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FAN MANUFACTURING TECHNICIAN

LEARNER GUIDE

National Vocational Certificate Level 3

Version 4 - October, 2019

NAVTTC

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Islamabad, Pakistan

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LEARNER GUIDE

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Contents

Introduction

Welcome to your Learner's Guide for the *Supervisor* Programme. It will help you to complete the programme and to go on to complete further study or go straight into employment.

The *Supervisor* programme is to engage young people with a programme of development that will provide them with the knowledge, skills and understanding to start this career in Pakistan. The programme has been developed to address specific issues, such as the national, regional and local cultures, the manpower availability within the country, and meeting and exceeding the needs and expectations of their customers.

The main elements of your learner's guide are:

- **Introduction:**
  - This includes a brief description of your guide and guidelines for you to use it effectively
- **Modules:**
  - The modules form the sections in your learner's guide
- **Learning Units:**
  - Learning Units are the main sections within each module
- **Learning outcomes**:
  - Learning outcomes of each learning units are taken from the curriculum document
- **Learning Elements:**
  - This is the main content of your learner's guide with detail of the knowledge and skills (practical activities, projects, assignments, practices etc.) you will require to achieve learning outcomes stated in the curriculum
  - This section will include examples, photographs and illustrations relating to each learning outcome
- **Summary of modules**:
  - This contains the summary of the modules that make up your learner's guide
- **Frequently asked questions**:
  - These have been added to provide further explanation and clarity on some of the difficult concepts and areas. This further helps you in preparing for your assessment.
- **Multiple choice questions for self-test**:
  - These are provided as an exercise at the end of your learner's guide to help you in preparing for your assessment.

Modules

Module 07: 072200908 Ensure Quality

Objective of the module: The aim of this module is to develop knowledge, skills and understanding required to ensure quality of fan

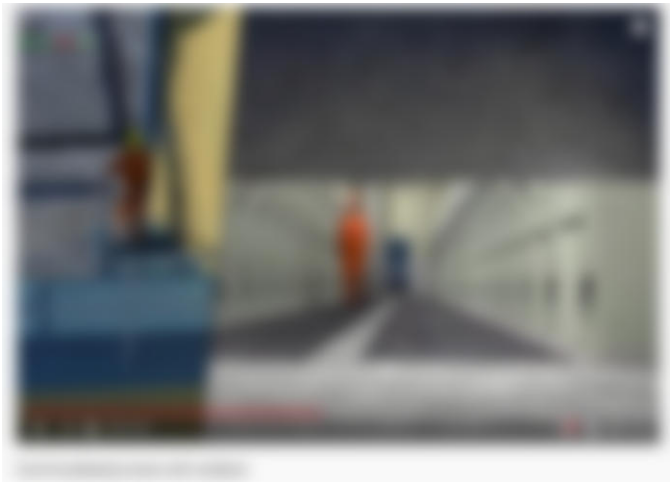
Duration: 110 hours **Theory:** 22 hours **Practical:** 88 hours

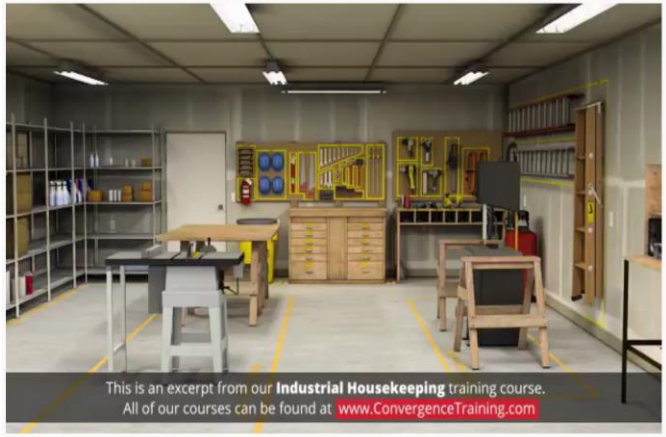
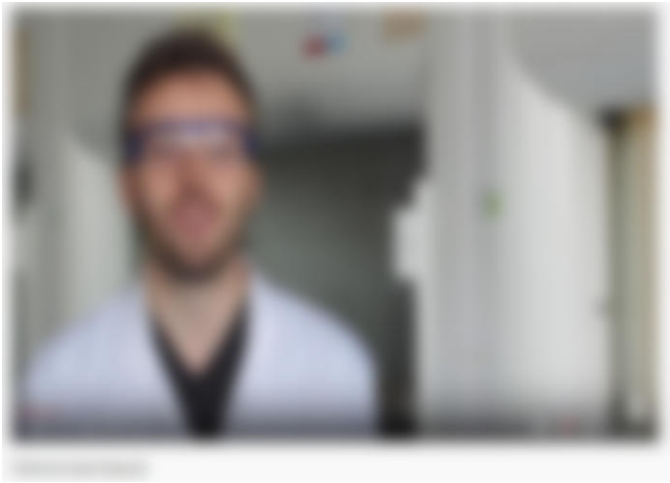
Learning units	Learning Outcomes	Learning Elements	Materials Required
LU1: Ensure good atmosphere at workplace	**The trainee will be able to:** • Ensure proper lighting at workplace • Ensure appropriate ventilation • Ensure good housekeeping	• Knowledge about adequate lighting for the job requirement • Knowledge about the forced ventilation for safe human working conditions • Understanding about good housekeeping for safe operation in the workshop	• LEDs and hooded lights with reflectors • Exhaust fans
LU2: Ensure safe environmental concerns are addressed	**The trainee will be able to:** • Dispose-off waste chemicals as per environmental standards • Dispose-off cotton waste as per SOP • Ensure and follow hazardous instructions	• Knowledge about storing the chemicals that are harmful for workplace environment • Knowledge about safely disposing off the harmful materials • Knowledge about SOPs for disposing off cotton waste • Knowledge about placement of instruction charts to counter hazardous situations • Understanding of dealing with hazardous situations according to instructions	• Storage Drums • Waste Box • Different sample data sheets of chemicals
LU3: Ensure quality of materials	**The trainee will be able to:** • Check gauge of supplied material as per specification • Check weight as per specification • Check dimensions as per specification	• Knowledge and understanding about conducting visual, dimensional, electrical, destructive testing and NDT testing	• Magnifying glass • Steel Rule • Measuring tape • Digital micrometre • SWG gauge • Go and Not Go gauges

