

**2.1 COMMUNICATING EFFECTIVELY IN ENGLISH  
II SEMESTER SYLLABUS**

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3 - 2

**RATIONALE**

Interpersonal communication is a natural and necessary part of organizational life. Yet communicating effectively can be challenging because of our inherent nature to assume, overreact to and misperceive what actually is happening. Poor or lack of communication is often cited as the cause of conflict and poor teamwork. In today's team-oriented workplace, managing communication and developing strategies for creating shared meaning are crucial to achieving results and creating successful organizations. The goal of the *Communicating Effectively in English* course is to produce civic-minded, competent communicators. To that end, students must demonstrate oral as well as written communication proficiency. These include organizational and interpersonal communication, public address and performance.

**II SEMESTER 48 hrs**

**1. LISTENING COMPREHENSION 4hrs**

- 1.1 Locating Main Ideas in a Listening Excerpt
- 1.2 Note-taking

**2. ORAL COMMUNICATION SKILLS 14 hrs**

- 2.1 Offering-Responding to Offers
- 2.2 Requesting-Responding to Requests
- 2.3 Congratulating
- 2.4 Expressing Sympathy and Condolences
- 2.5 Expressing Disappointments
- 2.6 Asking Questions-Polite Responses
- 2.7 Apologizing,  
Forgiving
- 2.8 Complaining
- 2.9 Persuading
- 2.10 Warning
- 2.11 Asking for and Giving Information
- 2.12 Giving Instructions
- 2.13 Getting and Giving Permission
- 2.14 Asking For and Giving Opinions

**3. GRAMMAR AND USAGE** **10hrs**

- 3.1 Prepositions
- 3.2 Pronouns
- 3.3 Determiners
- 3.4 Conjunctions
- 3.5 Question and Question Tag
- 3.6 Tenses (Simple Present, Simple Past)

\*One chapter revising the topics discussed during the first semester. (Punctuation, Articles, Framing questions, Verbs, Word formation)

**4. WRITING SKILLS** **10hrs**

- 4.1 Writing Notice
- 4.2 Writing Circular
- 4.3 Writing a Memo
- 4.4 Agenda for a Meeting
- 4.5 Minutes of the Meeting
- 4.6 Telephonic Messages

\* Writing a paragraph will be a continuous exercise through out the session. (Writing will be based on verbal stimuli, tables and graphs.)

**5. READING SKILLS** **10hrs**

- 5.1 Vocabulary Enhancement
- 5.2 Techniques of reading: Skimming, Scanning, Intensive and Extensive Reading

**NOTE: The Reading Skills of the learners (along with vocabulary enhancement) will be through reading thematic articles/essays and/or stories.**

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## 2.2 IT TOOLS AND APPLICATIONS

### RATIONALE

The aim of this subject is to focus on detailed knowledge about computer organisation. It also familiarizes the student with various operating system i.e. DOS, Windows and Linux. In addition to this, the student will be made familiar with MS PowerPoint.

### DETAILED CONTENTS

**Note: Relevant theory instructions should be imparted along with the practicals in each topic.**

1. Computer Appreciation (6 hrs)

Characteristics of Computers, Input, Output, storage units, CPU, computer system, Binary number system, Binary to decimal conversion, Decimal to Binary Conversion, Binary Coded Decimal (BCD) Code, ASCII Code.

2. Computer Organisation (26 hrs)

2.1 Central Processing Unit

Control Unit, arithmetic Unit, Instruction Set, Register, Processor Speed

2.2 Memory

Main memory, Storage Evaluation, Criteria, Memory Organisation, capacity, RAM, Read only Memories, Secondary Storage Devices:- Magnetic Disks, Floppy and Hard Disks, Optical Disks CD- ROM, Mass Storage Devices.

2.3 Input Devices

Keyboard, Mouse, trackball, joystick, Scanner, OMR, Bar-code reader, MICR, Digitiser, Card Reader, Voice Recognition, web cam, video camers.

2.4 Output Devices

Monitors, Printers-Dot Matrix, Inkjet, Laser, Plotters, Computer Output Micro- Film (COM), Multimedia Projector, speech synthesiser; dumb, smart and intelligent terminal.

