

newsTRAC

NEWSLETTER FOR TECHNICIANS IN REFRIGERATION AND AIRCONDITIONING (RAC) SECTOR

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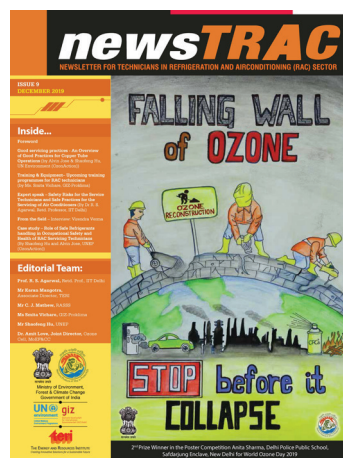
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सत्यमेव जयते
Ministry of Environment,
Forest & Climate Change
Government of India



THE ENERGY AND RESOURCES INSTITUTE
Creating Innovative Solutions for a Sustainable Future



गीता मैनन
संयुक्त सचिव
Geeta Menon
Joint Secretary



Foreword

भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Government of India
Ministry of Environment, Forest
and Climate Change

Dear Reader

The current issue of the NewsTRAC is the twelfth issue, since it was launched in September 2017. Since then, efforts have been made to disseminate information to the Refrigeration and Air-conditioning (RAC) service technicians on new developments and initiatives in the RAC servicing sector. Through the mobile app, wider dissemination of the NewsTRAC could be done amongst the service technicians, leading to greater awareness on the initiatives being taken to develop and strengthen the RAC servicing sector. These include the implementation of servicing sector plan under the India HCFC Phase out Management Plan, training and certification of RAC service technicians under the Skill India Mission - Pradhan Mantri Kaushal Vikas Yojana (PMKVY), awareness and recognition of the need for having a certification system for the RAC service technicians and so on.

Each of the earlier eleven issues were focused on specific themes relating to RAC service sector and the service technicians, like good servicing practices, occupational safety, social security and access to finance for the RAC service technicians, recovery, reclaiming and recycling of refrigerants, certification system for technicians, etc. To sustain the interest of the RAC service technicians, the present twelfth issue, besides addressing the universal certification system for the RAC service technicians, also addresses the challenges posed by COVID-19 to the RAC service technicians and the mitigation measures. The impact assessment of the training and certification of RAC service technicians under the Skill India Mission, carried out by an independent agency, which presents the key learnings and actions that need to be taken to strengthen the implementation of training programmes and information on entrepreneurship mobile app - MARS NBC, to promote entrepreneurship amongst the RAC service technicians, are also covered.

The COVID-19 pandemic has become a challenge, not only in terms of personal safety of the RAC service technicians due to high risk of exposure, but also in terms of conducting the trainings through virtual mode for practical sessions. However, efforts are being made both under the HPMP servicing sector plan as well as the Skill India Mission- PMKVY, to overcome this challenge

I congratulate The Energy and Resources Institute, GIZ-Proklima, the United Nations Environment Programme and the contributing authors for bringing out the 12th issue of the NewsTRAC.

My best wishes to all NewsTRAC readers.

Geeta Menon

(GEETA MENON)

Dated: 8th February, 2021



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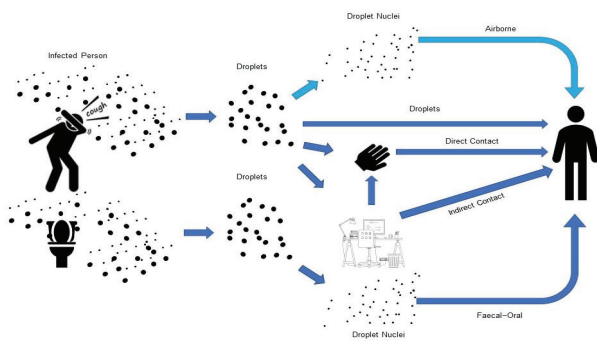
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RAC TECHNICIANS: MITIGATING THE THREAT OF COVID-19

By Jitendra M Bhambure, ISHRAE

The estimated quantity of the operational Room ACs is around 5 Cr (50 million) and the tonnage of commercial ACs is around 200 Lac TR in India. With the pandemic reaching the Indian subcontinent in early March, there was no option for the government but to impose restrictions on the movement of people to curtail the spread of virus. Unfortunately, the timing of the pandemic coincided with the onset of the summer. This created a huge challenge for the users, service providers and the installers. The challenge was not only limited to servicing but also to the system start-up (commercial installations) after prolonged shut-down due to lockdown.

The industry responded quickly and developed revised protocols to adjust to the new normal and new way of working to service the customers, simultaneously addressing the fear of the pandemic. ISHRAE understood the need of the day and set up a task force as early as end March, comprising of industry experts and academia to develop guidelines. The document "HVAC guidelines during COVID 19" was published on 13th April 2020. (Can be accessed through ISHRAE website www.ishrae.in), wherein a separate section is dedicated for service technicians. Later, a special document was released on 21st June 2020 jointly with the support of Indian Medical Association (IMA) Hospital Board of India, titled "COVID-19 Guidance Document for Air-Conditioning and Ventilation in Health Care Facilities". The guidelines were adopted by CPWD, MES & several associate Societies in India & abroad. RAMA, the Refrigeration and Air-conditioning Manufacturers Association also recommended the adoption of these guidelines. A series of webinars were organized to create awareness.



The COVID 19 virus is from the SARS family and attacks the respiratory systems and if not treated, can potentially lead to complications that can become fatal. The virus gets transmitted through contacting the contaminated surfaces and by inhaling

the contaminated air exhaled by the infected person through coughing, sneezing and speaking. The saliva and mucus particles laden with virus can travel and remain suspended in air depending on the temperature, humidity, air movement and ventilation. Using of masks, hand washing and maintaining social distance is advised to reduce transmission.

From air conditioning perspective, three important recommendations are suggested after considering both comfort and reduction of the impact of propagation.

- Maintain temperature between 24 and 30 degree C, around 24 Degree C for humid climate and 30 for dry
- Relative humidity between 40 and 70 RH
- Increase ventilation to minimum of 2 air changes per hour and preferably use HEPPA filters wherever possible to filter the fresh air

Ventilation can dilute the enclosed space, thus reducing the viral load.

In the residential application as long as there is no infected person there is minimum probability of the propagation of the virus. From the perspective of the service person, in case the residential apartment or building is designated as a containment zone by the authorities, the service person should avoid the visit.

In commercial spaces, the traffic of customers is high and due care has to be taken to reduce the possibility of contraction. Administration should take appropriate steps in development and implementation of specific SOPs for their facilities. The list below is exhaustive but not necessarily complete. These guidelines are out of scope of AC operations, but are important in the overall control and mitigation plans and will help in safety of technicians apart from the customers and employees. The guidelines are:

- Thermal screening of people at the entrance
- Restricted entry to visitors
- Restriction on gatherings
- Hand washing
- Social distancing
- Wearing a mask
- Sanitization

From the service technicians perspective they have a dual challenge: to build confidence in the customers and safeguard themselves. The safety of service technicians is paramount,

and adhering and following simple guidelines will give high level of protection. It is important to follow the guidelines strictly and no shortcuts should be taken under urgency, overconfidence and at times if the process mentioned in the earlier paragraphs are not followed in the customer premises. The recommendations are as follows:

Do's

- Carry company identity card, authorized letter (during lock-down)
- Avoid public transport, use personnel vehicle as far as possible. Disinfect the vehicle before and after the visit on daily basis special attention to be given to the handle, steering, gear rod, hand brake, dashboard, seat, seat belt, etc. The driver if accompanying, should stay inside the vehicle, except for essential health breaks and emergencies
- Check for home quarantine stickers/ stamp at the customer's location. Do not enter in case of any such stamp/sticker, and re-schedule the service
-
- Maintain social distancing norms and wear a face mask. Avoid personal contact, including handshakes with co-workers/ customers
- Carry your own water bottle and food as required
- Wash hands often for at least 20 seconds using soap before and after entering the premises. Always carry alcohol-based sanitizer and use whenever hand washing is not possible but avoid using of alcohol based sanitizer before working with electrical sources
- Use prescribed PPE (Personal protection Equipment)
- Carry a sanitary bag of adequate size, to keep the replaced items and dispose them safely
- Follow proper disposal methods for used PPE's (Mask, Gloves, Goggles)
- Monitor your health closely. If you develop symptoms like fever, cough, sore throat, tiredness or shortness of breath, immediately inform the office and take necessary action as advised by the government. Do not continue to work under these circumstances