	• Inspect material quality as per specification		• Digital Vernier calliper • Digital weighing scale • Mili Ohm Meter • Jigs and Fixtures
LU4: Implement quality standards	**The trainee will be able to:** • Interpret relevant national and international standards • Adopt relevant national standard • Adopt relevant international standard	• Knowledge about National and International relevant standards • Understanding of adaptation for National and International standards	• Relevant standard documents
LU5: Perform electrical and mechanical tests as per relevant standards	**The trainee will be able to:** • Interpret electrical/mechanical tests as per relevant standards • Adopt electrical/mechanical tests as per relevant standards	• Knowledge about fan testing techniques as per relevant standards. • Knowledge of practically examining the test parameters as per required standards.	• Anemometer • Watt meter • Volt meter • Ampere meter • Power factor meter • Frequency meter • Tachometer • Sound level meter • Temperature meter • Insulation tester • Die electric tester • Multi meter • Brinell, Rockwell and Vickers hardness testers • Viscosity meter • Gloss meter • Film thickness meter • Different fan parts and complete fan for testing

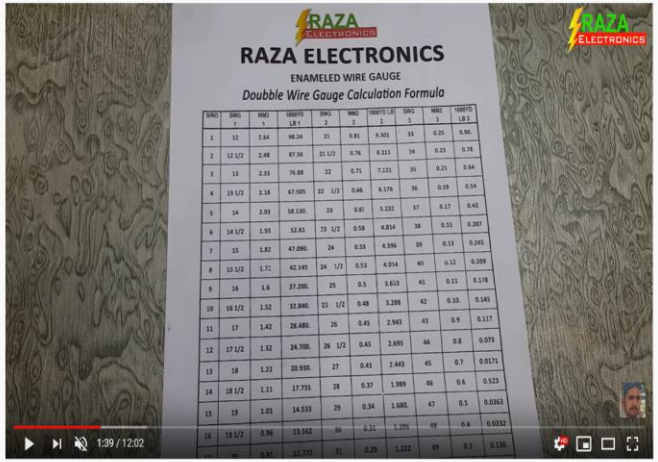
Examples and illustrations

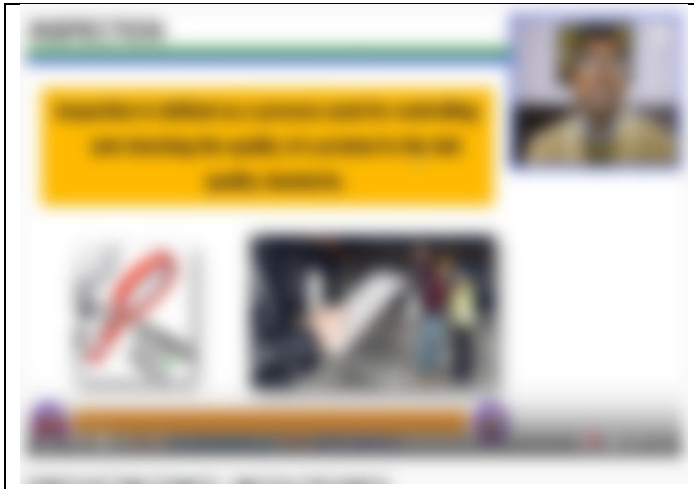
VIDEOS:

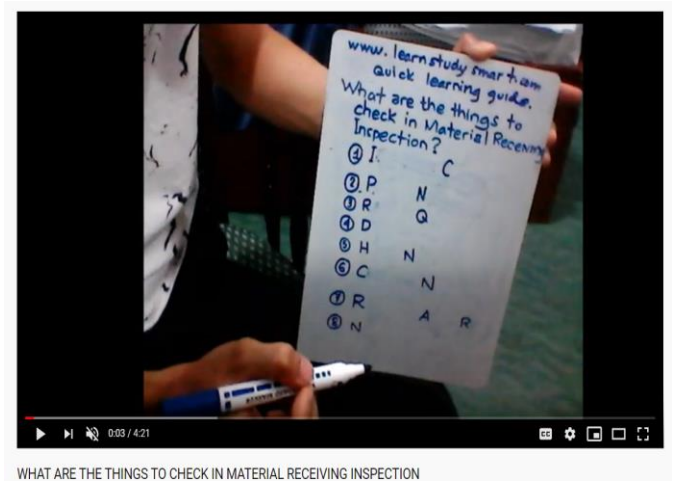
 	Good atmosphere at workplace https://www.youtube.com/watch?v=mOUvhsTJcRk https://www.youtube.com/watch?v=gBOXKLxGeH8 https://www.youtube.com/watch?v=wDjCnPmNKuc

 Industrial Housekeeping	
	Environmental safety https://www.youtube.com/watch?v=eHrZi9ikmeE https://www.youtube.com/watch?v=5K-ZvtgRz9o https://www.youtube.com/watch?v=SimCp08nizA https://www.youtube.com/watch?v=0tLJFb3YrWA

Chemical recycling could be an industry game changer

 Hazardous Waste Management Safety Video		
		Material Inspection https://www.youtube.com/watch?v=cTZ36s2duhQ https://www.youtube.com/watch?v=kU1WzX6dSjg https://www.youtube.com/watch?v=I6uxtM6ZiWY





WHAT ARE THE THINGS TO CHECK IN MATERIAL RECEIVING INSPECTION

Quality Standards

Quality Standards

https://www.youtube.com/watch?v=EI2Mgrvq0Us

https://www.youtube.com/watch?v=2R7CrUARHAs

https://www.youtube.com/watch?v=eAmGi88D8rU

https://www.youtube.com/watch?v=JMkpMhBO5vE

Quality Standards, ISO, CMMI and Six Sigma

What is ISO International Organization for Standardization?

Preparing a health and safety policy

For more information, please visit http://www.hse.gov.uk/simple-health-safety/policy/

Overview

The law (in the UK) says that every business must have a policy for managing health and safety.

A health and safety policy sets out your general approach to health and safety. It explains how you, as an employer, will manage health and safety in your business. It should clearly say who does what, when and how.

If you have five or more employees, you must write your policy down. If you have fewer than five employees you do not have to write anything down, but it is useful to do so.

You must share the policy, and any changes to it, with your employees.

How to write your policy

Your policy should cover three areas.

Part 1: Statement of intent

State your general policy on health and safety at work, including your commitment to managing health and safety and your aims. As the employer or most senior person in the company, you should sign it and review it regularly.

Part 2: Responsibilities for health and safety

List the names, positions and roles of the people in your business who have specific responsibility for health and safety.

Part 3: Arrangements for health and safety

Give details of the practical arrangements you have in place, showing how you will achieve your health and safety policy aims. This could include, for example, doing a risk assessment, training employees and using safety signs or equipment.

The following pages provide an example and a template for writing a health and safety policy.

HSE

Health and Safety Executive

Example health and safety policy

Setting the scene

Daly Response Alarm Systems supply and install intruder alarms to residential and business premises. Manager John Daly employs 22 people – a mixture of office-based staff and engineers who work remotely. Cleaning is shared by the office-based staff on a rota basis.

John prepared his own health and safety policy statement using **HSE's template**.

He then thought about what he should include in his policy, such as remote working, personal protective equipment, staff consultation, training etc. He decided that he and his assistant manager were the most competent (experienced and capable) people to take responsibility for health and safety issues.

John presented the policy statement at a staff meeting and decided to review and update the policy every year or straightaway if there is a significant change in the workplace.