2.5 Multimedia:

What is Multimedia, Text, Graphics, Animation, Audio, Images, Video; Multimedia Application in Education, Entertainment, Marketing.

2.6 Computer Software Relationship between Hardware and software; System Software, Application Software, compiler Names of some high level languages, Free domain software.

## 2.7 Information Technology and Society Applications of Information in Railways, Airlines, Banking, Insurance, Inventory Control, Financial systems, Hotel management, Education, Video games, Telephones exchanges, Mobile phones

Note: The underlying concepts may be illustrated using MS Office package.

### **LIST OF PRACTICALS**

#### 1. Operating System

1.1 Disk Operating system Executing simple DOS Commands, Simple file operations, Directory related commands.

1.2 Microsoft indows Performing file management through windows. Using essential accessories: System tool-Disk cleanup, Disk defragmenter, Entertainment, Games, calculator, Imaging-Fax, Notepad, Paint and WordPad.

1.3 Presentation Package Creating, Opening and saving Presentations, Creating, the Look of Your Presentation, Working in Different Views, Working with Slides Adding and Formatting Text, Formatting Paragraphs, Checking Spelling and Correcting typing Mistakes, Making Notes Pages and Handouts, Drawing and Working with Objects, Adding Clip Art and other Pictures, Designing Slide Shows, Running and Controlling a Slide Show, Printing Presentations.

Note: The underlying concepts may be illustrated using MS Office package. The underlying concepts and theory may be taught along with the practicals.

### **RECOMMENDED BOOKS**

#### **MAIN READING**

1. P.K. Sinha and P. Sinha, "Foundations of Computing" First Edition, 2002, BPB Publication.
2. S. Sgman, "Microsoft Office 2000 for Windows," Second Indian Print, 2001, Perason Education

#### **SUPPLEMENTARY READING**

1. Turban, Mclean and Webherbe, "Information Technology and Management," Second Edition, 2001 Wiley & Sons.

## 2.3 DATA PROCESSING

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### RATIONALE

Computer is used in the offices for typing letters, bills, invoices, forms, notices, reports, statements and other written forms of communication. The students of this programme must have the necessary skills to operate the key-board of computer, which is having similar key positions that of manual type writer. The proficiency in typing will enable the students to perform in the written communication necessary for modern offices, efficiently and effectively. Through the series of courses in typing, data processing and computer applications in modern office, the necessary skills shall be developed in the students of this diploma programme.

### DETAILED CONTENTS Note

The student will practice on the computer.

1. Development of speed to attain accurate speed of 30 wpm.
2. Display of different types of business letters (indented, semi-blocked and fully blocked letters)
3. Typing from a manuscript.
4. Typing practice using different fonts on computer.

### Attainment

30 WPM speed test and – business letters

### RECOMMENDED BOOKS A.

#### For Practicals

1. Typewriting Made Easy for beginners (Book-I) by OP Kuthiala : Pitman Publications
2. Typewriting Speed and Accuracy ( Book-II) by OP Kuthiala: Pitman Publications
3. Commercial Typewriting by Welmslay

#### B. For Theory

1. A Hand Book or Type Writing – Government of India Publications
2. English Typewriting Instructor by Dr GD Bist: Published by Short hand House
3. Typewriting Theory and Practice by R C Bhatia; Stering Publishers Pvt Ltd.

## 2.4 PERSONALITY AND HUMAN RESOURCE DEVELOPMENT

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### RATIONALE

Organizational growth and success are a direct result of utilization of individual's talent and mobilization of group efforts. Every individual is different in his or her own characteristics that are unique to the person. An individual needs to constantly improve his/her knowledge, skills and attitudes.

The Study and practice of personality development and human relation development approach will help an individual to understand himself/herself and develop all round personality to give optimum results in conjunction with his/her environment. Their commitment, motivation level and enthusiasm for excelling in work will thus be aroused and the students will develop sensitivity to their own strengths and weaknesses. They will experience and gain insight into the process of self development, team building and utilizing individual strengths through improved human relations. The course will also benefit the students through identification of their own behaviour and learn to modify, when necessary, for self and organizational growth.