Don'ts

- Never board unknown persons in the vehicle
- Never touch the common items provided at the customer's place such as newspaper, common towel, etc.
- Never handle other person's belongings or share food and water with others
- Never use another person's crash helmet or PPE
- Do not hand over one's mobile phone to another person/ colleague
- Do not share the pen, especially for service report signature from customer, instead ask the customer to use their own pen

- Never enter premises which are marked as isolated or quarantined

Additional precautions at Hospital and Laboratories

Do's

- The tools and tackles should be sanitized before and after every visit including the bag
- Compulsorily wear surgical nose mask, before entering inside the hospital and laboratory sites. Change the mask every six hours or as soon as it becomes wet
- All technicians should wear a clean, long-sleeved gown or full body suit, N95 Respirator, gloves, face cover if they need to enter into COVID patient's isolation ward or COVID-19 lab. After exit, dispose the used PPE's into the designated in "RED" color bin
- Carry a disposable bag of adequate size, to keep the removed/replaced item and disinfect them at suitable location in the hospital premises
- Barricade the area, while rendering the service to avoid trespassing. For rendering the service outside the conditioned zones such as for chillers, outdoor units, Fresh Air AHUs, cooling towers ensure that the authorities have cleaned and disinfected before the work is started
- Maintain complete record of the time spent in the premises

Don'ts

- Come in close contact with the patients and visitors in the hospital site
- Touch bio-hazardous components such as surgical knife, needles and lab equipment's, used cotton and clothes etc.
- Use handrails, touch objects such as lift buttons, door handles and fixtures with your bare hands

Disinfection of tools:

First, clean the surfaces, removing any contaminants, dust, or debris. You can do this by wiping them with soap water (or a cleaning spray) and a hand towel. Wash towel with soap water.

Then apply a surface-appropriate disinfectant. The quickest and easiest way to do this is with the following:

- Disinfecting wipes
- Disinfectant spray
- Isopropyl alcohol
- Hydrogen peroxide

These guidelines will not only help during the pandemic but will help in raising the overall competency of service technicians and should become way of life.

The procedure for use of masks and hand gloves is critical and graphical representation is given.

WHEN TO USE A MASK

For healthy people wear a mask only if you are taking care of a person with suspected 2019-nCoV infection

Wear a mask, if you are coughing or sneezing

Masks are effective only when used in combination with frequent hand-cleaning with alcohol-based hand rub or soap and water

If you wear a mask then you must know how to use it and dispose of it properly



HOW TO PUT ON, USE, TAKE OFF AND DISPOSE OF A MASK

Before putting on a mask, clean hands with alcohol-based hand rub or soap and water



HOW TO PUT ON, USE, TAKE OFF AND DISPOSE OF A MASK

Cover mouth and nose with mask and make sure there are no gaps between your face and the mask



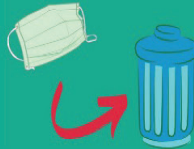
HOW TO PUT ON, USE, TAKE OFF AND DISPOSE OF A MASK

Avoid touching the mask while using it; if you do, clean your hands with alcohol-based hand rub or soap and water



HOW TO PUT ON, USE, TAKE OFF AND DISPOSE OF A MASK

Replace the mask with a new one as soon as it is damp and do not re-use single-use masks



HOW TO PUT ON, USE, TAKE OFF AND DISPOSE OF A MASK

To remove the mask: remove it from behind (do not touch the front of mask); discard immediately in a closed bin; clean hands with alcohol-based hand rub or soap and water



CONTAMINATED Glove Removal

1



Pinch and pull cuff of glove. Scoop with finger.

2



Form beak, pulling glove inside out over all fingers and thumb.

3



Pinch opposite glove with beaked hand.

4



Pull glove off.

5



With ungloved hand, slide finger down inside of glove and remove glove.

6



Dispose of removed gloves into appropriate waste receptacle. **IMPORTANT:** If blood is visible in body fluids, gloves must be discarded into biohazard bag.

7



Wash hands with soap and running water. **IMPORTANT:** Do not touch your face before washing hands!

UNIVERSAL CERTIFICATION SYSTEM FOR INDIA'S SERVICING TECHNICIANS: A PROMISE OF SKILL, SAFETY AND SOCIAL SECURITY

By Shikha Bhasin and Srishti Rana, CEEW

Responding to overt safety concerns of COVID-19 have led to many ripples across the economy; and the AC servicing sector, like several others, has been faced with its own set of challenges. With back-migration of several technicians, as well as many local servicing shops seeing closures, as a result of financial distress, online service providers that promise adequate safety and precautions have seen a substantial increase. In addition to these reason, that there is an aggregation of service providers for residents to choose from has been a critical reason for this increased success for companies such as Urban Company and others. While consumers gradually move to formal service providers in the face of the current pandemic, CEEW research has shown that most consumers remain largely unaware of what 'good servicing practices' are and how much these can actually impact the efficiency of serviced units and minimizing emissions resulting from refrigerant leakages¹.

Training and certification system can ensure effective management of servicing practices as well as enhanced adherence to quality servicing requirements. This can be integral towards inducting servicing technicians into the formal economy and providing access to social security, as well as a baseline to further enhance their own trainings and qualifications to avail of enhanced employment opportunities and job growth. These are extremely important concerns as servicing alone is responsible for maintaining cooling and efficiency of serviced equipment/appliances, and especially keeping in mind that the entire air conditioning sector is undergoing a gradual technology change, in an attempt to phase out high global warming potential (GWP) refrigerants to climate-friendly gases such as synthetic lower GWP HFCs, HFOs, blends of HFO/HFCs as well as natural refrigerants. Such a technology change carries several ramifications for servicing practices and technicians carrying these out. The most immediate result of this refrigerant change is an increased concern for safety: most low-GWP alternatives to the current generation of refrigerants are either more flammable or more toxic.

In response to these concerns, the Indian Cooling Action Plan (ICAP) aims to train and certify 100,000 servicing sector technicians by the year 2022-23 and achieve universal and mandatory certification of technicians over the next two decades. The Electronic Skill Sector Council of India's (ESSCI'S)

ongoing Recognition of Prior Learning (RPL) programme is a move towards achieving this target. It focuses on reskilling and certification of the servicing sector technicians and is a welcome start to testing a system that will have to be scaled and differentiated significantly over time. In doing so, CEEW conducted targeted research to recommend an institutional design that is based on the principles of safety, equity, accessibility, environmentally-sound practices, job security and enhanced livelihoods and social security for technicians. To enable the meeting of such goals and principles, the design of a certification system will have to be accessible, affordable, and independent. Based on an analysis of the current programme being run by the Ozone Cell and ESSCI, researchers at CEEW in consultation with these nodal agencies have suggested the an institutional design that ensures independence, accessibility and affordability². (See Table 1 below)

Furthermore, this research outlined a typology of certification levels keeping in mind the growing needs of different sectors, and technology changes therein, to ensure that the job demand will be met domestically as per the following knowledge levels. Following are some of the examples of certifications identified:

- **Type 1.** Basic certification for small units (refrigeration and air-conditioning units, including vehicles) having HFCs
- **Type 2.** Basic certification for small units (refrigeration and air-conditioning units, including vehicles) using alternatives to HFCs (with clear markings of which refrigerant the technician is able to handle)
- **Type 3.** Intermediate recycling certification for all small units (refrigeration and air-conditioning units, including vehicles)
- **Type 4.** High-level certification for servicing larger units based on charge size and pressure for different refrigerants - with clear markings of which refrigerant the technician is able to handle. Applications would include commercial refrigeration, reefer transport, and other larger vehicles/transportation modes.
- **Type 5.** Universal certification for servicing and recycling of small and larger units based on charge size and pressure for different refrigerants - with clear markings of which refrigerant the technician is able to handle. Applications

¹ Bhasin, Shikha, Apurupa Gorthi, and Vaibhav Chaturvedi. 2020. *Do Residential AC Buyers Prioritise Energy Efficiency? Indian Consumer Perception and Purchases*. New Delhi: Council on Energy, Environment and Water.

