to COMMERCIAL AIR-CONDITIONING INSTALLATION AND SERVICING NC III

ATTY. JAN MICHAEL P. JARO
Officer-In-Charge
TESDA Board Secretariat

Attested by:

SEC. ISIDRO S LAPEÑA, PhD, CSEE
Designated Chairperson, TESDA Board
Director General, TESDA

(Original Signed)
USEC. RAFAELITA M. ALDABA
Department of Trade and Industry

(Original Signed)
USEC. ARIEL T. CAYANAN
Department of Agriculture

(Original Signed)
USEC. SANCHO A. MABBORANG
Department of Science and Technology

(Original Signed)
MR. ISIDRO ANTONIO C. ASPER
Board Member, Labor Sector

Republic of the Philippines
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Luzon Expressway, Taguig City

130ᵗʰ TESDA BOARD MEETING
08 June 2021, Tuesday, 9:00 a.m.
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Resolution No. 2021 - 26
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APPROVING AND PROMULGATING THE AMENDED TRAINING REGULATIONS FOR RAC SERVICING (PACU-CRE) NC III to COMMERCIAL AIR-CONDITIONING INSTALLATION AND SERVICING NC III

(Original Signed)
DR. LEONIDA BAYANI-ORTIZ
Board Member, Employer Sector

(Original Signed)
PROF. RANDOLPH I. NONATO
Board Member, Employer Sector

(Original Signed)
MS. MARY G. NG
Board Member, Business & Investment
Sector

(Original Signed)
MR. ARTURO M. MILAN
Board Member, Business & Investment
Sector

(Original Signed)
FR. ONOFRE G. INOCENCIO JR., SDB
Board Member, Education and Training
Sector

AMENDMENT ON TRAINING REGULATIONS FOR
RAC SERVICING (PACU-CRE) NC III –
COMMERCIAL AIR-CONDITIONING INSTALLATION & SERVICING NC III

Existing Promulgated Training Regulations (Board Resolution No. 2012-11)	Amendments
Qualification Title	
RAC Servicing (PACU-CRE) NC III	• Commercial Air-Conditioning Installation & Servicing NC III
Job Title	
• PACU Installer • CRE Installer • PACU and CRE Maintenance Technician • Commercial Refrigeration and Air-Conditioning Technician (HVAC/R Technician)	• Commercial Air-Conditioning Unit Installer • Commercial Air-Conditioning Unit Maintenance Technician • Commercial Air-Conditioning Service Technician (HVAC/R Technician)
Section 1 - Definition of the Qualification	
The RAC SERVICING (Packaged-type air-conditioning unit / Commercial refrigeration equipment (PACU/CRE) NC III Qualification consists of competencies that a person must achieve to enable him/her to install, service, maintain, troubleshoot and repair as well as to perform start-up, test and commissioning of air-conditioning and refrigeration units in commercial environment/ establishments other than centralized air-conditioning and industrial refrigeration systems.	The Commercial Air-Conditioning Installation & Servicing NC III Qualification consists of competencies that a person must achieve to enable him/her to install, service, maintain, troubleshoot and repair including to perform start-up, testing and commissioning of commercial air-conditioning units.
Section 2- Competency Standards	
Basic Competencies 1. Lead Workplace Communication 2. Lead Small Teams 3. Develop and Practice Negotiation Skills 4. Solve Problems Related to Work Activities 5. Use Mathematical Concepts and Techniques 6. Use Relevant Technologies	Basic Competencies 1. Lead workplace communication 2. Lead small teams 3. Apply critical thinking and problem-solving techniques in the workplace 4. Work in a diverse environment 5. Propose methods of applying learning and innovation in the organization 6. Propose methods of applying learning and innovation in the organization 7. Evaluate occupational safety and health work practices 8. Evaluate environmental work practices 9. Facilitate entrepreneurial skills for micro-small-medium enterprises (MSMEs)
Common Competencies 1. Prepare materials and tools 2. Interpret technical drawing and plans	Common Competencies • NO AMENDMENTS

Existing Promulgated Training Regulations (Board Resolution No. 2012-11)	Amendments
3. Observe procedures, specifications and manuals of instructions 4. Perform mensurations and calculations 5. Perform basic benchworks 6. Check basic electrical circuits 7. Maintain tools, instruments and equipment 8. Perform housekeeping and safety practices 9. Document work accomplished	
<u>Core Competencies</u> 1. Install PACU 2. Install CRE 3. Service and maintain PACU 4. Service and maintain CRE 5. Troubleshoot and repair PACU 6. Troubleshoot and repair CRE 7. Perform start-up, test and commissioning for PACU 8. Perform start-up, test and commissioning for CRE	<u>Core Competencies</u> 1. Install commercial air-conditioning unit 2. Service and maintain commercial air-conditioning unit 3. Troubleshoot and repair commercial air-conditioning unit 4. Perform start-up, testing and commissioning for commercial air-conditioning unit

