Business/Technical Writing Skills Training Course

Workshop

PARTICIPANT MANUAL

PREFACE

KEY LEARNING PRINCIPLES

Before we begin this training course it is important we keep in mind some important concepts about adult learning. These points will help us all learn more and will contribute to a better sharing of the knowledge contained in this training course.

The first concept to remember is that learning is a process. From this we need to understand that learning does not happen in isolation e.g., at today's training event or at first reading of this material. Instead it involves how you as the learner relate and even adapt this learning to your work and home environments. Once we recognize that learning is a process we can then apply everything learnt to whatever situation is at hand.

The second concept to be aware of is that we all learn in different ways or possess different styles of learning. Although this may seem like an obvious point, it has many important implications for the session today. As the training progresses the trainer will ask 'is everything OK so far' or 'do you understand everything so far' and many may state that they are happy with the progress. However, it is quite likely that all participants may not be learning in the same way or at the same pace.

As a result don't be afraid to ask questions because what might be easy to some may be harder for others and vice-versa. It is also important to have patience if you feel the course is going to slow as it may actually be too fast for others. We all never know when we personally may need some extra time to understand things and will appreciate others support when this happens. What is important today is that everyone learns and hopefully meets their expectations from the course.

The third concept to recognize is that learning is improved when it is goal-directed. Research has consistently demonstrated that when clear goals are associated with learning that the learning occurs more easily and rapidly. To illustrate, people who learn to drive so that they can get to and from work generally find the experience easier and apply themselves to reach this end.

Fourth, active participation improves the learning process. Research has also shown that by actively participating in training events that it improves how learning is achieved and how long information is retained. As a result don't be afraid to get involved or to make a mistake. After all mistakes are some of the best examples of learning and creativity in the world.

Finally don't forget to be open to learning. No matter what you current knowledge and skill levels within this area it is essential that you are prepared to learn from the course

and the other participants. It is also very likely that you have knowledge and experiences that could benefit the other participants and even the trainer. Please share what you can as it will make the course more rewarding for all concerned.

Having introduced the main concepts of adult learning, it is now necessary to apply them to your own learning - both within your working environment and outside life. Research suggests that the best way to do this is to develop an action plan that clearly represents your goals and how you plan to achieve them.

At the end of this training you will be requested to complete a short action plan that will help you guide your ongoing achievement of your goals. Please note that this is included as a guide and you are free to add or substitute aspects to meet your own unique goals. You are also free to complete this plan after the course is over if you would prefer. Please remember that since all answers given are only for your use that it is advisable that you answer them as accurately and honestly as possible.
All we can do now is to wish you the best of luck with your learning and hope that you find this course beneficial.

'How To' Guide
Test Your Knowledge

Welcome to the Technical Report Writing Skills Training guide.

In an effort to stimulate what you already know about this study guide we have included a few short questions.

It is your choice whether you want to take the assignment or not and it has been designed to assist your learning in the training guide. All answers are for your own use only.

1. I believe that my technical report writing skills are effective in the following areas:

a.

b.

c.

d.

2. These skills are measurable in the following ways:

a.

b.

c.

d.

Note: Be sure goals are specific, attainable and measurable.

3. I believe that I need to improve my knowledge, skills and abilities in the following areas:

a.

b.

c.

d.

'How To' Guide
Learning Objectives

Effective business/technical report writing skills drive all successful organizations. In this workshop you will learn key technical report writing skills that you can adopt in your organization to deliver endless results.

When you have completed this workshop you will be able to define the key concepts associated with Technical Report Writing Skills and you will be able to:

- Identify the main obstacles to effective Technical Report Writing and how to avoid them.

- Understand the nature of Technical Report Writing from the perspective of the writer and the reader.

- Understand a range of tools and techniques for Technical Report Writing

- Use these techniques to build an effective process that can be used to deliver professional results on a consistent basis from Technical Report Writing activity.

- Explain the benefits of having an effective Technical Report Writing process in the organization.