² Bhasin, Shikha, Apurupa Gorthi, and Vaibhav Chaturvedi. 2020. *A Universal Certification System for India's Refrigeration and Air-conditioning Servicing Sector*. New Delhi: Council on Energy, Environment and Water.

Table 1. Institutional Certification for Servicing Technicians in India: Recommended Blueprint

Role	Primary responsible institution	Secondary responsible institution
Certifying agency	ESSCI	Ministry of Skill Development and Entrepreneurship (MSDE) and Ozone Cell, Government of India
Evaluators (or assessors)	Empanelled by ESSCI	MSDE and Ozone Cell, Government of India; and industry
Testing centres	ESSCI-recognised public and private institutions with required equipment and infrastructure for testing.	Ministry of Human Resources and Development, MSDE, and Ozone Cell, Government of India
Trainers	Open to all private and public actors	Trainers should be recognised preferably by the MSDE and Ozone Cell, Government of India
Training centres	Open to all private and public actors	
Curriculum and qualification pack	ESSCI	Ozone Cell, Government of India

Source: CEEW 2020

would include small refrigeration and air-conditioning units, including vehicles, commercial refrigeration, reefer transport, other larger vehicles/ transportation modes.

India's certification system should be multi-focused and achieve the simultaneous goals of recognition, qualification, validation, and skill upgradation. It should act as a registrar of qualified technicians, provide them with certification based on regularly conducted theoretical tests and practical exams, create a roster system for re-evaluation consistent with

Principles to guide the development of India's certification system

1. **Equitable** - The certification system must be designed to enhance the livelihoods of the existing technicians as well as the new technicians. The training and qualification packs for which the certification system will test the technicians should be made accessible to all the existing and prospective technicians.
2. **Independent** - The training and certification agencies should remain independent of each other, institutionally. The same agency should not be made singularly responsible for the implementation of training and evaluating the technicians on their trained skills. This should be done to ensure a disciplined, focused, efficient and unbiased training and certification system.
3. **Internalising safety and environmentally sound practices** - Servicing practices should be safe for the servicing technician as well as the environment. The certification system must establish environmental best practices and include them in the training curriculum, making every technician aware of them.
4. **Improved livelihoods** - The certification system will play a huge role in recognising the technicians that work in the servicing sector and validating their knowledge and skills, for differing employment opportunities.
5. **Access to welfare** - The certification system will formalise the servicing sector which will help enhance access to social welfare programmes.

market changes in technologies every five years, and create a livelihood upgrade system and offer the different type of certifications based on different levels of training. It must include the technicians from all the sectors of cooling- CAC, RAC, MAC and different sectoral targets must be announced. This cannot be managed by the government alone, and would require collective actions from industry, consumers, researchers, and technicians themselves. The success of such a system would be a bold example of India's leadership in ensuring jobs, sustainability and growth for its cooling sectors.

IMPACT ASSESSMENT OF HPMP RECOGNITION OF PRIOR LEARNING (RPL) PROJECT AND CURRENT TRAINING SCHEDULE

PVG Menon, CEO, Electronics Sector Skills Council of India

The Ministry of Environment Forest and Climate Change (MoEFCC) and Ministry of Skill Development and Entrepreneurship (MSDE) are jointly undertaking the upskilling and certification of 100,000 RAC service technicians on good servicing practices and knowledge of alternative refrigerants to ozone-depleting chemicals under the HCFC Phase out Management Plan (HPMP) Project under the Recognition of Prior Learning (RPL) Type 3 of the Pradhan Mantri Kaushal Vikas Yojana - PMKVY 2.0.

Under phase 1 of the Recognition of Prior Learning (RPL) III under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 2.0, around 20,000 service technicians in the Refrigeration and Servicing Sector have been up-skilled and certified. To measure the impact of the initiatives of HCFC Phase out Management Plan (HPMP) Project, ESSCI engaged the Indian Institute of Corporate Affairs to conduct an assessment, to derive a holistic view from the targeted beneficiaries about the HPMP project and to see environmental benefits and influence on the livelihoods of technicians. .

The methodology adopted for this assessment was a mixed method approach which involved qualitative as well as quantitative methods. After conducting detailed literature review, IICA team conducted telephonic interview of sample beneficiaries and analysed the primary data using statistical software followed by interpretation and logical conclusions.

Subsequently, the officials visited 10 training centres across India for physical inspection of the centres and verification of the data collected through telephonic interviews from the beneficiaries during the course of this assessment. With respect to the qualitative data, a zone-wise SWOC (strengths, weaknesses, opportunities and challenges) analysis was conducted to provide a realistic, fact-based, data-driven findings of the project, and its impact.

The assessment of certain measures was carried out by IICA. Indicators such as trainings undertaken at the centres, infrastructure available at the training centres, quality of trainers and assessors available at the centres and direct feedback from the trainees. The assessment report found the Training was successfully conducted as per the schedule at all the ten centres and after making an assessment advised certain steps to improve the programme.

The beneficiaries have indicated that theoretical and practical sessions were conducted as per the schedule and the satisfaction level on most of the lectures based on topics such as: safety and first aid, refrigerant recovery, alternative refrigerants and lubricants, installation and services of window air conditioner & tools, impact of refrigerants on environment, were quite high among the respondents which is received through the call validation.

It can be stated that the majority of technicians joined RPL training program for upskilling training and certification. While reviewing the access of infrastructure available at the training centres through physical verification, it was found that each centre had different set of findings with respect to the size of classroom, availability of equipment's, first-aid facility etc. for which zone wise detailed analysis has been provided in the SWOC analysis conducted for the 10 centres visited.

The next allocation of additional 40, 000 numbers were done in mid-January 2020 and the programme is under implementation with an active number of centres conducting the training across the country. So far, a total of around 40,522 service technicians have been trained in the Refrigeration and Servicing Sector (RAC) on good servicing practices and the knowledge of alternative refrigerants to Ozone Depleting Chemicals. Details of training partners are given below:

State	Training Partner	City	Partner Details
JAMMU AND KASHMIR	TBL Education I Pvt Ltd	JAMMU	Village Rathana Morh Tehsil R.S.Pura, Pin code 181111 tbleducationgr1@gmail.com 9365358075
CHANDIGARH	STAR ENTERPRISES	CHANDIGARH	Ambala road, Near State Bank of India, Anaj Mandi, Raipur Rani, Panchkula Haryana 134107 rajesh_rva@rediffmail.com 9417727987

State	Training Partner	City	Partner Details
DELHI	Sahasra Sambhav Skill Development Pvt. Ltd.	EAST	C-1/3, 1st floor, LAL MANDIR ROAD, HARSH VIHAR, NORTH EAST DELHI-110093 skill@sahasraelectronics.com 9718949259
	Building Services Design & Energy Institute	South East	C-64/2 Okhla Phase-II, industrial area, New Delhi-110020 info@mepa2z.com 9810316529
	KEY PATH INDIA PVT LTD	EAST	Plot no. 143 Patarganj industrial area Plot no. 143 delhi 92 keypathindia@gmail.com 9650020594
	GS Techno innovation	NEW DELHI	A311-312 GD Colony Mayur Vihar Phase 3, New Delhi – 110096 shivendrasingh257@gmail.com 8948539202
	Funfirst Global Skillers Private Limited	NEW DELHI	Funfirst Global Skillers Private Limited, C/o. Mind Sharper Educational Society, Property No. 391, Near Bhagwan Builder, Opposite MCD School, Main Road Maujpur, Delhi - 110053 (North-East Delhi) s.lad@globalskillers.com 8422847243
	GS Techno innovation	NEW DELHI	Plot no 163, Kh No 583, New Roshanpura, P Block, Najafgarh, Near 40 Futa road, New Delhi 110043 jasvirgstchno@gmail.com 9810706909
	JAI BALAJI SERVICE	WEST	HOUSE NO-148, KHASRA NO-53/10, SOUTH WEST, GOPAL NAGAR, NAJAFGARH, NEW DELHI-110043. jaibala066@gmail.com 7011370936
	National Yuva Cooperative Society Ltd.	NEW DELHI	Kovida Skill Development Center - WZ - 49, Budela Village Opposite DG 2, Vikaspuri -110018 mangeramtyaginycs@gmail.com 9205595956
	Building Services Design & Energy Institute	NEW DELHI	C 64/2, FF, okhla Industrial Area Ph-II, New Delhi 110020 info@mepa2z.com 9810316529
HARYANA	Gramin Shiksha Pvt. Ltd	PANCHKULA	A @ S SKILL SERVICES, 1ST FLOOR OF SBI BANK, DERABASSI ROAD, V.P.O- BARWALA, PANCHKULA - 134118 RITUMUNJAL5@GMAIL.COM 9729569727