HSE

Health and Safety Executive

Policy statement

Part 1: Statement of intent

This is the health and safety policy statement of:

Daly Response Alarm Systems

Our health and safety policy is to:

- prevent accidents and cases of work-related ill health
- manage health and safety risks in our workplace
- provide clear instructions and information, and adequate training, to ensure employees are competent to do their work
- provide personal protective equipment
- consult with our employees on matters affecting their health and safety
- provide and maintain safe plant and equipment
- ensure safe handling and use of substances
- maintain safe and healthy working conditions
- implement emergency procedures, including evacuation in case of fire or other significant incident
- review and revise this policy regularly

John Daly	17 November 2018
Signed	**Date**
John Daly	17 November 2019
Print name	**Review date**

Part 2: Responsibilities for health and safety

1 Overall and final responsibility for health and safety:

John Daly (Manager)

2 Day-to-day responsibility for ensuring this policy is put into practice:

Paul Phillips (Assistant manager)

3 To ensure health and safety standards are maintained/improved, the following people have responsibility in the following areas:

John Daly and Paul Phillips – safety, risk assessments, consulting employees, accidents, first aid and work-related ill health

John Daly – monitoring, accident and ill-health investigation, emergency procedures, fire and evacuation

Paul Phillips – maintaining equipment, information, instruction and supervision, training

4 All employees should:

- co-operate with supervisors and managers on health and safety matters;
- take reasonable care of their own health and safety; and
- report all health and safety concerns to an appropriate person (as detailed above).

HSE
Health and Safety Executive

Part 3: Arrangements for health and safety

Risk assessment

- We will complete relevant risk assessments and take action.
- We will review risk assessments when working habits or conditions change.

Training

- We will give staff and subcontractors health and safety induction and provide appropriate training (including working at height, asbestos awareness and electrical safety).
- We will provide personal protective equipment.
- We will make sure suitable arrangements are in place for employees who work remotely.

Consultation

- We will consult staff routinely on health and safety matters as they arise and formally when we review health and safety.

Evacuation

- We will make sure escape routes are well signed and kept clear at all times.
- Evacuation plans are tested from time to time and updated if necessary.

HSE

Health and Safety Executive

Policy statement

Part 1: Statement of intent

This is the health and safety policy statement of:

Our health and safety policy is to:

Signed

Date

Print name

Review date

HSE

Health and Safety Executive

Part 2: Responsibilities for health and safety

1 Overall and final responsibility for health and safety:

2 Day-to-day responsibility for ensuring this policy is put into practice:

3 To ensure health and safety standards are maintained/improved, the following people have responsibility in the following areas:

4 All employees should:

- co-operate with supervisors and managers on health and safety matters;
- take reasonable care of their own health and safety; and
- report all health and safety concerns to an appropriate person (as detailed above).

HSE

Health and Safety Executive

Part 3: Arrangements for health and safety

Risk assessment

Training

Consultation

Evacuation

Managing risk

For more information, please visit http://www.hse.gov.uk/risk/

How do I do a risk assessment?

To do a risk assessment, you need to understand what, in your business, might cause harm to people and decide whether you are doing enough to prevent that harm. Once you have decided that, you need to identify and priorities putting in place, appropriate and sensible control measures.

Start by:

- identifying what can harm people in your workplace
- identifying who might be harmed and how
- evaluating the risks and deciding on the appropriate controls, taking into account the controls you already have in place
- recording your risk assessment
- reviewing and updating your assessment

This is not the only way to do risk assessment as there are no fixed rules about how a risk assessment should be carried out. However, we believe that the controlling the risks in the workplace guidance provides the most straightforward way for most businesses.

What should I include in my risk assessment?

Your risk assessment should include consideration of what in your business might cause harm and how and, the people who might be affected. It should take into account any controls which are already in place and identify what, if any, further controls are required.

You should be able to show from your assessment that:

- a proper check was made
- all people who might be affected were considered
- all significant risks have been assessed
- the precautions are reasonable
- the remaining risk is low

You do not need to include insignificant risks. You do not need to include risks from everyday life unless your work activities increase the risk.

Any paperwork that is produced should help with communicating and managing the risks in your business.

When do I need to do a risk assessment?

You should carry out an assessment before you do work which presents a risk of injury or ill health.

You only need to do a risk assessment if you are an employer or a self-employed person.

The following pages provide a template for carrying out a risk assessment (www.hmrc.gov.uk/gds/agl/attachments/generic_ra.doc)

Module 08: 072200909 Supervise production process

Objective of the module: The aim of this module is to develop knowledge, skills and understanding required to supervise production process