### DETAILED CONTENTS

- |       |   |          |
|-------|---|----------|
| 1.    | Understanding Personality                                   | (15 hrs. |
|       | 1.1 Meaning of personality                                  |          |
|       | 1.2 Various stages of personality development               |          |
|       | 1.3 Major determinants of personality                       |          |
|       | 1.4 Improvement of personality                              |          |
| 2.    | Group Behaviour   | (15 hrs. |
|       | 2.1 Meaning and importance of group                         |          |
|       | 2.2 Types of groups   |          |
|       | 2.3 Inter and intra group conflicts and resolving conflicts |          |
|       | 2.4 Group Dynamics  |          |
| 3.    | Transactional Analysis                                      | (20 hrs. |
|       | 1.1 Interpersonal Behaviour                                 |          |
|       | 1.2 Basic life positions and life scripts                   |          |
|       | 1.3 Analysis of ego states                                  |          |
|       | 1.4 Benefits of Transactional Analysis                      |          |
| 4.    | Human Relations   | (10      |
| hrs.) |   |          |
|       | 4.1 Meaning and Importance of human relations               |          |
|       | 4.2 Tools and Techniques for improving human relations      |          |



5. Organization, Culture and Climate (10 hrs.) Impact of organization culture and climates in improving personal effectiveness.
6. Stress Management (10 hrs.)
  - 6.1 Meaning of stress
  - 6.2 Causes of Stress
  - 6.3 Removing/overcoming stress

### **ASSIGNMENTS**

1. Discuss case studies and role play different interpersonal issues.
2. Extension lecture may be arranged from industry/field

### **RECOMMENDED BOOKS**

1. Management Development and Appraisal by Chakarborty; Macmillan
2. Organisational Development for Executive by Ramaswamy, Macmillan
3. Personal Management and Human Resources by C.S. Venkata, Ratnamer B., Srinivasan, Tata Mc Graw Hill
4. Human Relation and Organisation Behaviour by Dharam Vir Aggarwal, Deep and Deep Publication
5. Principles and Practice of Management by Sgymal Banerjee; Oxford and IBH
6. Organisational Behaviour by Fred Lutharas (2<sup>nd</sup> Edition) Chapter 14 (for Personality Development)

## 2.5 BOOK-KEEPING AND ACCOUNTANCY – II

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### RATIONALE

Diploma holders working in offices as Office Assistants or Private Secretaries has to deal with financial and banking transactions of the institute/industry/company/organization. This subject will provide sufficient knowledge and skill to the students related to accounting procedure.

### DETAILED CONTENT

**Note:** Tutorial Classes may be organized along with theoretical instructions.

- |    |                                     |          |
|----|-------------------------------------|----------|
| 1. | Bank Reconciliation Statement       | (10 hrs) |
| 2. | Depreciation                        | (18 hrs) |
|    | - Meaning and Definition            |          |
|    | - Necessity for Depreciation        |          |
|    | - Methods of Depreciation           |          |
|    | - Straight Line Method              |          |
|    | - Written Down Value Method.        |          |
| 3. | Final Accounts                      | (36 hrs) |
|    | - Trading Account                   |          |
|    | - Profit and Cost account           |          |
|    | - Balance Sheet (with adjustments)  |          |
| 4. | Errors and their Rectification      | (14 hrs) |
| 5. | Accounts from Incomplete Records    | (20 hrs) |
| 6. | Accounts of Non-Profit Organization | (30 hrs) |
|    | 6.1 Receipt and Payment A/C.        |          |
|    | 6.2 Income and Expenditure A/C.     |          |
|    | 6.3 Balance Sheet.                  |          |

**Assignment: (Tutorial exercises on following should be taken up )**

1. Bank Reconciliation Statement
2. Depreciation: Straight Line Method, Written Down Value Method

3. Final Accounts and Adjustments
4. Errors and their Rectification
5. Statement of Affairs, Accounting from Incomplete Records
6. Non-Profit Organisations