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Section 1

Session 1 – Technical Reports in the Organization

In all organizations technical reports may be required for a number of reasons such as:

- Detailing activities and results associated with investigating a customer complaint

- Proving that a particular process or product has been validated and meets specifications

- Providing reference material as part of a development project

On the whole the users of technical reports are personnel from within:

- The Department or Organization

- The Corporate Structure

- Customer Organizations

- Regulatory Organizations

The value of technical reports is that they provide:

- Reference materials that form part of the knowledge bank of the organization

- Documentary evidence of investigation or validation of products and processes

However, technical reports are only of value if they are:

- Based On Fact
- Accessible
- Accurate
- Complete
- Compiled By People Who Are Competent

Exercise

Why is it important that technical reports are compiled by people who are competent? Please explain your answer in detail.

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Total Quality in Technical Report Writing

When approaching technical reports it is essential to apply total quality principles to writing technical reports.

At it's simplest quality is conformance to requirements and

- The goal is to achieve zero defects

- The cost of quality is the expense of doing it wrong

- The motto is - 'do it right first time'

When designing a quality-driven approach to technical report writing four important principles need to be considered. These are:

- Quality
- Data & Information
- Information Uses
- Information Mapping

Quality

There are five quality levels associated with the technical report writing process:

- *Level 4: Managed and Sustainable*

   A robust process is in place and managed

- *Level 3: Organized and Repeatable*

   A sound process is in place and is being refined - training is on-going

- *Level 2: Rudimentary*

   A process is taking place but not always enforced

- *Level 1: Ad Hoc*

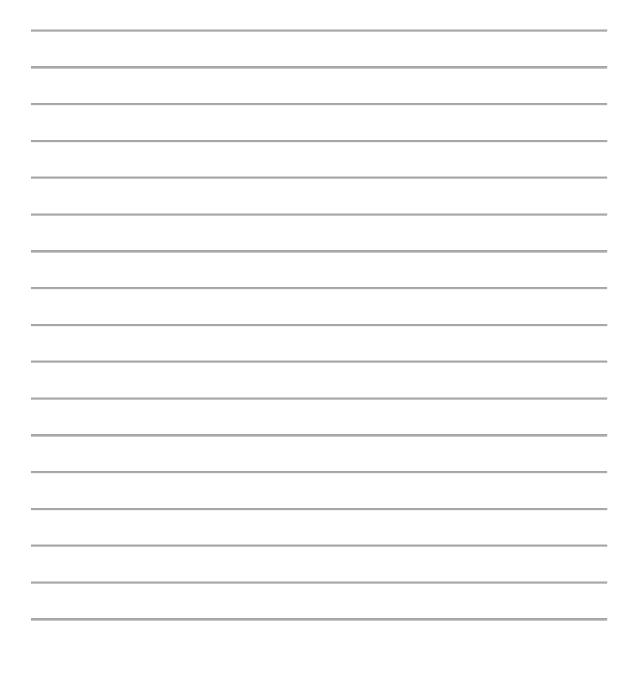   Little or no coordination of technical report writing
- *Level 0: Oblivious*

   Technical reports are written by whoever has time.

Exercise

Evaluate the quality level of the technical reports in your organization?

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Data and Information

The following principles need to consistently applied to all reports undertaken:

- Raw data must be gathered

- Raw data is essentially useless in a technical report

- Raw data has to be translated into information

The introduction of the term *translation* is important as it will in turn lead to:

- Increased Knowledge

- Increased Understanding

- Increased Usefulness

Information Uses

Within an organization information should be applied within three main areas:

- Planning Activities

- Monitoring Activities

- Controlling Activities

As a result you will need to be aware that information will flow between all three.

Exercise

What is the primary use for Technical Reports in your organization? Do they always fulfil their purpose?

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Information Mapping

Information mapping is designed to allow the information to be presented in its most useful format.