Duration: 140 hours **Theory:** 28 hours **Practical:** 112 hours

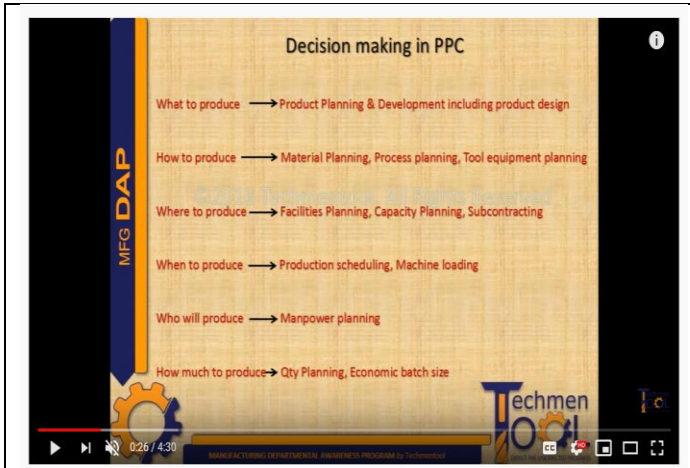
Learning units	Learning Outcomes	Learning Elements	Materials Required
LU1: Prepare departmental production plan	**The trainee will be able to:** • Identify the machinery required for relevant process • Ensure the availability of required tools and equipment for relevant process • Incorporate machine maintenance schedule in the production plan • Prepare machine wise production schedule to ensure in-time delivery • Ensure the usage of PPEs according to process requirement	• Understand the production processes involved in the fan manufacturing industry • Understand the production scheduling and material requirements planning • Knowledge of labour and time management • Knowledge and understanding of raw material grades and their quality parameters • Knowledge about the Quality Control and Quality Assurance • Understanding about production types i.e. mass production, unit production, continuous and batch production	• Relevant Information material
LU2: Acquire material from store	**The trainee will be able to:** • Generate the demand order to raw material store as per production schedule • Ensure availability of raw material as per required generated order • Distribute raw material to production processes in required quantities	• Knowledge about usage of different raw materials required in fan manufacturing • Knowledge about issuance of requisition • Ensure availability of raw material as per required generated order • Understanding about distribution of raw material to production processes in required quantities	• Relevant Information material

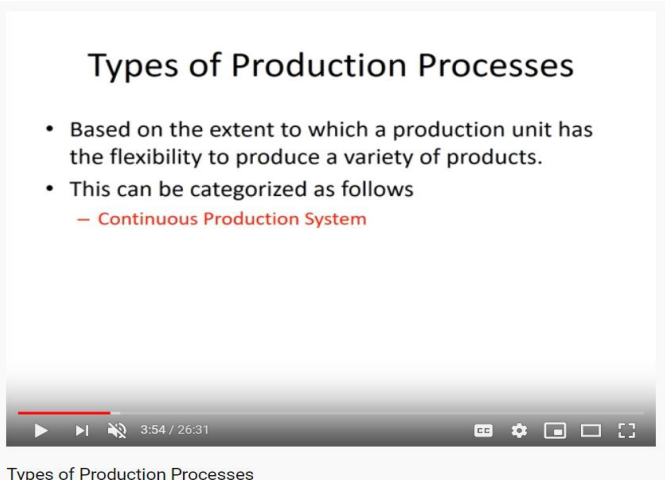
Learning units	Learning Outcomes	Learning Elements	Materials Required
LU3: Assign duties to workers	**The trainee will be able to:** • Assign jobs to the workers along with work instructions • Train workers on their assigned tasks and work instructions • Monitor the worker's performance as per instructions	• Knowledge about task management as per production requirement • Understanding of production plan • Knowledge and understanding of time and work force management • Understanding of contingency planning	• Relevant Information material
LU4: Ensure production operations according to the plan	**The trainee will be able to:** • Ensure quality of product as per requirement • Make sure the completion of production process within the lead time • Confirm data entry at every stage in process travel cards or process production reports	• Knowledge and understanding of process travel card • Understanding of product specification	• Relevant Information material
LU5: Prepare production report	**The trainee will be able to:** • Gather and consolidate the production data in concise form for further analysis • Analyse data using relevant quality tools (control charts, bar graphs, normal charts etc.) • Compile production report and submit and present the report to management within defined timeline	• Understanding and knowledge of report writing • Understanding and usage of MS Office (Word, Excel, Power point)	• Computer with Internet connection • Printer

Examples and illustrations

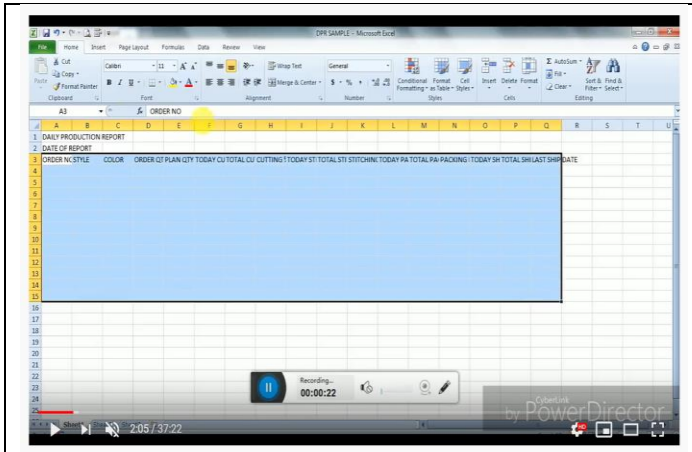
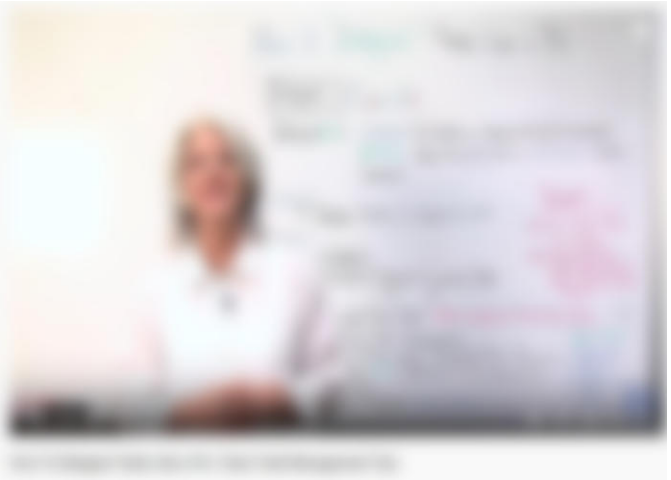
VIDEOS:

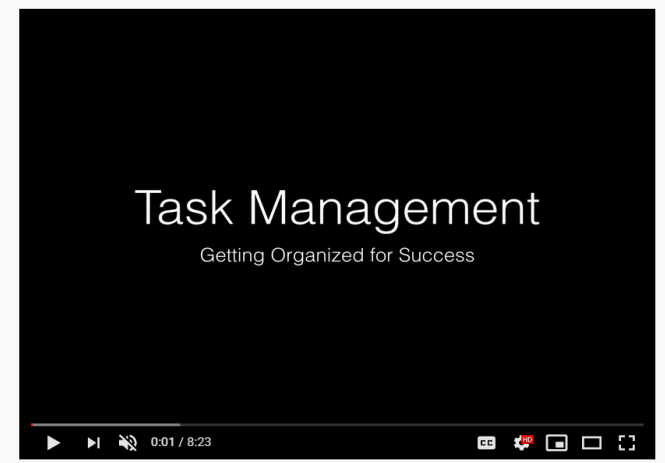
 	Production planning https://www.youtube.com/watch?v=fRwRCFB8ikQ https://www.youtube.com/watch?v=hfQGHh5NIXI https://www.youtube.com/watch?v=4FdEz5aqwII

	
	Raw material handling https://www.youtube.com/watch?v=RtQReqBaP00 https://www.youtube.com/watch?v=6YKE-fZpKys

	
 Types of Production Processes	Types of Production processes https://www.youtube.com/watch?v=ilIPJaK9mnU https://www.youtube.com/watch?v=pBSj3vUgkm8

	
	How to prepare production report? https://www.youtube.com/watch?v=mmI6oCcwQO8 https://www.youtube.com/watch?v=-t1ODIjI7wM

 Daily Production Report in Excel	
	Task management https://www.youtube.com/watch?v=KApy2bpDMaQ https://www.youtube.com/watch?v=wuHDi43AvuY

	
	Team Management https://www.youtube.com/watch?v=RszxzBYiZpQ https://www.youtube.com/watch?v=IZIHW9K8DMc https://www.youtube.com/watch?v=WRQGCtcuuhw

Template of feedback form from learners

What are your long-term goals?	What are your specific career goals? (Divide them down into individual, more manageable steps)	What are the key skills needed for each one of your goals?	What skills do you need to work on?	What actions are you going to take? (What training opportunities are you going to take advantage of?)	When are you going to complete your training by? (Set realistic timelines)

Team Building Skills

When a group works well together, it achieves the best results. Employers, therefore, want to hire people with team building skills. Good team builders are able to help groups work together well and meet their goals. Being able to build and manage a successful team is a qualification for many different types of jobs. If you're being considered for a position that requires managing or being part of a team, you will need to show that you have the team building skills necessary for the job.

Team building is knowing how to help individuals work as a cohesive group where all members feel invested in the direction and accomplishments of the team. All members have input towards developing goals and defining the steps to take to reach those goals. Everyone is able to work together to achieve the group's objectives. Even though companies want all of their employees to have team building skills, they are particularly important for managers, supervisors, and outside consultants that oversee groups of employees.

Types of Team Building Skills

1. Communication

If you are helping to unite a team, you need to have strong communication skills. Using both written and verbal communication skills, you will have to explain company goals, delegate tasks, resolve conflicts between members, and more. It is important that you are able to clearly express ideas in ways that others can understand. In order to problem solve and make sure every team member feels heard, you will also have to listen. You will need to understand the concerns of every member so that they each feel that they are being considered and appreciated.

- Clarity
- Specificity
- Facilitating Group Discussion
- Interpersonal
- Active Listening
- Reading Body Language (Nonverbal Communication)
- Written Communication
- Verbal Communication

2. Problem Solving

When team building, you will need to solve problems. These might include issues related to the group's goals. However, these might also include interpersonal problems between group members. A team builder must help to resolve both. He or she needs to be a mediator who can

listen to two sides of a problem and help everyone come to an agreement. The goal of a team builder is to solve problems in a way that helps the team achieve its goals and keeps its members working well together.

