

Participant Handbook

Field Technician - Air conditioner



Field Technician: Air conditioner

- SECTOR: ELECTRONICS
- SUB-SECTOR: CONSUMER ELECTRONICS
- OCCUPATION: AFTER SALES SERVICE
- REFERENCE ID: ELE/Q3102



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Welcome Note

Dear Participant,

Welcome to this training programme. At the end of this you will be an RAC Service Assistant.

Functions of an RAC Service Assistant

As an RAC Service Assistant your functions are as follows:

- ◆ transportation of unit from industry / show room to customer's place;
- ◆ unpacking of unit for the installation;
- ◆ installation of unit;
- ◆ giving demonstration to the customer;
- ◆ educating the customer about the product and as to how to use it;
- ◆ servicing the unit on customer's request;
- ◆ troubleshooting the problem related to the product;
- ◆ giving correct report to the customer about the problem.

Skills required for an RAC Service Assistant

To carry out your functions effectively, you will need to develop these skills:

- ◆ knowledge of sign and symbols used on carton for transportation of product;
- ◆ adequate skills to handle and manage power tools and service center tools;
- ◆ knowledge of refrigeration cycle;
- ◆ skills to service refrigerator / air conditioner;
- ◆ knowledge and skills to identify and troubleshoot problem related to refrigerator / air conditioner;
- ◆ good communication skills;
- ◆ respectful approach to customer.











This book includes all modules necessary for you to develop the skills that you need to be successful in your career. Each module is structured and organised concluding with a Key Learning and a Worksheet that you may use to test your knowledge.

All the best!

General Instructions

1. Greet your Trainer and the other participants when you enter class.
2. Be regular. Candidates who fall short of the required attendance will not be certified.
3. Inform your Trainer if, for any reason, you need to miss class.
4. Always be punctual for every class.
5. Pay attention to what your instructor is saying or showing.
6. If you do not understand, put up your hand and seek clarification.
7. Make sure you do all the exercises given at the end of each module. It will help you understand the concept better.
8. Practise new skills you have learnt as many times as possible. Seek the help of your Trainer or fellow participants.
9. Take all necessary safety precautions, as instructed by your Trainer, while working with electricity and with tools.
10. Make sure you are neatly attired and presentable at all times.
11. Participate actively in all the activities, discussions and games during training.
12. Take bath daily. Wear clean clothes and comb your hair before you come to class.
13. The three most important words you must always remember and use in your daily conversations are PLEASE, THANK YOU and SORRY.

Symbols Used in This Manual

Symbol	Meaning
	Time
	Objectives
	Pre-requisite Knowledge
	Module Overview
	Theory
	Procedure
	Key Learnings
	Worksheets
	Tips
	Notes

RAC Industry Overview



5 hours 10 minutes



At the end of this module, you will be able to:

- ◆ describe the RAC industry

Session Plan

1	Module Overview
2	What is RAC
3	Overview of RAC industry
4	Importance of RAC Industry
5	RAC Industry and Job Opportunities
6	Key Learnings
7	Worksheet



Module Overview

RAC stands for Refrigerators and Air Conditioners. The RAC industry is growing at a rapid pace with the increase in the consumers' income and a wide variety to choose from. This module will provide us with a brief overview of the RAC industry.



What is RAC

To put it simply, RAC is nothing but the removal of heat from a place where it is unwanted and throwing it in a place where it is unobjectionable.



Overview of RAC Industry

The RAC industry has evolved and gained sophistication over the years. During the early years, there were a limited number of units available in the market for refrigerators and air conditioners. Today almost all industries and factories are able to avail of industrial refrigerators and air conditioners for higher efficiency and greater productivity. Further, a growing demand and better buying options available in consumers has led to an increase in the number of RAC units per household. Since every growing industry is a promising job creator, there is a steady increase in the job opportunities for RAC technicians.

In this module, however, we will be covering domestic RAC units.



Importance of RAC Industry

The RAC industry is responsible for revamping lifestyles of urban and semi-urban homes alike. Today refrigerators and air conditioners can be easily considered indispensable in such households.

- ◆ Certain perishable food items, such as milk and milk products like cheese and butter; fish and meat products; vegetables like lettuce and spinach; fruits like papaya and watermelon need to be stored at a cold temperature to increase their shelf life. Hence, a refrigerator has become a very useful commodity for households.
- ◆ During extreme summer months, ceiling fans are not that effective in giving relief from the heat and the humidity. Hence, the growth in demand for window and split air conditioners in many household and commercial offices.



RAC Industry and Job Opportunities

The RAC industry has seen a significant change over the years. Earlier, very few people could afford an AC; and those who could, had only the option of the window AC. However at present times, the industry is said to be growing at the rate of 15 to 18 per cent; directly serving other sectors and industries that include perishable food products, medicines, textiles, IT to name just a handful. The scope has indeed widened by leaps and bounds.

If we turn our attention to the household sector, we find that the increase in the consumers' income; an availability of a wide range of products in the market and options of easy financial schemes, at attractive discounted prices, serve as factors that have pushed the growth further.

An increasing demand for skilled RAC technicians is but natural.



Key Learnings

Summarise your learnings here. Write your answers in the spaces provided.