- *Analysis*

  Key areas - purpose, audience needs, information types

- *Organization*

  To create an overall structure based on results of the analysis

- *Presentation*

  To format the information to make it accessible to the intended audience (this may involve some translation)

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Section	Session 2 –
2	**Using The Written Medium**

The purpose of this session is to stimulate the way that you think about writing technical reports. To do this we will examine

- Advantages of the Written Medium

- Disadvantages of the Written Medium

- Regulatory Implications

- Common Problems

Advantages of the Written Medium

- The report can be checked and corrected before release

- The recipients can go through the report at their own pace

- It is permanent and traceable

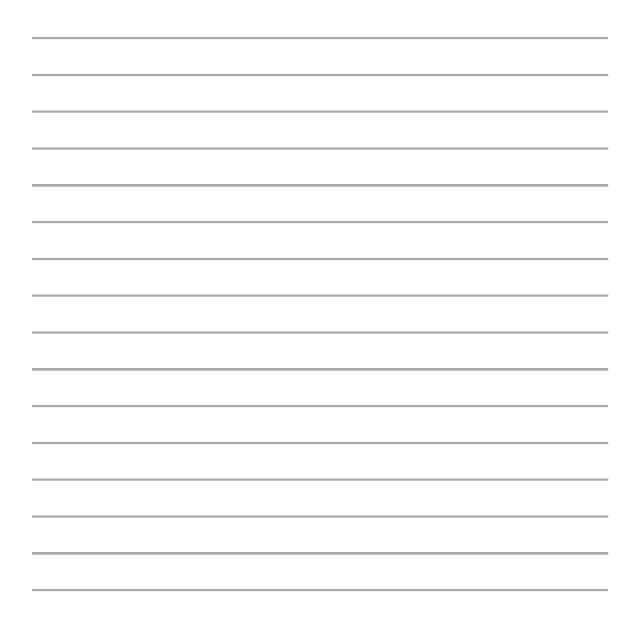- It allows the sender to avoid direct contact and remain clinical about the content

Disadvantages of the Written Medium

- It takes time to get the report right

- There is a requirement for a managed process

- It is permanent and traceable

- It may be bulky

- Not everyone reads it in its entirety

Exercise

List all the Technical Reports that are written in your organization. Critically assess the requirement for each one of them to justify the effort expended in generating them.

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Regulatory Implications

For heavily regulated industries such as Aerospace and Pharmaceuticals, written documentation forms the backbone of the audit process in:

- Quality assurance

- Quality control

- Production

- Research & development

- Logistics

- Purchasing

- Accounts

- Training

- Technical/Customer Support

The auditor when looking at technical reports or any other documents is checking for:

- Conformance

- Clarity

This is the primary reason why it is important to have a managed process for the generation of technical reports - especially in highly regulated industries such as aerospace and pharmaceuticals.

Common Problems With Technical Reports

Common problems are:

- Too long

- Too short

- Too much detail

- Not enough detail

- Poor presentation

- Incomplete

- Not required

- Poorly structured

- Inconsistent

- Poorly written

These common problems can be grouped into three main categories:

- Usability

- Functionality

- Clarity

It is important to recognize that all three are inter-related.

Exercise

Examine typical technical reports that you either write or read. Assess them against the list of problems and identify the main problems that affect reports in your organization

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Section

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Session 3 –
Preparing To Write

When preparing to write the following basic elements must be taken into account:

- Layout

- Information Sequencing

- Illustrations

- Simplicity of Expression

As with all forms of communication there is a need to plan. The following questions should be asked:

- Why is the report being written?

- What exactly is the report about?

- Who will read the report?

- Where will the report be used?

- When is the report required by?

These questions help the writer to plan the report writing and content in an organized manner.

The following issues must also be taken into account:

- Schedule
- Available information
- Any research or investigation requirements
- Complexity of the subject
- Resources available

Who and What

These questions provide the basic information as to the reasons for writing the report and what it has to address.

- Primary purpose - to provide information

- Secondary purpose - to do so in a way that enhances your organization

Clarity of purpose is crucial to the generation of a useful report.

