

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

L T P  
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.**

## CONTENTS

Foreword	
Acknowledgements	
Preface	
Instructions to the Teacher	
Second Semester Syllabus	

### **Listening Skills**

Unit 1	The Ganga	17
Unit 2	Community Policing	19
Unit 3	Patiala Heritage	22
Unit 4	Rock Garden	24

### **Oral Communication Skills**

Unit 1	Offering and Responding to Offers	29
Unit 2	Requesting and Responding to Requests	34
Unit 3	Congratulating	38
Unit 4	Expressing Sympathy and Offering Condolences	41
Unit 5	Expressing Disappointment	44
Unit 6	Asking Questions and Giving Polite Responses	47
Unit 7	Apologising and Responding to an Apology	50
Unit 8	Making Complaints	53
Unit 9	Persuading	57
Unit 10	Warning	60
Unit 11	Asking for and Giving Information	63
Unit 12	Giving Instructions	68
Unit 13	Asking and Giving Permission	71
Unit 14	Asking for and Giving Opinions	75

**Reading Skills**

Unit 1	The Clever Lawyer	79
Unit 2	The Letter	87
Unit 3	My Boyhood Days	99
Unit 4	Dracula's Guest	106
Unit 5	Independence Day	131

**Writing Skills**

Unit 1	Notices	141
Unit 2	Circulars	151
Unit 3	Memos	157
Unit 4	Agenda for a Meeting	163
Unit 5	Minutes of the Meeting	168
Unit 6	Telephonic Messages	175
Unit 7	Integrated Practice	181

**Grammar and Usage**

## Review Unit

Unit 1	Prepositions	185
Unit 2	Pronouns	191
Unit 3	Determiners	199
Unit 4	Conjunctions	204
Unit 5	Question and Question Tags	213
Unit 6	Tenses: Simple Present and Simple Past	217

Annexure I:	List of New Lexical Items and Expressions	230
-------------	---	-----

Annexure II:	Sample Paper 1	246
--------------	----------------	-----

Annexure III:	Text of Listening Skills Section	252
---------------	----------------------------------	-----

## 2.2 LIBRARY AND SOCIETY-II

L T P  
3 - 2

### RATIONALE

After completing the course the student should be able to understand the role of library in the society, role of various types of libraries and information centres in collection, organization and dissemination of information. To help the students to understand the role of information centres and libraries in society this subject is introduced in the curriculum.

### DETAILED UCONTENTS

1. National organizations: CSIR, NASSDOC - their aims, objectives, and activities. (8 hrs)
2. Library and documentation activities of important Indian libraries: National Library; National Science Library (10 hrs)
3. Role of professional International and National bodies in the development of library and information service like: IFLA, UNESCO; ILA (10 hrs)
4. Role of National Information Organization like: NISCAIR, DESIDOC (10 hrs)
5. Marketing of library services and products: its role in promoting use of library; resource sharing (10 hrs)

### LIST OF PRACTICALS

1. Making charts, logos and cartoons.
2. Organizing quiz, slogan-writing, essay-competition on library related activities.
3. Visit to information/documentation centres and writing about them (report writing).
4. Visit to book publishing and printing houses/newspaper houses/Govt. press etc.

### RECOMMENDED BOOKS

1. Dutta, D.N, Libraries and their uses: A guide for users, Calcutta. The world
2. James Clarke Libraries and Society. London, 1969
3. Khanna, JK, Library and Society, Ess Ess Publishers, New Delhi, 1987

4. Ranganathan, SR, Five laws of Library Science, Bombay Asia, 1963
5. Saini, OP: Library and Society (Hindi) YK Publishers, 2001
6. Tripathi, SM; Library and Society (Hindi) YK Publishers
7. Sharma, SK Pushtkalaya Avam Samaj; Jain Publishers, Delhi
8. Tripathi SM, Library and Society, Five Laws of Library Science and Adult Education and their Role in Society (Hindi), YK Publishers, Agra, 1999.

## 2.3 REFERENCE AND INFORMATION SERVICES-II

L T P  
3 - 3

### RATIONALE

In the times to come libraries will not longer be engaged only in acquisition, organization and circulation of documents. They will be the centers for dissemination of information. In order to do so knowledge about sources of information, methods of retrieval and dissemination of information etc need to be given to the students. Hence this subject is introduced in the curriculum.