Section 3 - Training Standards

3.1 Curriculum Design

Nominal Training Duration

18 hrs – Basic Competencies 28 hrs – Common Competencies 180 hrs – Core Competencies 226 hrs. – Total training duration	40 hrs – Basic Competencies 40 hrs – Common Competencies 240 hrs – Core Competencies 320 hrs - Total + 400 hrs – Supervised-industry learning (SIL)* 720 hrs. – Total training duration * SIL can be delivered thru Dual Training System (DTS)/Dualized Training Program (DTP) or Enterprise-based Training

3.2 Training Delivery

The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of the competency-based TVET. • The training is based on curriculum developed from the competency standards; • Learning is modular in its structure; • Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies; • Training is based on work that must be performed;	1. The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the principles of competency-based TVET. • Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards) • Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies; • Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology.

Existing Promulgated Training Regulations (Board Resolution No. 2012-11)	Amendments
• Training materials are directly related to the competency standards and the curriculum modules; • Assessment is based in the collection of evidence of the performance of work to the industry required standard; • Training is based both on and off-the-job components; • Training program allows for recognition of prior learning (RPL) or current competencies; • Training allows for multiple entry and exit; and • Training programs are registered with the UTPRAS.	• Assessment is based in the collection of evidence of the performance of work to the industry required standards; • Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual performance of the competency as the primary source of evidence. • Training program allows for recognition of prior learning (RPL) or current competencies; and • Training completion is based on satisfactory performance of all specified competencies.
The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs: • The dualized mode of training delivery is preferred and recommended. Thus, programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations. • Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer only facilitates the training delivery. • Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners. • Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire a specific competencies prescribed in the training regulations. • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructors are not in the same place. Distance learning may employ correspondence study, or audio, video or computer technologies. • Project-based instruction is an authentic instructional model or strategy in which students plan, implement and evaluate projects that have real world applications.	The competency-based TVET system recognizes various types of delivery modes, both on-and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities and their variations/ components may be adopted singly or in combination with other modalities when designing and delivering training programs: 2.1. Institution- Based: • Dual Training System (DTS)/Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and Regulations of the DTS Law and the TESDA Guidelines on the DTP; • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video, computer technologies or other modern technology that can be used to facilitate learning and formal and non-formal training. Specific guidelines on this mode shall be issued by the TESDA Secretariat. • The classroom-based or in-center instruction may be enhanced through use of learner-centered methods as well as laboratory or field-work components. 2.2. Enterprise-Based: • Formal Apprenticeship – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation. • Informal Apprenticeship is based on a training (and working) agreement between an apprentice and a master craftsperson wherein the agreement may be written or oral and the master craftsperson commits to training the

Existing Promulgated Training Regulations (Board Resolution No. 2012-11)	Amendments
	apprentice in all the skills relevant to his or her trade over a significant period of time, usually between one and four years, while the apprentice commits to contributing productively to the work of the business. Training is integrated into the production process and apprentices learn by working alongside the experienced craftsperson. • Enterprise-based Training – where training is implemented within the company in accordance with the requirements of the specific company. Specific guidelines on this mode shall be issued by the TESDA Secretariat. 2.3. Community-Based • Community-Based is short term programs conducted by non-government organizations (NGOs), LGUs, training centers and other TVET providers which are intended to address the specific needs of a community. Such programs can be conducted in informal settings such as barangay hall, basketball courts, etc. These programs can also be mobile training program (MTP).

3.3 Trainee Entry Requirements

This section specifies the qualifications of trainees and educational experience. Other requirements like health and physical requirements are also stated. Passing entry written examinations may also be indicated if necessary. Before entering this course, the learner: • Must have undergone RAC Servicing (DomRAC) Training or a holder of RAC Servicing NC II or with at least one-year work experience in RAC servicing • Can communicate both oral and written • Good moral character • Can perform basic mathematical computation • Physically and mentally fit	This section specifies the qualifications of trainees and educational experience. Other requirements like health and physical requirements are also stated. Passing entry written examinations may also be indicated if necessary: Before entering this course, the learner: • Must a holder RAC Servicing (DomRAC) NC II or must have at least two-years work experience in RAC servicing • Can communicate both oral and written • Can perform basic mathematical computation

3.4 List of Tools, Equipment and Materials

Recommended list of tools, equipment and materials for the training of 25 trainees for RAC Servicing NC II:	Recommended list of tools, equipment and materials for the training of 25 trainees for Commercial Air-Conditioning Installation & Servicing NC III. Up-to-date tools, materials, and equipment of equivalent functions can be used as alternatives. This also applies in consideration of community practices and their availability in the local market.