1.	What is RAC?	

2.	List any two important uses of RAC products.	

3.	List three reasons for the growing demand of RAC technicians in the industry.	



Worksheet

1. Read the questions. Tick against the correct options.

a. Which of the following is a reason for the increase in the demand for AC?

i. 15% discount on air conditioners offered by vendors

ii. range of AC products available in the market

iii. as replacement for ceiling fans

b. Where would a window AC be more appropriate for installation?

i. a small private room

ii. a commercial office

iii. a double bedroom

Roles and Competencies of a RAC Service Assistant



3 hours 5 minutes



At the end of this module, you will be able to:

- ◆ define your role as an RAC technician;
- ◆ list the skills needed to be an RAC technician.

Session Plan

1	Module Overview
2	Roles and Competencies of an RAC Service Assistant
3	Knowledge-Based Competencies
4	Skill-Based Competencies
5	Attitude
6	Key Learnings
7	Worksheet



Module Overview

The role of an RAC technician involves servicing RAC units, troubleshooting problems and performing preventive maintenance. Apart from this, there are certain competencies and skills that are essential for a good RAC technician. This module will be covering these competencies.



Roles and Competencies of an RAC Service Assistant

To perform the role of an RAC technician, you need certain competencies or K S A, which stands for:

- ◆ Knowledge
- ◆ Skill
- ◆ Attitude



Knowledge-Based Competencies

Knowledge-based competency is the knowledge required to understand the basic principles of an RAC unit.

For example, one may have the knowledge required to make a cup of tea but might not have actually prepared it.

In the same way, as a technician it is essential to have the knowledge to identify faults, rectify them and test them for preventive maintenance. This is his core job and to perform he needs certain knowledge-based competencies. And they include:

- ◆ basic knowledge of refrigeration cycle;
- ◆ concepts of electricity;
- ◆ knowledge of electrical circuit;
- ◆ electrical parts of an RAC unit;
- ◆ commonly used tools;
- ◆ usage of tools;
- ◆ measuring tools and their uses;
- ◆ service centre tools;
- ◆ upkeep of toolkit;
- ◆ operating principles of an RAC unit;
- ◆ types of an RAC unit.

Without understanding these, an RAC technician will not be able to perform his role.



Skill-Based Competencies

Skill-based competency is the step-by-step procedure required to perform and complete an RAC task.

For example, making a cup of tea step-by-step, starting from boiling the water in a saucepan to serving tea in a cup is the process which is a skill-based competency.

When we practise and apply knowledge, it becomes a skill.

These skill-based competencies include:

- ◆ transportation and unpacking of an RAC unit;
- ◆ installation of an RAC unit;
- ◆ servicing the RAC unit;
- ◆ troubleshooting problems;
- ◆ providing a demo for an RAC unit.

It is vital for an RAC technician to master and practise these skills to be an efficient technician.



Skill-Based Competencies

The third most important competency is attitude. One should possess the right attitude to excel as a technician and have good customer management skills.

Now, let's look at some of the characteristics or behavioural traits one should possess while interacting with the customers:

Positive Attitude – Keep a positive attitude towards work and others around you.

Discipline – A technician needs to be well disciplined to be able to balance work and personal life. It is very important for an RAC technician to get up on time, finish the allocated work and make time for personal activities.

Punctuality – Punctuality is the key to success. Punctuality in managing customer's issues helps in forming a good impression.

Excellent Customer Relations – Maintaining excellent customer relations helps build the company's goodwill and also gain trust in the skills of the employee.

Grooming – Being well-groomed leaves a lasting impression. Making an effort to look presentable goes a long way with the customers.



Key Learnings

Summarise your learnings here. Write your answers in the spaces provided.

1. Differentiate between knowledge and skill-based competencies using a suitable example.

2. List any three characteristics that an RAC technician must possess to excel in his job.



Worksheet

1. Read the question. Tick against the correct options.

a. Which of the following is an example of a skill-based competency?

- i. upkeep of toolkit
- ii. consumable tools
- iii. providing demo of an air conditioner
- iv. service centre tools

b. This RAC technician is always late at the customer's home due to personal issues. What characteristics best describe him?

- i. lack of discipline
- ii. lack of punctuality
- iii. poor attitude
- iv. lack of sincerity

Discipline



2 hours 20 minutes



At the end of this module, you will be able to:

- ◆ practise discipline in your personal and professional life.

Session Plan

1	Module Overview
2	Discipline in Personal Life
3	Discipline at Work Place
4	Key Learnings
5	Worksheet



Module Overview

Discipline is essential in everyone's life. To be successful, you need to practise discipline in your personal, as well as your professional life. In this module we will discuss the important points that will help you to be disciplined in your personal and professional life.



Discipline in Personal Life

Discipline in personal life can be defined as the ability to motivate oneself in spite of a negative emotional state. The following are some important points that one should follow in one's personal life in order to be disciplined:

- ◆ Plan for the next day on the previous night itself.
- ◆ Wake up at a certain time.
- ◆ Follow a certain schedule for exercise.
- ◆ Follow fixed meal times.
- ◆ Make lists for things that need to be purchased.
- ◆ Maintain a regular fitness routine.