State	Training Partner	City	Partner Details
	Gramin Shiksha Pvt. Ltd	JIND	Devi lal Road,Near Surepme SR sec School Jind 126102 jindgs.graminshiksha@gmail.com 9813347271
	Gramin Shiksha Pvt. Ltd	HISAR	1ST FLOOR,TAYAL GARDEN,NEAR ARORA HOSPITAL,BARWALA ROAD HISAR-125001 hisar.graminshiksha@gmail.com 9991273732
	Gramin Shiksha Pvt. Ltd	KAITHAL	NISd Health Care,Ambala road RKSD college, Behind Axis Bank kaithal, kaithal, Kaithal, Haryana, 136027 actts9832@gmail.com 9992056013
UTTARAKHAND	Gramin Shiksha Pvt. Ltd	PAURI GARHWAL	Near jama masjid kotdwar 246149 paurigharhwal.graminshiksha@gmail.com 9259142831
	Gramin Shiksha Pvt. Ltd	HARIDWAR	NEAR KOTWALI MODE LAKSAR 247663 haridwar.graminshiksha@gmail.com 9610281009
UTTAR PRADESH	J R S Technology Private Limited	ALLAHABAD	Plot no. 49 salori Awas Yojna, Salori Allahabad pin- 211004 abhishekrjpoot@gmail.com 9452731258
	Sahasra Sambhav Skill Development Pvt. Ltd.	GHAZIABAD	A-45, SITE-4, SAHIBABAD INDUSTRIAL AREA, SAHIBABAD, GHAZIABAD, UP-201004 ankur@sahasraelectronics.com 9711334481
	Brilliant Computer Institute	MAHOBA	Paras Hotel Udal Chock Mahoba brilliant.mahoba20@gmail.com 7905295139
	Brilliant Computer Institute	AURAIYA	CO Shri Darshan Mahavidyalaya,Dibiyapur road Auraiya 206122 brilliant.auraiya18@gmail.com 7007636326
	AGR TALENT CONSULTING	SAMBHAL	Village And Post Hazrat Nagar Garhi Tehsil And Distt sambhal agrmoradabad@gmail.com 9872427026
	Gramin Shiksha Pvt. Ltd	HARDOI	Gauri shankar mahavidyalay akhtiyar purva nikat rara pihani road hardoi pincode 241001 hardoi.graminshiksha@gmail.com 9696569620
	Brilliant Computer Institute	ETAWAH	Sharda farms,Bidhuna road Bharthana,Etawah,206242 Bharthana.smart16@gmail.com 9761415828

State	Training Partner	City	Partner Details
	Brilliant Computer Institute	LUCKNOW	01,Triveni Nagar, Montessorie school, Siitapur road Lucknow 226020 drnagendra@bciindia.in 7007127689
	Brilliant Computer Institute	BANDA	Nimnipar, Mardan Naka Banda 210001 brilliant.banda009@gmail.com 9889135762
	Brilliant Computer Institute	AURAIYA	Gata No 1909, Near Kanshi Ram Colony, Collectory road, Dibiyapur, Auraiya, 206244 operations@bciindia.in 8650941188
	GS Techno innovation	SHAHJAHANPUR	Moh-Teacher's Colony, Pratapnagar, Jalalabad, Dist- Shahjahanpur PIN-242221 prateekvfx@gmail.com 8090656070
	J R S Technology Pvt Ltd	FIROZABAD	Indra Nagar, Tundla, Firozabad. 283203 jrst.operations@gmail.com 7317515001
	J R S Technology Pvt Ltd	FIROZABAD	Nagla Vishun, Near Railway Station, Firozabad. 283203 jrst.operations@gmail.com 9910840721
	National Yuva Cooperative Society Ltd. UP	SHAMLI	Waft Education Social Trust, Lane No. 2, Arayapuri, Shamli, UP kasim.hul@gmail.com 7017741261
	Brilliant Computer Institute	FIROZABAD	421, New Shagun park Station road Shikohabad, Firozabad, UP-205135 shikohabad.smart17@gmail.com 9761915828
	Brilliant Computer Institute	KANPUR NAGAR	Maksoodabad Near ONMT School Kanpur projects@bciindia.in 8650931188
	National Yuva Cooperative Society Ltd.	GORAKHPUR	Waft Education Social Trust, Phase-2, 2nd&3rd floor, shahi market, goal ghar. gorakhpur, UP israr.ahmad136@gmail.com 8574770410
	J R S Technology Pvt Ltd	GORAKHPUR	District Road 78E, Kamupur, Gorakhpur-274205 jetkinggkp.ajay@gmail.com 7084004939
	JRS Technology Private Limited	KANPUR NAGAR	128, New Ashok Nagar, Kala Kalyanpur Kanpur Nagar U.P 208017 jrst.sonu@gmail.com 7007022193

State	Training Partner	City	Partner Details
	Government ITI (Funfirst)	PRATAPGARH	Funfirst Global Skillers Private Limited, C/o. Government ITI Katra Rd, Pratapgarh, Uttar Pradesh pin code 230001 alinaseem385@gmail.com 9831047646
	Gramin Shiksha Private Limited	SAHARANPUR	Moh. Navada indepur near s s college shahjahapur pincode 242001 graminrpluttar@gmail.com 9044330474
	S & S CARE SKILLS ACADEMY PRIVATE LIMITED	FARRUKHABAD	Moh Chhaptti Kaimganj, Farrukhabad, Farrukhabad, Uttar Pradesh, 209625 pratyushgangwar12@gmail.com 8299840068
	S & S CARE SKILLS ACADEMY PRIVATE LIMITED	VARANASI	B-168, brij Enclave Sunderpur, Varansai- singhkailashnath034@gmail.com 8826149109
	J R S Technology Private Limited	GORAKHPUR	Kanchanpur Gulhariya, Jhungia Bazar, Tehsil-Sadar, Distt-Gorakhpur jrci.sneha@gmail.com 8853764078
	S & S CARE SKILLS ACADEMY PRIVATE LIMITED	GAUTAM BUDDHA NAGAR	A-56, SEC-06, NOIDA-201301 GAUTAM BUDDHA NAGAR UP MUBARAK@CARESKILLSACADEMY.ORG 7053385786
	Funfirst Global Skillers Private Limited	LUCKNOW	Funfirst Global Skillers Private Limited, C/o. Vimla Institute Of Education, 12-B/1000, Vrindavan Yojna, Near Utratiya Station, Raebareli Road, Lucknow, UP-226016 pramodbehura22@gmail.com 9890894855
	Funfirst Global Skillers Private Limited	GAUTAM BUDDHA NAGAR	Funfirst Global Skillers Private Limited, D-242, Sector 63, Noida – 201301 i.khan@globalskillers.com 9935287810
PUNJAB	Guru Kirpa Educational & Welfare Society	AMRITSAR	Opp. Khalsa College For Women, Amritsar - 143001 amritsar.gurukirpa@gmail.com 9517641600
	Guru Kirpa Educational & Welfare Society	SRI MUKTSAR SAHIB	Street no-9, Ward no 19 Ravidass nagar Malout maloutdalipkumar@gmail.com 9517641600
	Guru Kirpa Educational & Welfare Society	LUDHIANA	Cinema Road, Mandi Mullanpur - 141101, mullapur mullanpur.gurukirpa@gmail.com 9517641600