**Note:** Students must be exposed to popular accounting software like Tally, Ex, Easy etc.

### **RECOMMENDED BOOKS**

1. Introduction to Accountancy by Grewal, T.S; Sultan Chand & Sons, New Delhi.
2. Advanced Accounts (Complete) by Shukla, M.C.; Sultan Chand and Sons, New Delhi.
3. Elements of Book-keeping by Juneja, C.M. and Saksena, R.K.; Kalyani Publications.
4. Accountancy – Theory and Practice by Juneja, C.M. and Saksena, R.K.; Kalyani Publications.
5. Accountancy by Jain, S.P. and Narang, K.L.; Kalyani Publications
6. Principles of Management Accounting by Man Mohan and Dr. Goyal; Sahitya Bhawan Publications.
7. Principles and Practice of Book-keeping by Patil, V.A. and Kortahalli, J.S.: Sultan Chand & Sons, New Delhi.
8. Book-keeping and Accountancy by Gupta and Sharma; Dhanpat Rai and Sons.
9. Fundamentals of Accountancy for 10+1 by H.S. Punia and V.P. Sharma, Unistar Books Private Ltd., Chandigarh

## 2.6 OFFICE MANAGEMENT

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### RATIONALE

One of the main objective of the diploma programme in Office Management and Computer Application is to make the students understand the concepts and principles of office methods and procedures and develop skills in performing various office operations. This subject on office management aims at making the students well conversant with the services provided by a modern office and help them to perform efficiently and effectively.

### DETAILED CONTENTS

- |           |  |                 |
|-----------|--|-----------------|
| <b>1.</b> | <b>Introduction</b>  | <b>(6 hrs)</b>  |
|           | 1.1 Meaning of Office  |                 |
|           | 1.2 Importance   |                 |
|           | 1.3 Functions  |                 |
|           | 1.4 Relation with other departments  |                 |
|           | 1.5 Centralization and decentralization of office service- their merits and demerits   |                 |
|           | 1.6 Allocation and distribution of work  |                 |
| <b>2.</b> | <b>Office Accommodation and Layout</b>   | <b>(6 hrs)</b>  |
|           | 2.1 Office location  |                 |
|           | 2.2 Office accommodation   |                 |
|           | 2.3 Office layout- objectives, principles and type   |                 |
| <b>3.</b> | <b>Office Environment</b>  | <b>(8 hrs)</b>  |
|           | 3.1 Significance of external surroundings and internal environment   |                 |
|           | 3.2 Working facilities – lighting arrangements, seating arrangement, recreational facilities, safety and sanitary arrangement, pollution control, etc. |                 |
| <b>4.</b> | <b>Handling Office Correspondence</b>  | <b>(26 hrs)</b> |
|           | 4.1 Incoming correspondence procedures   |                 |
|           | 4.2 Outgoing correspondence procedures   |                 |
|           | 4.3 Equipment, furniture and accessories required.   |                 |
|           | 4.4 Ordinary post, Registered post, Parcel, Registered Parcel, Speed post, Courier, Airmail and e-mail etc.  |                 |

5. **Office Records** (20 hrs)
- 5.1 Meaning and significance
  - 5.2 Essentials of a good filing system
  - 5.3 Classifications of files
  - 5.4 Traditional and modern filing methods and equipment
  - 5.5 Indexing- Meaning, importance and methods
6. **Office Forms** (14 hrs)
- 6.1 Meaning and significance
  - 6.2 Types of forms
  - 6.3 Form designing

### ASSIGNMENTS

1. Handling of mail- sorting, recording of inward mail and its distribution.  
Preparation of envelopes, use of stamps, folding machine, franking machine, record in dispatch book and open book, preparation of parcels.
2. Practice of filing and indexing – filing papers in the appropriate files, arranging files alphabetically, numerically, subject wise and geographically. Taking out a particular file from a filing cabinet.
3. Retrieving of paper/ documents/ records
4. Preparation of hand-book of all the equipment and material available in the department, helping the librarian in preparing cards for books. Displaying given information on strip index and card index.
5. Assembling papers, punching, use of tags and binding machine.
6. Peon book, receipt register, dispatch register, appointment diary, message book application.
7. Folded letters, addressed envelopes, stamped envelopes, use of staples, u-cip, all pins and other stationary/office materials used in offices.

### RECOMMENDED BOOKS

1. Office Management by P.K. Gupta.
2. Office Management by Ghosh and Agarwal.
3. Office Management by Gupta, Bansal, Jain, Malik.
4. Modern Office Management by Dr. I. M. Sahai.
5. Office Practice Made Simple by Geoffrey White Head.
6. Office Management and Practices by R.K. Sharma, Shashi Kr. Gupta, Sushil and Nayyer

## 2.7 GENERAL WORKSHOP PRACTICE - I & II

### RATIONAL

Manual abilities to handle engineering materials with hand tools need to be developed in the students. They will be using different types of tools/equipment in different shops for fabrication purposes. Besides developing the necessary skills, the students will appreciate the importance of quality and safety measures.