TOOLS	
QTY.	DECRIPTION
10 sets	Push and Pull Rule
10 sets	Meter stick
10 sets	Spirit level/water level
10 sets	Screw driver
10 sets	Pliers
10 sets	Wrench Box
10 sets	Screw driver
10 sets	Crimping tools
10 sets	Bending tool
10 sets	Swaging tool
10 sets	Flaring tool
10 sets	Tube cutters
10 units	Vernier caliper
10 units	Adjustable wrench
10 sets	Open end wrench
10 units	Multi-tester
10 sets	Clamp ammeter
5 sets	Megger tester
5 units	Leak detector
5 units	Defrost heater
5 units	Door strip heater
10 units	Room thermometer
10 units	System analyzer
10 units	Digital thermometer

EQUIPMENT	
QTY.	ITEM
5 units	Good condition air-swing motors
5 units	Refrigerator and air-conditioning unit with leak piping
2 units	Overload protector
5 units	Package type A/C unit
3 units	Arc welding machine
5 units	Recovery/recycling machine
5 units	Commercial Refrigeration units
5 pcs.	Condenser fan motor

MATERIALS	
Qty.	Description
10 sets	Relay
5 sets	Philippine Electrical Code
10 sets	Electrical tape
15 sets	Air filters
25 sets	Requisition slip
5 liters	Oil
5 units	Grease
10 boxes	Rags
10 boxes	Soap
25 sets	Sand paper
5 units	Refrigerant cylinder
5 units	Nitrogen gas

TOOLS		
QTY.	UNIT	DESCRIPTION
10	pcs.	Push and Pull Rule
5	pcs.	Steel rule, 2 ft.
10	pcs.	Spirit level/water level
10	pcs.	Screwdriver, flat
10	pcs.	Screwdriver, Philips
10	pcs.	Electrical pliers
10	pcs.	Pliers, long nose
10	pcs.	Pliers, diagonal
10	pcs.	Capillary tube cutter
10	pcs.	Wrench Box
10	sets	Crimping tools (terminal leads/clips)
2	pcs.	Tube bender (lever type), 5/8
3	pcs.	Tube bender (lever type), ½
3	pcs.	Tube bender (lever type), 5/16
3	pcs.	Tube bender (lever type), 3/8
3	pcs.	Tube bender (lever type), ¼
3	sets	Tube bender (spring type)
10	sets	Swaging tool
10	sets	Flaring tool
10	sets	Tube cutters
2	units	Vernier caliper
5	pcs.	Adjustable wrench 8"
5	pcs.	Adjustable wrench 10"
2	sets	Open wrench, metric
2	sets	Open wrench, English
5	pcs.	Ratchet wrench (service valve)
5	units	Multi-tester, digital
5	units	Multi tester, analog
5	units	Clamp ammeter, digital
5	units	Clamp ammeter, analog
3	units	Leak detector (electronic)
5	units	System analyzer (gauge manifold), multi
5	units	Digital thermometer
5	units	Anemometer
5	units	Sling psychrometer
2	unit	Tachometer

EQUIPMENT		
QTY.	UNIT	DESCRIPTION
2	units	Electric drill, portable
5	units	Motor compressor
2	units	High Pressure washer
5	units	Vacuum pump
5	sets	Evaporator fan and motor
3	sets	Oxy-Acetylene welding machine with complete outfit
5	units	Evaporator fan and motor
10	units	Air-swing motors
2	units	Overload protector

25 sets	Personal protective equipment
25 sets	Tubes (Copper steel, Aluminum relevant to required activity task.
25 sets	Filler rolls (Bronze, Steel, Aluminum Relevant to required activity/ task
10 sets	Fluxes (Borax, Aluminum and Silver)
25 boxes	Fittings
5 sets	Nitrogen regulator
25 sets	Googles
2 units	High pressure washer
15 units	Strike lighter
10 sets	Defective electrical controls
10 sets	Relays
5 sets	Timer
10 sets	Rotary switch
10 units	Pull-push switch
10 units	Thermostat
10 sets	Refrigerator switch
10 sets	Good condition electrical controls
10 sets	Switch pull-push/rotary
10 sets	Defective capacitators
25 sets	Terminal connector (female)
5 sets	Defective defrost heater
5 sets	Good condition defrost heater
25 sets	Filter
5 sets	Borax
25 sets	Filter drier
25 sets	Tapelone tape
10 pcs.	Copper elbow 5/8" OD
10 pcs.	Copper elbow ½" OD
10 pcs.	Copper onion5/8 OD
10 pcs.	Copper onion ½" OD
10 pcs.	Copper elbow 3/8" OD
10 pcs.	Copper elbow 5/16" OD
10 pcs.	Filter drier 3/8" Connection
10 pcs.	Filter drier 5/16" Connection
5 pcs.	Sight glass/ moisture indicator 3/8 "Connection