State	Training Partner	City	Partner Details
	ULTRAKOOL	LUDHIANA	#283, Shaheed Karnail Singh Nagar, Phase 3, Pakhowal Road Ludhiana 141013 (Punjab) ultrakoolchd@gmail.com 9814217720
	Guru Kirpa Institute	LUDHIANA	Opp. Grewal Petrol Pump, Jagraon - 142026 (Ludhiana) jagraon.gurukirpa@gmail.com 9700098048
	Funfirst Global Skillers Private Limited	LUDHIANA	Funfirst Global Skillers Private Limited, C/o. Perfect Services, Shop No. 4,5, Opp. Andhra Bank, Samrala Road, Khanna - 141008 Ludhiana ajain@funfirst.in 9769105002
	Guru Kirpa Educational & Welfare Society	JALANDHAR	1st Floor Ladhar Complex, Opp. PSEB Nurmahal Road Nakodar-144040 (Jalandhar) sgurdeepsingh0793@gmail.com 9465767216
	Guru Kirpa Educational & Welfare Society	MOGA	Ward No. 4, Nihal Singh Wala Road, Bagha Purana - 142038 (Moga) tdimmi_as@yahoo.co.in 9914340125
	Guru Kirpa Institute	JALANDHAR	Opp. Janta Furniture House, Main Road Adampur - 144102 (Jalandhar) netcom424@gmail.com 6280679793
	Electro Care Services (Funfirst)	PATIALA	Electro Care Services, Oriental Bank Of Commerce Building, Bhadson Road, Patiala manindersingh0083@gmail.com 9769105006
	Guru Kirpa Institute	FIROZEPUR	Dr. Lal Singh Memorial Skills Institute, Malloke Road, Near Baba Mouzidin, Zira zirapreeti@gmail.com 7889108169
	Guru Kirpa Educational & Welfare Society	FAZILKA	DAV College Road, VPO BAHAMNI WALA JALALABAD 152024, Fazilka, Punjab, manpreetsainijbd1@gmail.com 9517641600
	Guru Kirpa Educational & Welfare Society	FAZILKA	Opp. K Songs Tailor Jain Nagar ROAD Abohar Near Bus Stand PUNJAB jahandeep4@gmail.com 9517641600
	Guru Kirpa Educational & Welfare Society	SRI MUKTSAR SAHIB	Plot no.838, Near Royal Enfield Agency, Bathinda Road Muktsar 152026 Bathinda Road PUNJAB gillkinda21@gmail.com 9517641600

State	Training Partner	City	Partner Details
RAJASTHAN	SANSKAR EDUCATION HUB	JAIPUR	pachar road, partapnagar,kishangarh renwal ,jaipur,303603 lmeena144@gmail.com 9636777098
	SANSKAR EDUCATION HUB	NAGAUR	KUCHAMAN CITY , BUDASU ROAD, CHUNGI CHAURAHA, NAGAUR -341508 SURESH100795@GMAIL.COM 9610111290
	SANSKAR EDUCATION HUB	NAGAUR	naharsinghpura road, new Bazar, Panchori, Khinwsar, Nagaur nemaramprajapat93@gmail.com 9672710538
	SANSKAR EDUCATION HUB	NAGAUR	Plot no -152, sanjay nagar, Joshi marg, Jaipur, 302012 kumar0672sarwan@gmail.com 9664084641
	JAIN WELFARE TRUST	GANGANAGAR	JAIN PVT. ITI, SSB ROAD, SRI GANGANAGAR (Raj.) 335001 infojainskills@gmail.com 8058024000
	Gramin Shiksha Private Limited	JHUNJHUNU	Khasara No-471,Near ECHS Hospital, Buhana,Tehsil-Buhana,Distt-Jhunjhunu Rajasthan,Pin- 333502 jhunjhunu.graminshiksha@gmail.com 9468511252
	Gramin Shiksha Pvt. Ltd	HANUMANGARH	PLOT NO 22, NEAR BHAGAT SINGH CHOWK, HANUMANGARH 335512 hanumamgarh.graminshiksha@gmail.com 7015743106
	SANSKAR EDUCATION HUB	AJMER	Link road Dholabatta chouraha ajmer rajasthan- 305001 sachin03012009@gmail.com 9414249337
	SANSKAR EDUCATION HUB	JAIPUR	PLOT NO - 20, BHAWANISHANKAR COLONY, CHARAN NADI, BENAR ROAD, JAIPUR, RAJASTHAN-302012 ajit12rabiya@gmail.com 9214896091
	Prajna Prakruti Sai Trust	JAIPUR	57-A Bhomiya Nagar, Kalwar Road, Jhotwara Jaipur techofficejpr11@gmail.com 7073170374
	Prajna Prakruti Sai Trust	JAIPUR	Kalwar Road, jhotwara Jaipur-302012 mohanjeetarwal01@gmail.com 9694104801
	GS Techno innovation	AJMER	Near kali ka mandir, Foy sagar road, Ajmer, Rajashthan – 305001 ceogstechno@gmail.com 6377661481

RAC SERVICE TECHNICIANS TRAINING CALENDAR FOR THE YEAR 2021 ON GOODS SERVICE PRACTICES AND INSTALLATION OF ROOM AIR-CONDITIONER WITH HCFC-22 & FLAMMABLE REFRIGERANTS, TO BE CONDUCTED BY GIZ PROKLIMA AND ITS TRAINING PARTNERS AS PART OF SERVICING SECTOR ACTIVITY UNDER INDIA'S HPMP STAGE – II

#	TRAINING PARTNER	STATE	TRAINING DATES	CITY
	A K Enterprises	Jharkhand & Bihar		
1	A K Enterprises	Jharkhand	25-26 Feb 2021	Ranchi
2	A K Enterprises	Jharkhand	27-28 Feb 2021	Ranchi
3	A K Enterprises	Jharkhand	12-13 Mar 2021	Bokaro
4	A K Enterprises	Jharkhand	14-15 Mar 2021	Bokaro
	Anant Enterprises	Chandigarh		
1	Anant Enterprises	Chandigarh	24 - 25 Feb 2021	Moga
2	Anant Enterprises	Chandigarh	9 - 10 Oct 2021	Chandigarh
3	Anant Enterprises	Haryana	12 - 13 Feb 2021	Jind
4	Anant Enterprises	Haryana	14 - 15 Feb 2021	Kaithal
5	Anant Enterprises	Haryana	1 - 2 Oct 2021	Palwal
6	Anant Enterprises	Haryana	3 - 4 Oct 2021	Gurgaon
7	Anant Enterprises	Himachal Pradesh	6 - 7 March 2021	Kangra
8	Anant Enterprises	Jammu & Kashmir	20 - 21 March 2021	Sri Nagar (Kashmir)
9	Anant Enterprises	Punjab	5 - 6 Feb 2021	Abohar
10	Anant Enterprises	Punjab	20 - 21 Sep 2021	Barnala
11	Anant Enterprises	Punjab	21 - 22 Feb 2021	Batala
12	Anant Enterprises	Punjab	29 - 30 Jan 2021	Budhlada
13	Anant Enterprises	Punjab	22 - 23 Jan 2021	Ferozepur
14	Anant Enterprises	Punjab	19 - 20 Feb 2021	Gurdaspur
15	Anant Enterprises	Punjab	2 - 3 Mar 2021	Hoshiarpur
16	Anant Enterprises	Punjab	25 - 26 Sep 2021	Sangrur
17	Anant Enterprises	Punjab	28 Feb & 1 Mar	Kapurthala
18	Anant Enterprises	Punjab	7 - 8 Feb 2021	Malout
19	Anant Enterprises	Punjab	18 - 19 Sep 2021	Mansa
20	Anant Enterprises	Punjab	24 - 25 Jan 2021	Moga
21	Anant Enterprises	Punjab	31 Jan - 1 Feb 2021	Sunam
22	Anant Enterprises	Uttrakhand	13 - 14 March 2021	Pant Nagar
	Bohra Services	Rajasthan		
1	Bohra Services	Rajasthan	6-7 Feb 2021	Ajmer
2	Bohra Services	Rajasthan	8-9 Feb 2021	Ajmer
3	Bohra Services	Rajasthan	20-21 Feb 2021	Kota
4	Bohra Services	Rajasthan	22-23 Feb 2021	Kota
5	Bohra Services	Rajasthan	6-7 Mar 2021	Jodhpur
6	Bohra Services	Rajasthan	8-9 Mar 2021	Jodhpur
7	Bohra Services	Rajasthan	2-3 Oct 2021	Bikaner
8	Bohra Services	Rajasthan	4-5 Oct 2021	Bikaner
9	Bohra Services	Rajasthan	23-24 Oct.2021	Udaipur
10	Bohra Services	Rajasthan	25-26 Oct 2021	Udaipur
11	Bohra Services	Rajasthan	13-14 Nov 2021	Churu
12	Bohra Services	Rajasthan	15-16 Nov 2021	Churu
13	Bohra Services	Rajasthan	4-5 Dec 2021	Alwar
14	Bohra Services	Rajasthan	6-7 Dec 2021	Alwar
15	Bohra Services	Rajasthan		Jaipur
16	Bohra Services	Rajasthan		Jaipur