### DETAILED CONTENTS

- Note:**
1. The students are supposed to come in proper workshop dress prescribed by the institute. Wearing shoes in the workshop(s) is compulsory. Importance of safety and cleanliness, safety measures and upkeep of tools, equipment and environment in each of the following shops should be explained and practiced. The students should prepare sketches of various tools/jobs in their practical Notebook.
  2. The shops to be offered in I and II semester may be decided at polytechnic level
  3. The students should be taken to various shops (not included in the curriculum) in the polytechnic in batches and should be given knowledge of the various machines/equipment. Such as machine shop, foundry shop, sheet metal shop, etc.
  4. Students of Diploma in Chemical Engineering will undergo Shops 1 to 6 only

Following seven shops are being proposed:

- 1. Carpentry shop**
- 2. Fitting and plumbing shop**
- 3. Welding shop**
- 4. Paint shop**
- 5. Forging and sheet metal shop**
- 6. Electric shop**
- 7. Electronics Shop**

#### 1. Carpentry Shop

- 1.1 Introduction to various types of wood, carpentry tools - their identification with sketches. Different types of wood joints.
- 1.2 Simple operations viz. hand sawing, marking, planning
- 1.3 Introduction and sharpening of wood working tools and practice of proper adjustment of tools

- 1.4 Demonstration and use of wood working machines i.e. band saw, circular saw, rip saw, bow saw and trammels. Universal wood working machine and wood turning lathe
- 1.5 Making of various joints (Also draw the sketches of various wooden joints in the Practical Note Book)
  - a) Cross lap joint
  - b) T-lap joint
  - c) Corner lap joint
  - d) Mortise and tenon joint
  - e) Dovetail joint
  - f) Prepare a file handle or any utility items by wood turning lathe

## **2. Fitting and Plumbing Shop**

- 2.1. Introduction to fitting shop, common materials used in fitting shop, description and demonstration of various types of work-holding devices and surface plate, V-block
- 2.2 Demonstration and use of simple operation of hack-sawing, demonstration of various types of blades and their uses
- 2.3 Demonstrate and use of all important fitting shop tools with the help of neat sketches (files, punch, hammer, scraper, taps and dies etc.)
- 2.4 Introduction of chipping, demonstration on chipping and its applications.  
Demonstration and function of chipping tools.
- 2.5 Description, demonstration and practice of simple operation of hack saw, straight and angular cutting.
- 2.6 Demonstrations, description and use of various types of blades - their uses and method of fitting the blade.
- 2.7 Introduction and use of measuring tools used in fitting shop like: Try square, Steel rule, Measuring Tape, Outside micrometer, Vernier Caliper and Vernier Height Gauge
- 2.8 Description, demonstration and practice of thread cutting using taps and dies

- 2.9 Plumbing: Descriptions and drawing of various plumbing shop tools, Safety precautions. Introduction and demonstration of pipe dies, Pipe holding devices, Demonstration and practice of Pipe Fittings such as Sockets, Elbow, Tee, Reducer, Nipple, Union coupling, plug, Bend, Float valves and Taps

Job: Cutting and filing practice on a square of 45 X 45 mm<sup>2</sup> from MS flat

Job: Angular cutting practice of 45° (on the above job)

Job: Preparation of stud (to cut external threads) with the help of dies (mm or BSW)

Job: Drilling, counter drilling and internal thread cutting with Taps

Job: H-Fitting in Mild steel (ms) square

Job: Pipe cutting practice and thread cutting on GI Pipe with pipe dies

### 3. **Welding Shop**

- 3.1 Introduction to welding, type of welding, common materials that can be welded, introduction to gas welding equipment, types of flame, adjustment of flame, applications of gas welding. Welding tools and safety precautions

- 3.2 Introduction to electric arc welding (AC and DC), practice in setting current and voltage for striking proper arc, precautions while using electric arc welding. Applications of arc welding. Introduction to polarity and their use

- 3.3 Introduction to brazing process, filler material and fluxes; applications of brazing. Use of solder. Introduction of soldering materials

- 3.4 Demonstrate and use of the different tools used in the welding shop with sketches. Hand shield, helmet, clipping hammer, gloves, welding lead, connectors, apron, goggles etc.