### DETAILED CONTENTS

- |    |  |          |
|----|--|----------|
| 1. | Information Sources (with examples)                | (8 hrs)  |
|    | <i>f</i> Primary                                   |          |
|    | <i>f</i> Secondary and                             |          |
|    | <i>f</i> Territory                                 |          |
| 2. | Information services                               | (10 hrs) |
|    | <i>f</i> Current Awareness Service                 |          |
|    | <i>f</i> Selective dissemination of information    |          |
| 3. | Indexing services with special reference to        | (10 hrs) |
|    | <i>f</i> Reader's Guide to Periodical Literature   |          |
|    | <i>f</i> Guide to Indian Periodical Literature     |          |
| 4. | Abstracting services, with special reference to    | (10 hrs) |
|    | <i>f</i> Indian Science Abstracts                  |          |
|    | <i>f</i> Library and Information Science Abstracts |          |
| 5. | Information Needs of users                         | (5 hrs)  |
| 6. | Compilation of Bibliography: Subject Bibliography  | (5 hrs)  |

### LIST OF PRACTICALS

Project related to preparation of CAS/SDI/Bibliographies

### RECOMMENDED BOOKS

1. Cheney, Frances Neel, Fundamental reference sources, Chicago ALA, 1971.
2. Foskett DJ, Information Service in Libraries, 2<sup>nd</sup> ed. London Crosby Lockwood, 1967.

3. Guha B, Documentation and its facets.
4. Krishan Kumar, Reference Service, New Delhi, Vikas Publishers, 1982
5. Kawatra PS, Fundamentals of Documentation, New Delhi; Sterling, 1980
6. Katz, William, Introduction to Reference Work, 7<sup>th</sup> Edition, 2 V, New York, McGraw Hill, 1982
7. Mukherjee AK, Reference Work and Its Tools, 2<sup>nd</sup> Ed., Calcutta, The World 1971
8. Ranganathan SR, Reference Work and Its Tools, 2<sup>nd</sup> Ed. Calcutta, The World, 1971
9. Shores Lovias, Basic Reference Sources, Chicago ALA, 1954
10. Winchell, Constance M, Guide to Reference Books 8<sup>th</sup> Edition, Chicago ALA, 1967
11. Tripathi, SM, Modern Bibliographical Control: Bibliography and Doc, YK Publishers, Agra, 1999



## 2.4 LIBRARY CLASSIFICATION - II

L T P  
3 - 3

### RATIONALE

The basic function of a library is to arrange books, periodicals and other reading materials in helpful sequence to facilitate easy retrieval. Classification is the devise by which helpful sequence is obtained. The knowledge of various types of classification and the methods of classifying book and non-book materials is therefore included in the curriculum through this subject.

### DETAILED CONTENTS

1. Classification Schemes – its types, importance and awareness of various types of classification schemes: D.D.C, C.C., U. D.C. (12 hrs)
2. Details study of Enumerative and Analytico – Synthetic Scheme of Classification, Awareness of other types of classification schemes (20 hrs)
3. Study and use of Tables 1-7 in DDC (latest edition) (16 hrs)

### LIST OF PRACTICALS

1. Books and Serial Publication: Twenty titles on each subject from Dewey Decimal Classification (simple cases only)
2. Use of Tables I to VII (simple case only) DDC theory titles for each table

### RECOMMENDED BOOKS

1. Balty, CD, Introduction to Colon Classification, Bombay, Asia, 1967.
2. Introduction to 21<sup>st</sup> ed. Dewey Decimal Classification, Bombay, Asia 1965.
3. Bhargava, GD and Sood SP, Colon Classification, Theory and Practice, Ujjain, Vijay Prakash, 1975.
4. Mills J, Modern outline of Library Classification, Bombay, Asia, 1962.
5. Parkhi, RS, Decimal classification and colon classification in perspective Bombay, Asia, 1964 VII, 526
6. Ranganathan SR, Colon Classification, 6<sup>th</sup> rev. ed. Bombay Asis, 1966.