#	TRAINING PARTNER	STATE	TRAINING DATES	CITY
	Crystal Refrigeration Co	West Bengal		
1	Crystal Refrigeration Co	West Bengal	06-07 February 2021	Sarisa, DH
2	Crystal Refrigeration Co	West Bengal	13-14 February 2021	Sarisa, DH
3	Crystal Refrigeration Co	West Bengal	18-19 February 2021	Asansol
4	Crystal Refrigeration Co	West Bengal	20-21 February 2021	Asansol
5	Crystal Refrigeration Co	West Bengal	04-05 March 2021	Asansol
6	Crystal Refrigeration Co	West Bengal	06-07 March 2021	Durgapur
7	Crystal Refrigeration Co	West Bengal		Uluberia
8	Crystal Refrigeration Co	West Bengal		Uluberia
9	Crystal Refrigeration Co	West Bengal		Uluberia
10	Crystal Refrigeration Co	West Bengal		Shyampur
	Dewpoint Appliances Pvt. Ltd.	Karnataka		
1	Dewpoint Appliances Pvt. Ltd.	Karnataka	13- 14 Jun 2021	Bengaluru
2	Dewpoint Appliances Pvt. Ltd.	Karnataka	27-28 Jun 2021	Bengaluru
3	Dewpoint Appliances Pvt. Ltd.	Karnataka	09-10 July 2021	Mysuru
4	Dewpoint Appliances Pvt. Ltd.	Karnataka	11-12 July 2021	Mysuru
5	Dewpoint Appliances Pvt. Ltd.	Karnataka	17-18 July 2021	Davangere
	Divyansh Services	Madhya Pradesh & Chattisgarh		
1	Divyansh Services	Madhya Pradesh	6-7 February 2021	Bhopal
2	Divyansh Services	Madhya Pradesh	13-14 February 2021	Hoshangabad
3	Divyansh Services	Madhya Pradesh	20-21 February 2021	Khandwa
4	Divyansh Services	Madhya Pradesh	6-7 March 2021	Ratlam
5	Divyansh Services	Madhya Pradesh	8-9 March 2021	Mandsaur
6	Divyansh Services	Madhya Pradesh	13-14 March 2021	Neemuch
7	Divyansh Services	Madhya Pradesh	11-12 Sep 2021	Jabalpur
8	Divyansh Services	Madhya Pradesh	18-19 Sep 2021	Katni
9	Divyansh Services	Madhya Pradesh	21-22 Sep 2021	Satna
10	Divyansh Services	Madhya Pradesh	25-26 Sep 2021	Jabalpur
11	Divyansh Services	Madhya Pradesh	2-3 Oct 2021	Damoh
12	Divyansh Services	Madhya Pradesh	5-6 Oct 2021	Sagar
13	Divyansh Services	Madhya Pradesh	9-10 Oct 2021	Bhopal
14	Divyansh Services	Madhya Pradesh	13-14 Nov 2021	Chhatarpur
15	Divyansh Services	Maharashtra	26-27 Feb 2021	Bhusawal
16	Divyansh Services	Maharashtra	28 Feb-01 Mar 2021	Jalgaon
	Isha Enterprises	Uttar Pradesh		
1	Isha Enterprises	Uttar Pradesh	23-24 January 2021	Lucknow
2	Isha Enterprises	Uttar Pradesh	27-28 January 2021	Raebareli
3	Isha Enterprises	Uttar Pradesh	02-03 February 2021	Raebareli
4	Isha Enterprises	Uttar Pradesh	14-15 February 2021	Lucknow
5	Isha Enterprises	Uttar Pradesh	21-22 February 2021	Mathura
6	Isha Enterprises	Uttar Pradesh	23-24 February 2021	Agra
7	Isha Enterprises	Uttar Pradesh	06-07 March 2021	Hathras
8	Isha Enterprises	Uttar Pradesh	08-09 March 2021	Firozabad
9	Isha Enterprises	Uttar Pradesh	15-16 March 2021	Kanpur

#	TRAINING PARTNER	STATE	TRAINING DATES	CITY
10	Isha Enterprises	Uttar Pradesh	21-22 March 2021	Lucknow
11	Isha Enterprises	Uttar Pradesh	06-07 Sept 2021	Azamgarh
12	Isha Enterprises	Uttar Pradesh	08-09 Sept 2021	Azamgarh
13	Isha Enterprises	Uttar Pradesh	20-21 Sept 2021	Mau
14	Isha Enterprises	Uttar Pradesh	22-23 Sept 2021	Ambedkar Nagar
15	Isha Enterprises	Uttar Pradesh	09-10 Oct 2021	Ghazipur
16	Isha Enterprises	Uttar Pradesh	11-12 Oct 2021	Varanasi
17	Isha Enterprises	Uttar Pradesh	13-14 Nov 2021	Lucknow
18	Isha Enterprises	Uttar Pradesh	17-18 Nov 2021	Kanpur
19	Isha Enterprises	Uttar Pradesh	27-28 Nov 2021	Deoria
20	Isha Enterprises	Uttar Pradesh	29-30 Nov 2021	Gorakhpur
	Key Path India Pvt Ltd	Delhi		
1	Key Path India Pvt Ltd	Delhi	12-13 Feb 2021	Delhi
2	Key Path India Pvt Ltd	Delhi	15-16 Feb 2021	Delhi
3	Key Path India Pvt Ltd	Delhi	26-27 Feb 2021	Delhi
4	Key Path India Pvt Ltd	Delhi	05-06 Mar 2021	Delhi
5	Key Path India Pvt Ltd	Delhi	12-13 Mar 2021	Delhi
6	Key Path India Pvt Ltd	Delhi	19-20 Mar 2021	Delhi
7	Key Path India Pvt Ltd	Delhi	26-27 Mar 2021	Delhi
8	Key Path India Pvt Ltd	Delhi	20 -21 Aug 2021	Delhi
9	Key Path India Pvt Ltd	Delhi	03-04 Sep 2021	Delhi
10	Key Path India Pvt Ltd	Delhi	10-11 Sep 2021	Delhi
11	Key Path India Pvt Ltd	Delhi	17-18 Sep 2021	Delhi
12	Key Path India Pvt Ltd	Delhi	17-18 Sep 2021	Delhi
13	Key Path India Pvt Ltd	Delhi	08-09 Oct 2021	Delhi
14	Key Path India Pvt Ltd	Delhi	22-2 Oct 2021	Delhi
	Kirti Freeze	Gujarat		
1	Kirti Freeze	Gujarat	6-7 Feb.2021	Gandhinagar
2	Kirti Freeze	Gujarat	12-13 Feb.2021	Kalol North Guj.
3	Kirti Freeze	Gujarat	14-15 Feb.2021	Mehsana
4	Kirti Freeze	Gujarat	20-21 Feb.2021	Mehsana
5	Kirti Freeze	Gujarat	27-28 Feb.2021	Patan
6	Kirti Freeze	Gujarat	6-7 March 2021	Palanpur
7	Kirti Freeze	Gujarat	13-14 March 2021	Himatnagar
	Kuwaliti Coolers	Assam		
1	Kuwaliti Coolers	Assam	13-14 March '21	Guwahati
2	Kuwaliti Coolers	Assam	25-26 Sep '21	Guwahati
3	Kuwaliti Coolers	Assam	6-7 Nov'21	Nogaon
4	Kuwaliti Coolers	Assam	13-14 Nov '21	Tezpur
5	Kuwaliti Coolers	Assam	4-5 Dec '21	Dibrugarh
6	Kuwaliti Coolers	Assam	15-16 Jan '22	Agartala
7	Kuwaliti Coolers	Assam	17-18 Jan'22	Agartala
8	Kuwaliti Coolers	Assam	5-6 Feb '22	Guwahati
9	Kuwaliti Coolers	Assam	5-6 March'22	Guwahati
	Maega Services	Andhra Pradesh & Telangana		
1	Maega Services	Andhra Pradesh & Telangana		Rajamundry
2	Maega Services	Andhra Pradesh & Telangana		Kakinada