3	units	Packaged type A/C unit, inverter, 2hp
2	units	Packaged type A/C unit, non-inverter, 2hp
3	units	Arc welding machine, portable, inverter, 300 amp
2	units	Recovery/recycling machine, 220v
3	units	Recovery Cylinder 20 kg
5	pcs.	Condenser fan motor

MATERIALS		
QTY.	UNIT	DESCRIPTION
25	sets	Sealant
25	sets	Condensate drain
2	rolls	Electrical wire, 2.5 mm
2	rolls	Electrical wire, 3.5 mm
2	rolls	Electrical wire, 1.5 mm
2	rolls	Electrical wire, 4.0 mm
5	units	Circuit breaker/safety switch
25	sets	Wiring diagrams
10	sets	Capacitor, running
10	sets	Relay, potential
10	sets	Electrical tape
3	liters	Vacuum pump oil
13.6	kgs	Refrigerant 22
13.6	kgs	R-410A
3	kgs	R-32
3	kgs	R-290
1	cyl	Nitrogen gas
2	cyl	Oxygen
2	cyl	Acetylene gas
25	sets	Personal protective equipment
5	rolls	Tubes, Copper, 0.028 in. x ¼", x 50 ft.
5	rolls	Tubes, Copper, 0.028 in. x 5/16" x 50 ft.
5	rolls	Tubes, Copper, 0.028 in. x 3/8" x 50 ft.
5	rolls	Tubes, Copper, 0.028 in. x ½" x 50 ft.
5	rolls	Tubes, Copper, 0.028 in. x 5/8" x 50 ft.
5	rolls	Tubes, Copper, 0.028 in. x ¾" x 50 ft.
5	kilos	Tubes, Aluminum, 5/16"
100	pcs	Filler rods, Aluminum
100	pcs	Filler rods, Bronze
100	pcs	Filler rods, Silver
2	cans	Fluxes, Aluminum
2	cans	Fluxes, Borax
2	cans	Fluxes, Silver
5	sets	Nitrogen regulator
2	units	High pressure washer

Existing Promulgated Training Regulations (Board Resolution No. 2012-11)	Amendments		
	5	sets	Timer, time delay relay
	10	sets	Rotary switch
	10	units	Pull-push switch
	5	units	Switch, universal, split-type, Manual Wired Controller
	2	units	Thermostat
	10	sets	Electrical controls
	10	sets	Switch pull-push/rotary
	10	sets	Capacitors
	25	sets	Terminal connector (female)
	25	sets	Filter
	5	sets	Borax
	25	sets	Filter drier
	25	sets	Teflon tape
	10	pcs.	Copper elbow 5/8" OD
	10	pcs.	Copper elbow ½" OD
	10	pcs.	Flare union5/8 OD
	10	pcs.	Flare union ½" OD
	10	pcs.	Copper elbow 3/8" OD
	10	pcs.	Copper elbow 5/16" OD
	10	pcs.	Filter drier 3/8" Connection
	10	pcs.	Filter drier 5/16" Connection
	5	pcs.	Sight glass/ moisture indicator 3/8 "Connection

Note: _Subject to conformity of the health and safety protocols_

3.5 Training Facilities

Based on a class intake of 25 students/trainees:

SPACE REQUIRMENTS	SPACE IN METERS	AREA IN SQ. METERS	TOTAL AREA IN SQ. METERS
Lecture Area*	4 x 8	32	32
Learning Resource Area	4 x 6	24	24
Tool/Storage Area*	4 x 4	16	16
Wash, Toilet & Locker Room*	3 x 4	12	12
Total			84
Facilities / Equipment / Circulation			25
Total Area			**109**

Common facilities for all HVAC/R Courses

Based on a class intake of 25 students/ trainees:

TEACHING/ LEARNING AREAS	SIZE IN METERS	AREA IN SQ. METERS	QTY	TOTAL AREA IN SQ. M
A. LECTURE AREA*	6 x 8	48	1	48
B. WORKSHOP AREA	6 x10	60	1	60
C. LEARNING RESOURCE AREA	4 x 4	16	1	16
D. TOOL/ STORAGE AREA*	3 x 4	12	1	12
E. WASH, TOILET AND LOCKER ROOM*	3 x 4	12	1	12
Total				148
F. Facilities / Equipment / Circulation (*Area requirement is equivalent to 30% of the total teaching/learning areas*)				45
Total Area				**193**