The Who

By looking at this question, clarity is achieved in relation to:

- The intended audience

- Their knowledge and experience

- Their priorities

- Their preferences

- The writers role in relation to the readers

- The content must be formatted so as to cover each of these issues
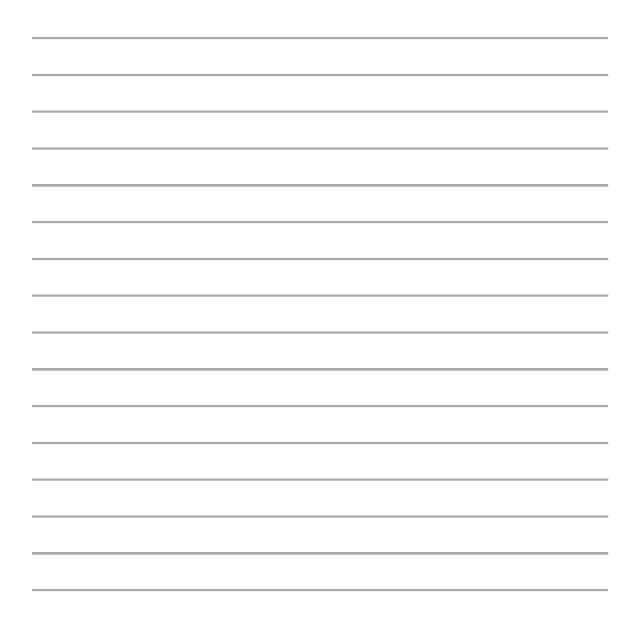
The What

There are several sub-sections to this question:

- What is the main subject?
- What is the primary purpose of the report?
- What information is required for the report?
- What level of detail needs to be included?
- What are the main points?
- What is the most logical sequence?
- What is the most effective structure?

Exercise

How much time and effort do you spend on planning how to write a technical report? What improvements could be made to the planning process and what would be the benefit of these improvements?

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Structuring The Report

Structure is about organizing the report so that it is easy to follow:

- Main Level Points

- Second Level Points

- Third Level Points

The level of detail increases as the structure moves down through the various levels. An effective report meets the following criteria:

- Well organized

- Well presented

- Complete

- Focused

Layout

The layout emerges from the structure and is essentially the outline that guides the writer using the following identifiers:

- Basic structure

- Headers and footers

- Headings and sub-headings

- Paragraph numbers

- Dummy tables and numbers

- Dummy illustrations and numbers

In terms of the main building blocks of the report, the Introduction, Body and Conclusion; the order of appearance has several options

- Introduction, Body, Conclusion

- Introduction, Conclusion, Body

- Conclusion, Introduction, Body

The format chosen may depend on the preference of the intended audience.

Layout is what the reader will notice first, so attention must be paid to:

- Font

- Spacing

- Margins

- Headings and Sub headings

- Numbering

The writer must ensure that the document is easy to navigate through.

Centre for Enterprise Sustainability

Exercise

For a typical report, assess the navigability. What makes it difficult to navigate through the document and what makes it easy? Suggest some improvements that you will make.

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Style and Tone

The **LEAVES** method can assist here by assessing the report against the following criteria:

- **L**ogical

- **E**asy to use

- **A**ccurate information

- **V**alue to the reader

- **E**fficient use of language

- **S**tandardized style

The best reports follow the ABC guideline

- **A**ccurate - the report is factual and objective

- **B**rief - the report is short without leaving anything out

- **C**lear - the report is understandable, complete and to the point

The tone of the report must be professional so the writer needs to check for

- Over Familiarity

- Abruptness

- Lack of Professionalism

Section	# Session 4 – Guidelines
4	

In this section we will examine some important guidelines that will shape how you think about technical reports. As you are introduced to each guideline you will have time to understand the concept with specific reference to the ways technical reports are handled within your organization.

Write to Express Not To Impress!

Where possible avoid redundancies, where a second word repeats an idea that is already contained in the first word

- A new innovation   -- an innovation

- Very unique -- unique

- Uniformly homogeneous   -- homogeneous

Jargon

Jargon is not acceptable if

- A more familiar term can be used

- The jargon obscures rather than clarifies the intended meaning

If jargon is to be used, explain the meaning after the first appearance and then continue.

Do not make assumptions regarding your audience's familiarity with jargon.

Exercise

How much jargon is contained in your reports? Prepare a jargon buster for use with reports to explain the jargon used.

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Be Specific

When writing a technical report <u>always remember</u> that the reader is interested in detail so be specific.

A tall dryer	-	A 10 metre dryer
Plant	-	Oil refinery
Unit	-	Evaporator system
High Performance	-	98% efficiency

By using general terms, assumptions are being made on the technical ability of the reader.