#	TRAINING PARTNER	STATE	TRAINING DATES	CITY
3	Maega Services	Andhra Pradesh & Telangana		Gunture
4	Maega Services	Andhra Pradesh & Telangana		Vijayawada
5	Maega Services	Andhra Pradesh & Telangana		Hyderbad
	Maxcooling Systems	Maharashtra		
1	Maxcooling Systems	Maharashtra	13-14 Feb 2021	Navi Mumbai
2	Maxcooling Systems	Maharashtra	20 -21 Feb 2021	Pune
3	Maxcooling Systems	Maharashtra	27-28 Feb 2021	Mangaon
4	Maxcooling Systems	Maharashtra	6-7 March 2021	Thane
5	Maxcooling Systems	Maharashtra	13-14 March 2021	Ratnagiri
6	Maxcooling Systems	Maharashtra	20 -21 March 2021	Navi Mumbai
	Mishra Refrigeration	Odisha		
1	Mishra Refrigeration	Odisha	20-21 Feb 2021	Puri
2	Mishra Refrigeration	Odisha	24-25 Feb 2021	Cuttack
3	Mishra Refrigeration	Odisha	27-28 Feb 2021	Bhubaneswar
4	Mishra Refrigeration	Odisha	03-04 March 2021	Paradwip
5	Mishra Refrigeration	Odisha	06-07 March 2021	Jajapur
6	Mishra Refrigeration	Odisha	09-10 March 2021	Bhadrak
7	Mishra Refrigeration	Odisha	12-13 March 2021	Balasure
8	Mishra Refrigeration	Odisha	23 -24 Oct 2021	Dhenkanal
9	Mishra Refrigeration	Odisha	26-27 Oct 2021	Sambalpur
10	Mishra Refrigeration	Odisha	29 -30 Oct 2021	Raurkela
11	Mishra Refrigeration	Odisha	06-07 Nov 2021	Balangir
12	Mishra Refrigeration	Odisha	09-10 Nov 2021	Bhabanipatana
13	Mishra Refrigeration	Odisha	12-13 Nov 2021	Koraput
14	Mishra Refrigeration	Odisha	14-15 Nov 2021	Bramhapur
15	Mishra Refrigeration	Odisha	04-05 Dec 2021	Cuttack
16	Mishra Refrigeration	Odisha	11-12 Dec 2021	Bhubaneswar
17	Mishra Refrigeration	Odisha	18 - 19 Dec 2021	Cuttack
	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		
1	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	03-Jul-21	Coimbatore
2	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	10-Jul-21	Coimbatore
3	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	17-Jul-21	Tirupur
4	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	24-Jul-21	Erode
5	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	31-Jul-21	Salem
6	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	07-Aug-21	Namakal
7	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	14-Aug-21	Karur
8	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry	21-Aug-21	Dindigul
9	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Madurai
10	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Tenkasi
11	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Tirunelveli

#	TRAINING PARTNER	STATE	TRAINING DATES	CITY
12	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Karaikudi
13	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Thanjavur
14	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Tiruvarur
15	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Tiruchy
16	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Mayavaram/Chidamba ram
17	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Puducherry
18	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Villupuram
19	Sakthi Refrigeration & AC Enterprises	Tamil nadu and Puducherry		Vellore
	V.R.Enterprises	Kerala		
1	V.R.Enterprises	Kerala	24-25 April 2021	Pathanamthitta
2	V.R.Enterprises	Kerala	26-27 April 2021	Kottayam
3	V.R.Enterprises	Kerala	8-9 May 21	Alleppey
4	V.R.Enterprises	Kerala	24-25 July 2021	Ernakulam
5	V.R.Enterprises	Kerala	07-08 Aug 2021	Kollam
6	V.R.Enterprises	Kerala	11-12 Sept 2021	Alleppey

EFFECTS OF COVID-19 ON THE SERVICE INDUSTRY

By Aditi Shah, Aditi Air-conditioning Pvt. Ltd.

The HVAC market in India had been one of the fastest-growing sectors in the past decade. Soaring summer temperatures, growing disposable income & spending power, and rising investment in the commercial, industrial, and residential infrastructure are some of the major factors which have propelled the growth of the HVAC industry. In fact, the aggregated nationwide cooling demand, in Tonnage of Refrigeration (TR), is projected to grow around 8 times by 2037-38 as compared to the 2017-18 baseline.

However, like most sectors, HVAC also experienced a severe blow due to the novel coronavirus pandemic. This year, we saw a decrease in demand and supply, which adversely affected various aspects of our business, especially our post-installation service needs. This had a plethora of ripple effects; the most prominent one was that our service sector personnel lost their primary source of income.

The livelihoods of our service personnel faced massive uncertainty. Like many citizens of our country, they were now fighting an uphill battle to earn basic livelihoods for their families. A major drawback was that many technicians, who didn't have a formal education in the RAC service industry, learned on the job from their peers and superiors. Along with our technicians, the service industry was dying! The question was, how could they be helped?

Consumer mindset in India is evolving continuously. I have experienced a major shift in consumer preferences and mindset post Covid. These changes in consumer behaviours will presumably create long-lasting systemic changes in the service industry.

Covid resulted in a nationwide lockdown in many countries, essentially bringing chaos and disruption to national economies as a whole. In India, lockdown lasted from March to May, the period which contributes to the majority of the HVAC business' annual earnings. Summers in India tend to cross 42 deg. celsius in cities with dry climate, like Ahmedabad. As customers spent more time indoors, the capabilities of their air-conditioners were tested. Unnaturally long hours of usage in addition to extremely high temperatures lead to frequent AC service needs.

It is important to note that March was a time when most medical communities were still in-process of learning more about the Covid-19 virus. Instructions about the Do's and Don'ts changed daily, citizens were in constant strain to stay healthy, without really knowing how to. In this uncertain scenario, customers who were in dire need of AC services, found themselves in a dilemma. While they required assistance with, what I can safely say, is one of the most important commodities of modern life, they also were riddled by how "safe" it is to invite a stranger to their home.

Meanwhile, technicians found themselves in a tough spot too. Higher demand for their expertise was a great opportunity to earn a much needed income, but they too were putting their lives at a risk by exposing themselves to others. Sadly, the unfortunate disadvantage of lack of privilege is that they did not have an option to give their health a higher priority over their daily wages. As a result, not only did many service personnels opt to go for house calls, they also would leave for their daily service calls at 6am to ensure they could be back before police patrolling.

Most organizations, in a bid to stay financially overboard, grasped this opportunity with both hands. They **trained** their employees to follow various methods to stay safe and keep their customers safe. On their house calls, the technicians ensured proper Covid safety protocols as much as possible. But in March, who really knew what these protocols looked like? Wash your hands, don't touch your face, social distancing...these fairly standard instructions also resulted in major inconvenience in that field of work. Handling various processes of servicing an AC became very inconvenient with face masks, face shield, hand gloves and in some cases, even a full PPE suit.

Although, many field technicians who worked independently, had no way to stay organized with this efficiency. Neither did they have a source to acquire appropriate equipment like PPE kits. As a result, many went for house calls without safety gears and relevant knowledge about the best practices. Most even reused disposable masks daily against medical advice, putting themselves and their customers at risk.

Post lockdown, many independent technicians lost their jobs to the giants of the industry. These organizations came with a prominent online presence, better infrastructure to handle the pandemic, specially trained employees, and an all-round experience which post-covid consumer culture preferred. Consequently, many freelance technicians and contractors no more had a space in this evolved ecosystem.

If there is one thing that this pandemic has taught us, it is that empathy and care has never been as important to humanity as it is today. We must all come together, as a community, to take care of each other by helping each other sustain.

So, we go back to our question: how can we save the service industry? Organizations should take it upon themselves to educate and train technicians with the aim to empower them to sustain independently. Individuals should take the initiative to provide these service personnel with proper equipment to the best of their ability.