7. Tripathi, SM and Shokeen NS; Fundamentals of Library Classification (Hindi) YK Publishers, Agra, 1999
8. Sharma, UC and Shokeen, NS, Colon Classification Practice (Hindi); YK Publishers Agra, 2003
9. Gautam JN and Niranjan Singh; Dewey Decimal Classification Practice (Hindi); YK Publisher, Agra 1998
10. Ranganathan SR, Elements of Library Classification, 3<sup>rd</sup> Ed. Bombay, Asia 1969
11. Krishan Kumar, Theory of Library Classification Ed. 2, 1981
12. Raju AAN, Decimal, Universal Decimal and Colon Classification, 1984
13. Srivastava AP, Theory of Knowledge Classification in Libraries, New Delhi Lakshmi, 1964
14. Dewey Decimal Classification (Latest ed)
15. Tripathi, SM , and others: Colon Classification Practice (Hindi), YK Publishers, Agra, 1999

## 2.5 LIBRARY CATALOGUING-II

L T P  
2 - 4

### RATIONALE

Along with classification, cataloguing is the most important techniques, which help quick retrieval of documents. A catalogue entry is the bridge between the users and the documents in library. Methods of cataloguing various types of book and serials by different cataloguing codes have therefore, to be taught in order to catalogue documents. Topics giving knowledge and skills of various types of catalogues, cataloguing codes and their practices have been included in the subject

### DETAILED CONTENTS

1. Chain procedure: How to derive sought subject headings (6 hrs)
2. Study of Rules for description choice and rendering of headings for main and added entries according to CCC. (26 hrs)
  - f* Simple Authorship
  - f* Joint Authorship
  - f* Collaborators
  - f* Pseudonym works

### LIST OF PRACTICALS

**Note:** According to CCC (Classified Catalogue Code-5<sup>th</sup> Edition)

1. Cataloguing of books by:
  - f* Single Author
  - f* Joint Author
  - f* Collaborators
  - f* Pseudonym works
2. At least five titles are to be given for each problem for which students are to be keeping a record

### RECOMMENDED BOOKS

1. CCC - 5<sup>th</sup> Edition by SR Rangnathan
2. Krishan Kumar and Girja Kumar; Cataloguing Practice, Vikas Publishers, New Delhi

3. Tripathi SM and Shokeen, NS; Fundamentals of Library cataloguing; YK Publishers, Agra, 1999
4. Shokeen NS, Gupta, DK, Sharma, Sanjiv and Vijender Singh; Cataloguing Practice: CCC and AACR-II (Hindi); YK Publishers Agra, 2000
5. ALA, Rules for Filling Catalogue Cards 2<sup>nd</sup> Ed. Chicago, 1974
6. Anglo – American Cataloguing Rules – 2, 1979 or latest edition
7. Girija Kumar and Krishan Kumar, Theory of Cataloguing 2<sup>nd</sup> Rev. Ed., New Delhi, Vikas, 1977
8. Ranganathan, SR; Theory of Library catalogue, 1938
9. Ranganathan, SR; Classified Catalogue Code, 5<sup>th</sup> Ed., Bombay Asia
10. Ranganathan, SR, Cataloguing Practice, Assistant by G Bhattacharya, New York, Asia, 1974
11. Vishwanathan, CG, Cataloguing: Theory and Practice 4<sup>th</sup> Ed., New Delhi; Today and Tomorrow, 1970

## 2.6 IT TOOLS AND APPLICATIONS

L T P  
- - 6

### 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

#### 1. Computer Appreciation.

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

##### 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.

## **LIST OF PRACTICALS**

### 1. Operating System

#### 1.1 Disk Operating system

Simple DOS Commands, Simple file operations, Directory related commands.

#### 1.2 Microsoft Windows

Performing file management through window. Using essential accessories: System tool-Disk cleanup, Disk defragmenter, Entertainment, Games, calculator, Imaging-Fax, Notepad, Paint and Wordpad.

### 2. 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.

### 3. 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, Information kiosks, special effects in Movies.

**Note:** The underlying concepts may be illustrated using MS Office package. The relevant theory/instructions 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.

## 2.7 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 dyes 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.