- Brainstorming
- Achieving Consensus
- Conflict Resolution
- Mediation
- Negotiation
- Problem Sensitivity
- Analytical Skills
- Flexibility

3. Leadership

Being a team builder often requires assuming a leadership role for a team. You need to make decisions when there is conflict, establish group goals, and confront team members that are not producing their best. All of this requires leadership and management.

- Aligning Team Goals with Company Goals
- Decision Making
- Establishing Standard Operating Procedure
- Hiring
- Management
- Firing
- Talent Management
- Consistency
- Integrity

4. Teamwork

While being a good leader is important in team building, so is being a good team player. You can help build a strong team by showing the team what it means to work well in a group. You will need to collaborate and cooperate with team members, listen to their ideas, and be open to taking and applying their feedback.

- Ability to Follow Instructions
- Adaptability

- Collaboration
- Cooperation
- Reliability
- Responding to Constructive Criticism
- Proactivity

5. Motivation

A team builder gets other team members excited about setting and achieving project goals. This kind of motivational energy can take many forms. Perhaps you come to work every day with a positive attitude, or maybe you encourage your other teammates with positive feedback. Another way to motivate team members is to provide incentives. These might range from bonuses and other financial rewards to extra days of fun group activities. A team builder can think of creative ways to inspire the team to do its best.

- Mentoring New Leaders
- Developing Relationships
- Encouragement
- Persuasive
- Recognizing and Rewarding Group Achievements

6. Delegation

A good team builder knows he or she cannot complete group tasks alone. Team builders clearly and concisely lay out each team member's responsibilities. This way, everyone is responsible for a piece of the group goal. Good delegation leads to project efficiency, and it can help a group achieve a goal on time or even ahead of schedule.

- Assign Roles
- Defining Objectives
- Scheduling
- Setting and Managing Expectations
- Time Management
- Project Management

7. More Team Building Skills

- Positive Reinforcement
- Negative Reinforcement
- Human Resources
- Customer Service
- Assessing Group Progress
- Coaching
- Identifying the Strengths and Weaknesses of Team Members
- Training
- Creativity
- Creating Mission Statements
- Creating Milestones
- Coordinating
- Evaluating
- Goal Oriented
- Resilience
- Innovation
- Empathy
- Imagination
- Passionate About Diversity
- Interviewing
- Integration
- Versatility
- Concision
- Confidence
- Process Management
- Ongoing Improvement
- Presentation

https://www.thebalancecareers.com/list-of-team-building-skills-2063772#what-are-team-building-skills

Module summary

Module Title and Aim	Learning Units	Timeframe of modules
Module 07: Ensure Quality **Aim:** The aim of this module is to develop knowledge, skills and understanding required to ensure quality of fan	**LU1:** Ensure good atmosphere at workplace **LU2:** Ensure safe environmental concerns are addressed **LU3:** Ensure quality of materials **LU4:** Implement quality standards **LU5:** Perform electrical and mechanical tests as per relevant standards	110 Hours
Module 08: Supervise production process **Aim:** The aim of this module is to develop knowledge, skills and understanding required to plan work	**LU1:** Prepare departmental production plan **LU2:** Acquire material from store **LU3:** Assign duties to workers **LU4:** Ensure production operations according to the plan **LU5:** Prepare production report	140 Hours

Frequently Asked Questions

1. What is Competency Based Training (CBT) and how is it different from currently offered trainings in institutes?	Competency-based training (CBT) is an approach to vocational education and training that places emphasis on what a person can do in the workplace as a result of completing a program of training. Compared to conventional programs, the competency based training is not primarily content based; it rather focuses on the competence requirement of the envisaged job role. The whole qualification refers to certain industry standard criterion and is modularized in nature rather than being course oriented.
2. What is the passing criterion for CBT certificate?	You shall be required to be declared “Competent” in the summative assessment to attain the certificate.
3. What are the entry requirements for this course?	The entry requirement for this course is National Vocational Certificate Level-3 in Fan Manufacturing Technician (Winder) or National Vocational Certificate Level-3 in Fan Manufacturing Technician (Assembler).
4. How can I progress in my educational career after attaining this certificate?	You shall be able to progress further to a level-5, DAE or equivalent course in relevant trade. In certain case, you may be required to attain an equivalence certificate from The Inter Board Committee of Chairmen (IBCC).
5. If I have the experience and skills mentioned in the competency standards, do I still need to attend the course to attain this certificate?	You can opt to take part in the Recognition of Prior Learning (RPL) program by contacting the relevant training institute and getting assessed by providing the required evidences.
6. What is the entry requirement for Recognition of Prior Learning program (RPL)?	There is no general entry requirement. The institute shall assess you, identify your competence gaps and offer you courses to cover the gaps; after which you can take up the final assessment.
7. Is there any age restriction for entry in this course or Recognition of Prior Learning program (RPL)?	There are no age restrictions to enter this course or take up the Recognition of Prior Learning program.
8. What is the duration of this course?	The duration of the course work is 430 Hours
9. What are the class timings?	The classes are normally offered 25 days a month from 08:00am to 01:30pm. These may vary according to the practices of certain institutes.
10. What is equivalence of this certificate	As per the national vocational qualifications framework, the level-4 certificate is equivalent