I believe it is absolutely imperative that our community comes together to save our fellow stakeholders who, up until a few months back, were an important cog in this complex system that is HVAC.



'From the field' F. D Khan, 40 works as a commercial and residential RAC technician. In an interaction with newsTRAC, he talks about his experience, challenges and employment satisfaction. Excerpts from the interview are shared below

From the field:

F. D Khan, 40 works as a commercial and residential RAC technician. In an interaction with newsTRAC, he talks about his experience, challenges and employment satisfaction. Excerpts from the interview are shared below:



What is the nature of your job?

Ans: I work full time as a RAC technician for Arsh Air Conditioner, Noida.



Are you happy with your work? How would you rate your happiness on a scale of one to ten?

Ans: Yes I am happy with my work, as it is a regular job with salary. I would rate it at 7.



How would you rate your happiness on your organisation's conduct?

Ans: I am satisfied with my organisation, who has kept us employed even through COVID. My rating for them will also be 7.



Do you work with residential customers as well?

Ans: Yes, I work with both residential and commercial customers. The area I work in has multiple offices and high rise residential buildings, so I work with both.



Are you professionally trained?

Ans: I am a certified technician and have done a course from ITI. I also have 15+ years of experience in the field. I work for homes in an affluent area, so they have new types of air-conditioners, such as inverter and dual inverter ACs, so I have to keep my skills up to date



Do you feel your salary is adequate?

Ans: I believe that our salaries could be little more, especially compared to the amount and kind of work we do.



Do you feel your technical skills are adequate? How willing are you to learn more skills in this field?

Ans: I am confident of my skills. I wouldn't be able to service my customers otherwise.



Would you be interested in undergoing trainings for RAC technicians to hone your skills?

Ans: Yes, definitely. Depending on time and schedule, I am open to learning new skills.

A guide to MARS.NBC mobile app

MARS.NBC ENTREPRENEURSHIP MOBILE APP



INTRODUCTION



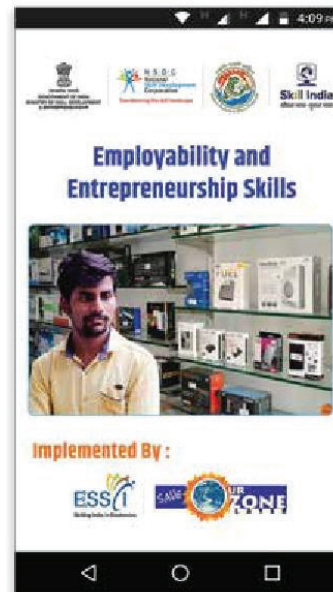
Entrepreneurship plays a significant role in the economic development of a country. Entrepreneurship acts as a catalyst for the economic prosperity of a nation as it leads to generation of employment, contribution in national income, rural development, industrialization, technological development, export promotion etc.



In spite of several initiatives taken by the government, entrepreneurs still face certain problems like lack of availability of finance, technical knowledge, managerial skills, availability of resources and infrastructure, awareness about entrepreneurship schemes and regulatory framework, market linkages. Especially they need to be guided about eligibility criteria and responses to the queries raised by the financial Institution. The Mobile App. has been designed to respond to these problems.



Employability and Entrepreneurship Skills



ABOUT THE MOBILE APP

MARS.NBC mobile app is designed with an objective create awareness and help the skill manpower to become an entrepreneur. It covers the basic skill set required for entrepreneurship, role of soft skills and various Government financial assistance schemes available in our country for different set of people like National Backward Class, Safai Karamchari etc. It is not only giving information about the scheme but also helps to understand how to avail financial assistance and support from these schemes.

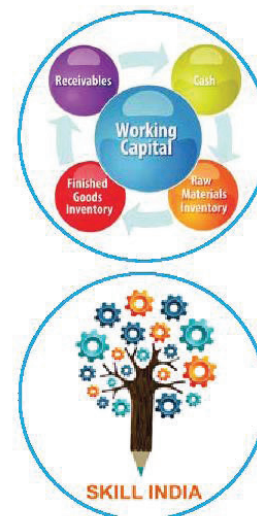
MARS.NBC app is available on Google play store so that it can be easily downloaded and installed by participants on their android Smartphone. During installation it ask to fill out personal information form and after posting the form OTP is received as SMS on participant mobile phone to confirm the identity. Once activated participant can go through the content integrated with the app.

IMPLEMENTED BY



FOLLOWING CONTENT HAS BEEN INTEGRATED WITH APP

- » Understanding business and how to become an entrepreneur, understanding market segment, competition, promotional activities and strategy to position product or services.
- » Soft Skills like leadership, teamwork, communication, personality development, time management etc.
- » Various schemes for Financial Development to Safai Karamcharis / Scavengers by NSKFDC this also includes eligibility criteria, various types of loan available, non loan based schemes as well as list of banks providing this facilities.
- » Various schemes for National Backward Classes Finance and Development Corporation (NBCFDC) this includes eligibility criteria, financing schemes, schemes specific for woman empowerment



For ease of content access it has been classified as Modules, Units and Topics. Apart from text explanation good quality images and narrative voice over audio is integrated along with the text for ease of understanding. Video clips are also integrated wherever applicable.

MARS.NBC is working on online installation and offline execution thus once the content is downloaded on mobile phone it stay back in the participant mobile phone memory so that they can access it as and when they want without internet connection. It maintains content download logs for monitoring of participants. Online assessment feature is also integrated for self testing of knowledge. Participants are also having provision for sending their feedback related to app or content. This is a secured app thus cannot be copied or shared from one mobile phone to other mobile phone even the content downloaded cannot be copied.

INTERACTIVE SUPPORT MODULE

This module provides ease of access to the end user. As and when they have the query it can be immediately addressed by the Subject Matter Expert (SME) who would receive the question and respond to the participant only or may open it for the closed group to know about the query and it's response. The communication channels are Text, Images, and Audio & Video.

INTERACTIVE MODULE FOR ASSESSMENT

In order to do practical assessment, App. provides for the ability for the assessor while in the field to respond to the assessment criteria and also take the pictures of the exercises being carried out by the participants. This information is being directly uploaded to our on-line learning platform "Maharishi Augmented Reality System - MARS". Thus makes assessment process very transparent.



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NEW INITIATIVES BY THE OZONE CELL, MoEF&CC

The Ozone Cell, MoEF&CC, in association with the UN Environment (UNEP) has been implementing the enabling component of HCFC Phase-out Management Plan (HPMP) Stage-II, as part of which the following studies have been commissioned.

- i. Application of non-ODS and low Global Warming Potential (GWP) alternatives in Building Sector in India in association with Alliance for an Energy Efficient Economy (AEEE).
- ii. Application of non-ODS and low Global Warming Potential (GWP) alternatives in Cold Chain Sector in India in association with Pricewaterhouse Coopers India Pvt. Ltd. (PWC).
- iii. Existing policy landscape, methodology and implementation mechanism for public procurement in the country including bulk procurement relevant to further adoption of non-ODSs, low GWP and energy efficient alternative technologies along with capacity building and awareness in association with The Energy and Resources Institute (TERI).
- iv. Service sector enterprises/ technicians in Refrigeration and Air-conditioning (RAC) sector involving collection, collation and analysis of information through desk study as well as field visit in association with NTPC School of Business.

In addition, the following activities under the enabling component are being undertaken:

- a) A MoA has been signed between Ozone Cell, MoEF&CC and National Academy of Customs Indirect Taxes and Narcotics (NACIN) for activities related to Customs and Enforcement capacity building comprising training of trainers, capacity building workshops for customs and enforcement officers, border dialogue with neighboring countries on specific ODS trade related aspects. In preparation for enforcing import ban on HCFC 141b, which has been in force from 1.1.2020, a special module was introduced in customs trainings. In addition the field customs formations were also sensitized through NACIN on the prohibition of HCFC 141 b imports in the country.
- b) A MoA has been signed with Ozone Cell, MoEF&CC and Energy Efficiency Services Limited (EESL) for the activities related to energy efficiency in RAC Service sector comprising development, publishing and dissemination of awareness material on linkage of energy efficiency and servicing practices for RAC products and to promote energy efficiency impacts of RAC products amongst the end-users and RAC service technicians.



Ministry of Environment,
Forest & Climate Change
Government of India

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