Not being specific will reduce the effectiveness of the report.

Plain English

Being overly wordy clutters the document - use plain and clear English where possible:

At this point in time	--	Now
With reference to	--	About
In order to	--	To
Due to the fact that	--	Because

Keep the English simple to reduce both the writing and the reading time. Single words can also block the use of plain English:

Implemented	--	Done
Initiate	--	Start
Anticipate	--	Expect
Accomplish	--	Do
Modification	--	Change

Again controlling this has an advantage for the reader and the writer.

Conciseness

Writing concisely has the following benefits

- Faster to write

- Faster to read

- Faster to review

- Clarity

- Less bulky

- Maintains interest of the reader

Double Meanings

Terms or words with double meanings can confuse the reader thereby reducing the effectiveness of the report, an example would be to use the word yield:

Yield

- To a chemical engineer this is the amount that can be expected as the output from a process

To a non-technical person, it means to stop.

'How To' Guide

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The Active Voice

When constructing a sentence it is better to attribute the activity to a person or thing as this helps to focus the sentence and present it in a better context.

The safety rules were enforced by the supervisor

becomes

The supervisor enforced the safety rules

Active Verbs

Verbs give life to the document and will elicit a response from the reader. For example

It is our view that productivity targets be increased by 10% in the production department

using the active form this becomes

The production department should increase productivity targets by 10%.

Using Numbers

Some guidelines are applicable here:

- Use numerals for 10 and above

- For numbers of less than 10, spell them out unless they have a unit associated with them

- Use numerals for coordinates in a table or graph

- Use numerals to indicate the time of day

Abbreviations
In a technical, environment, there are usually many abbreviations used in everyday communication.
- cm centimetre
- km kilometre
- kg   kilogramme
- MB megabytes

Use the defined abbreviations for the unit to maintain standardization.

Acronyms

As with abbreviations, the technical environment is awash with acronyms.

- QC Quality Control

- IT   Information Technology

- HR Human resources

- QA Quality Assurance

- ASAP   As soon as possible

- IPC In process checks

- ppmParts per million

Standardization of the acronyms used throughout an organization is recommended.

Exercise

Collect and define all the acronyms and abbreviations used in your organization. Develop a glossary of the terms used.

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Graphics

Graphics are used to

- Draw attention

- Re-enforce a message

Graphics need to be planned so they can be:

- Clear

- Understandable

- Required

- Referenced

Tables

Tables may contain a lot of information and as such they need to meet the following criteria:

- The table must be essential

- Contents must be legible

- Rows and columns must be labelled correctly

- The table must be numbered

- The table must be referred to in the text

- Units must be stated where appropriate

Exercise

Critically examine the use of graphs and tables in your reports. What suggestions for improvement could you make and implement

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Spelling

In a report good spelling goes unnoticed but poor spelling is immediately apparent. Poor spelling detracts from the overall professionalism of the report. Spell checkers may not always pick up a wrongly spelt word when the new word created is a real word.

Make sure to print and read your report to ensure that all spellings are correct.

'How To' Guide

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Section 5

Session 5 – Writing & Editing The Report

Having established who the report is directed to and what the content of the report will be it is now necessary to start writing and editing the report.

Layout Of The Report

The following steps will help you shape the layout of your report:

1. Lay out the document in terms of the headings and sub-headings

2. Select out the paragraphs

3. Write the paragraphs in the order that is easiest for you.

4. Aim to get the first draft completed as quickly as you can.

5. Use the simple three step SPP procedure

SPP Procedure

Spit
When you begin to write, just spit it out onto the page

Prune
Take a red pen to the draft and slash out all unnecessary words and phrases.
Rewrite any awkward passages to make them smoother

Polish
Polish the draft by checking all technical information, tables, graphics, spelling, grammar and numbering

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Drafting the Report

At this point it is important to

Get into the flow

- Try to minimize interruptions and start with the easiest sections to write

Don't get bogged down in detail

- This is a draft, detail can be inserted later

Edit when you have finished not as you go along.