Common facilities for all HVAC/R Courses
Subject to conformity of the health and safety protocols

3.6 Trainer's Qualifications

RAC Servicing (PACU-CRE) NCI II

- Holder of National TVET Trainers Certificate Level I
- Good moral character
- Must be physically and mentally fit
- Must be computer literate
- Must be a Civil Service eligible (*for government position or appropriate professional license issued by the Professional Regulatory Board*)
- *Must have at least two (2) years job/industry experience

*Optional: Only when required by the hiring institution
Reference: TESDA Board Resolution No. 2004-03

Commercial Air-Conditioning Installation & Servicing NC III

- Must be National TVET Trainers Certificate (NTTC) Level 1 Holder in Commercial Air-Conditioning Installation & Servicing NC III or graduate in Education BSIE/BTTE/BTVTEd-Major in RAC and with Commercial Air-Conditioning Installation & Servicing NC III certificate
- Must be computer literate
- Must have at least two (2) years related industry experience within the past 5 years

3.7 Institutional Assessment

Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit title.

Institutional Assessment is gathering of evidences to determine the achievements of the requirements of the qualification to enable the trainer make judgement whether the trainee is competent or not competent.

Section 4. National Assessment and Certification Arrangements

4.1 To attain the National Qualification of **RAC Servicing (PACU-CRE) NC III**, the candidate must demonstrate competency in all the units listed in Section 1. Successful candidates shall be awarded a **National Certificate III** signed by the TESDA Director General.

4.2 The qualification **RAC Servicing (PACU-CRE) NC III** may be attained through:

4.2.1 Accumulation of Certificates of Competency (COCs) in the following clusters of competencies:
C.O.C 1 - Installing and servicing packaged-type air-conditioning unit (PACU)
- Install PACU
- Service and maintain PACU
- Troubleshoot and repair PACU
- Perform start-up, testing and commissioning for PACU

C.O.C 2 - Installing and servicing commercial refrigeration equipment (CRE)
- Install CRE
- Service and maintain CRE
- Troubleshoot and repair CRE
- Perform start-up, testing and commissioning for CRE

Successful candidates shall be awarded Certificates of Competency (COCs).

4.2.2 For individuals, who already possess National Certificate (NC) or Certificate of Competency (COC) along RAC servicing, portfolio assessment is applicable, provided they are already employed and have related experience for the past three (3) years or more along the qualification. However, if the assessor finds the evidences presented inadequate, he may still require the candidate to undergo the practical demonstration or present other evidences in the form of Third Party Report, etc. depending on the need for supplementary evidences.

4.3 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.

4.1 To attain the National Qualification of **Commercial Air-Conditioning Installation & Servicing NC III**, the candidate must demonstrate competency in all the units listed in Section 1. Successful candidates shall be awarded a **National Certificate III** signed by the TESDA Director General.

4.2 The qualification **Commercial Air-Conditioning Installation & Servicing NC III** may be attained through demonstration of competence through a single comprehensive project-type assessment covering all required units of competency of this qualification.

4.3 Assessment shall cover all competencies, with basic and common integrated or assessed concurrently with the core units of competency.

4.4 Any of the following are qualified to apply for assessment and certification:

4.4.1. Graduate of formal, non-formal and informal including enterprise-based training programs
4.4.2. Experienced workers in RAC servicing for at least 2 years (wage employed or self-employed)

4.5 **Recognition of Prior Learning (RPL).** Candidates who have gained competencies through previous work or life experiences, education, and informal training related to all the core competencies may apply for recognition in the qualification through Portfolio Assessment in accordance with the provision of **TESDA Circular No. 59, Series of 2020.**

4.6 The existing National Certificate (NC) of individuals in **RAC Servicing (PACU-CRE) NC III** shall be in effect until the said NC have expired. Individuals are advised to take the assessment for this amended/updated TR on or before the expiration of such certificates.

4.7 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Competency Assessment and Certification System (PTCACS)".

One or two additional evidences in the form of Portfolio, Third Party Report, Written Test and Demonstration with Questioning may be required by the assessor in addition to those specified in the Methods of Assessment in the Competency Standards, depending on the need for supplementary evidences.
 	
4.4 The following are qualified to apply for assessment and certification:
    4.4.1 Graduate of formal, non-formal and informal including enterprise-based training programs
    4.4.2 Experienced workers (wage employed or self-employed)
 	
4.5 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)".	