with other qualifications?	to Matriculation. The criteria for equivalence and equivalence certificate can be obtained from The Inter Board Committee of Chairmen (IBCC).
11. What is the importance of this certificate in National and International job market?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). These standards are also recognized worldwide as all the standards are coded using international methodology and are accessible to the employers worldwide through NAVTTC website.
12. Which jobs can I get after attaining this certificate? Are there job for this certificate in public sector as well?	You shall be able to take up jobs in the fan manufacturing industries as supervisor
13. What are possible career progressions in industry after attaining this certificate?	You shall be able to progress up to the level of supervisor after attaining sufficient experience, knowledge and skills during the job. Attaining additional relevant qualifications may aid your career advancement to even higher levels.
14. Is this certificate recognized by any competent authority in Pakistan?	This certificate is based on the nationally standardized and notified competency standards by National Vocational and Technical Training Commission (NAVTTC). The official certificates shall be awarded by the relevant certificate awarding body.
15. Is on-the-job training mandatory for this certificate? If yes, what is the duration of on-the-job training?	On-the-job training is not a requirement for final / summative assessment of this certificate. However, taking up on-the-job training after or during the course work may add your chances to get a job afterwards.
16. How much salary can I get on job after attaining this certificate?	The minimum wages announced by the Government of Pakistan in 2019 are PKR 17,500. This may vary in subsequent years and different regions of the country. Progressive employers may pay more than the mentioned amount.
17. Are there any alternative certificates which I can take up?	There are some short courses offered by some training institutes on this subject. Some institutes may still be offering conventional certificate courses in the field.
18. What is the teaching language of this course?	The leaching languages of this course are Urdu and English.
19. Is it possible to switch to other certificate programs during the course?	There are some short courses offered by some training institutes on this subject. Some institutes may still be offering conventional certificate courses in the field.
20. What is the examination / assessment system in this program?	Competency based assessments are organized by training institutes during the course which serve the purpose of assessing the progress and preparedness of each student. Final / summative assessments are organized by the relevant qualification awarding bodies at the end of the certificate program. You shall be required to be declared “Competent” in

	the summative assessment to attain the certificate.
21. Does this certificate enable me to work as freelancer?	You can start your small business of computerized pattern designing. You may need additional skills on entrepreneurship to support your initiative.

Test Yourself (Short & Multiple Choice Questions)

For Module 7:

1	Which instrument is used to measure sheet metal thickness a) Measuring tape b) SWG c) Vernier Calipers d) Micrometer	
2	Tachometer is used for measuring a) Electric current b) Electric resistance c) Rotational speed d) Frequency	
3	Dielectric tester is used for a) Measuring current b) Measuring power c) Measuring insulation d) Measuring inductance	
4	Mili ohm meter is used to check a) Low resistance of connecting wires b) Short circuit c) Power loss d) conductivity	
5	Load of electric fan motor is measured in a) Ampere b) Kilo Watt hour c) Ohm d) Hertz	

6	What is forced ventilation?	
7	Describe hazardous materials?	
8	What is ISO?	
9	What is mean by sheet metal gauge?	
10	Why good housekeeping is important of workplace?	
11	Chemicals are store in well ventilated place a) True b) False	
12	Our national standard system is called ISO Standard a) True b) False	
13	What is quality Control?	
14	What is quality Assurance?	

For Module 8:

1	What is batch production?	
2	What is process travel chart?	
3	Why analysis of data is important?	
4	What is lead time in manufacturing?	
5	What are different types of maintenance philosophies?	
6	To ensure the availability of tools and equipment is the responsibility of the supervisor a) True b) False	
7	A supervisor knows about material ……. and their quality	
8	Production report is necessary for ……... a) Better quality control b) Good housekeeping c) For fire emergency plan d) For Health and safety awareness	
9	Preparing machine wise production schedule is needed for a) In time delivery b) For data entry c) For good work atmosphere d) For workforce satisfaction	
10	Requisition form is used a) To dispose of material b) To demand a material c) To deliver a material d) To inspect a material	
11	Mass production means	

	a) Producing small number of units of any product b) Producing medium number of units of any product c) Producing customized product d) Producing large quantities of a standardized product	
12	Microsoft …… is used for compiling reports a) Word b) Excel c) PowerPoint d) Access	

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