- Get the draft completed, and then edit the full document

Editing the Report

- Editing The Report

    o Content

    o Clarity & Brevity

    o Style & Tone

    o Paragraph Structure

Reviewing The Report

The amount of time to be spent editing the document will be dependent on:

- The importance of the document

- The importance of the audience

- The time available for editing

Take a structured approach to editing the report and move it from the rough draft to the final professional version.

Some guidelines on editing are presented below

- Try not to edit immediately - leave the draft and come back with a fresh perspective.

- Be really critical on the first draft

- List any errors so you can learn from them.

- Read to see if it sounds right

Remember if it doesn't make sense to you, it won't make sense to anyone else either!

Editing: Content

When editing the content, check that:

- The purpose is clear

- All main points have been covered

- Sufficient information has been provided

- Adequate detail has been included

- The original intention has been fulfilled

Editing: Brevity & Clarity

When editing for brevity and clarity, check that:

- All unnecessary words and phrases have been removed?

- Technical terms/jargon have been explained?

- Are sentences of a manageable length?

- Has the active voice been used?

- Are there any unnecessary tables or graphs?

Editing: Style & Tone

When editing for style and tone check for:

- Professional tone

- Professional presentation

- Style appropriate to the message

- Tact & discretion used

Editing: Paragraph Structure

When editing the paragraph structure check for:

- One paragraph - one topic?

- Subject of each paragraph is clear?

- Paragraphs not overly bulky

- Lengths of paragraphs varied to assist reading

Final Editing

Aim - to achieve a final report that is professional, user friendly, accurate and useful.

- Assume the role of the reader and look at the document from that viewpoint.

- Check for accuracy

- Check for spelling, punctuation and grammar

- Let the document go when editing is complete

Exercise

Devise a checklist for editing your documents. How might using such a checklist improve the quality of the documents?

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Reviewing the Report

There are several types of reviewers who may be involved in the generation of a report.

- Project reviewers

- Peer reviewers

- Customer reviewers

These may give the report a

1. Formal review

2. Informal review

3. Final review

Reviewing to be effective must be undertaken using a standard.

- Informal reviews may be least useful as they are not always taken seriously

- Final reviews may be frustrated if the earlier reviews have not been standardized

- Formal reviews if undertaken by reviewers who have a heavy review workload may be rushed and therefore not effective

It is possible to assist the review process by:

- Stating the date when you want the report back from the reviewer

- Highlighting any sections where the reviewer should pay particular attention

- Noting any missing/incomplete information

- Agreeing a date for a meeting/walk through session on the document with the reviewer

Summary

The required outcome of all technical report writing is a professional and useful report. To consistently achieve this outcome:

- Planning is the essential first step of the report writing process

- Use standard conventions for abbreviations, acronyms and jargon as used in your organization

- Pay attention to structure and layout so that the reader can easily navigate through the report

- Use plain and concise English with correct spelling

- Edit and review before releasing the report

- Actively seek feedback and learn from your mistakes

Exercise

Outline the key learning points from this workshop that you will implement when you write technical reports. What time frame will be used for the implementation and what improvements will be gained?

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'How To' Guide
Test Your Knowledge

Congratulations on completing the Technical Report Writing Skills Training workshop.

To help you assess what you have learnt from this study guide please complete the following short assignment.

This assignment has been designed to assist your learning and answers are for your own use only. It is your choice whether you want to take the assignment or not, or if you would like to review the material as you find the answers for the questions. What is important is that you are comfortable with the knowledge that you have gained from the training course.

1. List three reasons why technical reports are important within organizations?

2. What is the value of technical reports?

3. What quality principles should always be applied to writing technical reports?

4. What are the five levels associated with the technical report writing process?

5. Translation of data and information leads to … ? Please give as many answers as you can think of.

6. What is information mapping used for?

7. What are the advantages of written reports?

8. What are the disadvantages of written reports?

9. List common problems associated with technical reports?

10. What elements must you consider before you start to write?

11. What does LEAVES stand for?

12. What is the ABC guideline?

13. When is jargon unacceptable?

14. What should graphics be used for?

15. Explain the SPP guideline?

16. What should you check when editing *style* and *tone*?

17. List <u>three</u> types of reviewers?