- 3.5 Demonstration of welding defects and Various types of joints and end preparation

Job: Preparation of cap joint by arc welding

Job: Preparation of Tee joint by arc welding

Job: Preparation of single V or double V butt joint by using Electric arc welding

Job: Brazing Practice. Use of Speltor (on MS sheet pieces) Job: Gas welding practice on worn-out and broken parts



#### **4. Paint Shop**

Introduction of painting shop and necessity. Different types of paints. Introduction of powder coating plant and their uses.

Job: Preparation of surface before painting such as cleaning, sanding, putty, procedure and application of primer coat, and painting steel item.

Job: Painting practice by brush on MS sheet

Job: Practice of dip painting

Job: Practice of lettering: Name plates / Sign board

Job: Polishing and painting on wooden and metallic surfaces

Job: Practical demonstration of powder coating

#### **5. Forging and sheet metal shop**

Introduction to forging, forging tools, tongs, blowers/pressure blowers, hammers, chisels, punch, anvil, swag-block etc. Forging operations.

5.1 Forge a L hook or Ring from MS rod 6 mm  $\varphi$

5.2 Forge a chisel and give an idea of hardening and tempering

5.3 Lap joint with forge welding

5.4 High Strength Steel (HSS) tools – forging of Lathe shaper tools like side-tools and V-shape tools

5.5 Making sheet metal joints

5.6 Making sheet metal tray or a funnel or a computer chassis

5.7 Preparation of sheet metal jobs involving rolling, shearing, creasing, bending and cornering

5.8 Prepare a lap riveting joint of sheet metal pieces

#### **6. Electric Shop**

6.1 Demonstration of tools commonly used in Electric Shop

6.2 Safety precautions , electric shock treatment

6.3 Demonstration of Common Electric material like: wires, fuses, ceiling roses, battens, cleats and allied items

#### 6.4 Demonstration of Voltmeter, Ammeter, Multimeter and Energy meter

Job: Wiring practice in batten wiring, plastic casing-capping and conduit

Job: Control of one lamp by one switch Job: Control of one lamp by two switches Job: Control of one bell by one switch Job:

Assemble a Tube light

Job: Dismantle, study, find out fault, repair the fault, assemble and test domestic appliances like electric iron, electric mixer, ceiling and table fan, tube-light, water heater (geyser) and desert cooler

Job: Laying out of complete wiring of a house (Single-phase and Three- phase)

### 7. Electronics Shop

7.1 Identification, familiarization, demonstration and use of the following electronic instruments:

- a) Multi-meter digital
- b) Single beam simple CRO , function of every knob on the front panel
- c) Power supply , fixed voltage and variable voltage, single output as well as dual output.

7.2 Identification , familiarization and uses of commonly used tools; active and passive components; colour code and types of resistor and potentiometers

7.3 Cut, strip, join and insulate two lengths of wires/cables (repeat with different types of cables/ wires)

7.4 Demonstrate and practice the skill to remove components/wires by unsoldering

7.5 Cut, bend, tin component, leads, inserts. Solder components e.g. resistor, capacitor, diodes, transistors on a PCB

7.6 Wiring of a small circuit on a PCB/tag strip involving laying, sleeving and use of identifier tags

7.7 Demonstrate the joining (or connecting) methods/mounting and dismantling method, as well as uses of the items mentioned below:

- a) Various types of plugs, sockets, connectors suitable for general-purpose audio video use. Some of such connectors e.g. 2 and 3 pin mains plug and sockets, Banana plugs, sockets and

similar male and female connectors and terminal strips.

- b) Various types of switches such as: normal/miniature toggle, slide, push button piano key, rotary, SPST, SPDT, DPST, DPDT, band selector, multi-way Master Mains Switch.

7.8 Exposure to modern soldering and de-soldering processes (Field visits)

7.9 De-solder pump, remove and clean all the components and wires from a given equipment, a PCB or a tag strip.