I.I SEMESTER SYLLABUS

COMMUNICATING EFFECTIVELY IN ENGLISH

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 communication 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.

Objectives of Course in Communicating Effectively in English for the First Year (I & II Semesters) are:

** Understanding how communication works*

** Gaining active listening and responding skills*

** Understanding the importance of body language*

** Acquiring different strategies of reading texts*

** Increasing confidence by providing opportunities for oral and written expressions*

DETAILED CONTENTS FOR FIRST SEMESTER

I SEMESTER 48 HRS

1. COMMUNICATION SKILLS 6 hrs

1.1 Verbal and Non-verbal Communication

1.2 Process of Communication

1.3 Barriers to Communication; Overcoming Strategies

1.4 Listening and Speaking Skills and Sub-Skills

2. Spoken English-Introduction, Features of Spoken English

(Note: This module is only for practice. This should not be included in the final examination)

2. DEVELOPING ORAL COMMUNICATION SKILLS 8 hrs

2.1 Greeting, Starting a Conversation

2.3 Introducing Oneself

2.4 Introducing Others

2.5 Leave Taking

2.6 Thanking, Wishing Well

2.7 Talking about Oneself

2.8 Talking about Likes and Dislikes

3. GRAMMAR AND USAGE 12 hrs

3.1 Punctuation

3.2 Articles-a, an, the

3.3 Framing Questions

3.4 Verbs-Classification: Main Verb, Auxiliary Verb, Transitive & Intransitive Verbs, Phrasal Verbs

3.5 Word Formation

4. WRITING SKILLS 10 hrs

4.1 Writing Paragraphs

4.2 Picture Composition

5. READING SKILLS 12 hrs

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.

Section I

Theoretical Concepts of Communication Skills

Section II

Oral Communication Skills

Section III Reading Skills

Section IV

Writing Skills

Section V

Grammar and Usage

1.2 DRAWING AND RENDERING - I

L T P
- - 4

RATIONALE

Diploma holders of textile design are required to draw various forms of objects from their surroundings and nature from design point of view e.g flowers, leaves, fruits, plants, monuments etc. The translation of ideas into practice without the use of this graphic language is really beyond imagination. The students are supposed to go for outdoor sketching, also to the museums, gardens and monuments so that they can use various shapes, colours and textures in their designs.

DETAILED CONTENTS

Related theory for Practical Exercises	Practical Exercises
1. Understanding of different shapes of objects, opaque and transparent objects, glazed and rough surface; objects and use of different mediums	1.1 Draw different shaped objects like round (pot, kettle, ball etc), square (match box, duster, big and small boxes) and do them in the following medium by pencil shading
2. Study of Drapery	2.1 Different folds of drapery may be studied with any back ground by pencil shading
3. Memory Drawing	3.1 Students may be asked to draw the above from memory

Note:

1. **Students should be taken out for field visits, museums, exhibitions, market, etc for clarifying the concepts and principles of this course as per requirement.**
2. **There will be only a practical paper in this subject. The knowledge attained by students regarding related theory for practical exercises will be evaluated in the form of viva-voce during practical examinations**.

RECOMMENDED BOOKS

1. How to draw and paint by A Walter foster; published by E.D. Galgotia and sons.

2. Flowers and still life by A Walter foster; published by E.D. Galgotia and sons.

3. How to draw and paint textures of animals by A Walter foster; published by E.D. Galgotia and sons.

1.3 BASIC DESIGN - I

L T P
- - 4

RATIONALE

Diploma holder of Textile Design are supposed to know the concepts of construction of designs in various styles by using various techniques according to the suitability of various kinds of fabrics on paper with colours. Students are given understanding of all elements and concepts of design through various exercises. They are also taught use of different tools and art-materials

DETAILED CONTENTS

Related theory for Practical	Practical Exercises
1. Basic elements of drawing and design; and understanding of principles of designs – Rhythm, balance, harmony, unity, emphasis, proportion, colour combination etc to form a good	1.1 Teacher will illustrate and discuss the basic concepts of drawing and design with the help of pictures, paintings, designs etc which help the students to create suitable and perfect designs according to requirement
2. Introduction to tools and art-material	2.1 Teacher will teach students to handle each instrument and various art-materials 2.2 Students will do simple exercises for handling T-square, set-square, scale, liner, compass liner, etc with black pencils of various numbers (HB, 2B,
3. Understanding of construction of designs by using basic elements of drawing i.e. `dot' and `line'	3.1 Students will make motifs by using various types of liner, horizontal, vertical, diagonal, zigzag, curve, spiral, etc in various styles – (thick, thin, dashed, dotted etc,) in the following mediums) a) Black pencils (HB, 2B, 4B, 6B) b) Cloured Inks (Sketch
4. Understanding of construction of designs by using basic geometrical shapes	4.1 Students will make motifs with the help of basic geometrical shapes – circle, square, triangle, rectangle, etc in the following mediums a) Coloured inks

Instructions for Practical Exercises	Practical Exercises
5. Construction of designs with various basic shapes to understand the concept of space organization	5.1 Students will make motifs of designs with various basic shapes (geometrical/free hand) in various small and big sizes in the following mediums a) Coloured papers/glazed papers b) Postal papers c) Black
6. Exploration and experiment with liner and compass liner	6.1 Students will make motifs directly using liner and compass liner only with medium coloured inks or postal
7. Understanding of 3-dimensional effects in design	7.1 Students will make motifs by using basic shapes with tonal effects in the following mediums a) Black pencils (HB, 2B,4B, 6B) b) Pencil colours/Postal colours
8. Understanding of Texture Effects	8.1 Students will make motifs by using various shapes with variations of texture effects in the following mediums: a) Black pencils (HB, 2B, 4B, 6B) b) Water colours/Postal

Note: Students should be taken for field visits, museums, exhibitions, market, etc for clarifying the concepts and principles of this course as per requirement. There will be only practical paper in this subject. The knowledge attained by students regarding related theory for practical exercises will be evaluated in the form of viva-voce during practical examinations.

RECOMMENDED BOOKS

1. The Encyclopaedia of Patterns and Motifs by Dorothy Bosomworth; Studio London

2. Designer's Guide to Colour 3 by Jeanne Alen; Chronicle Books, San Francisco

3. Fabric Painting by Jill Kennedy and Jane Varsall; BT Batsford Ltd., London

4. Designer's Guide to Japanese Patterns by Jeanne Allen; Chronicle Books, San Francisco

5. Handwoven Fabrics of India by Jasleen Dhamija and Jyotindra Jain; Mapin Publishing Pvt. Ltd., Ahmedabad

6. Impression - A Classic Collection of Textile Design by K Prakash; The Design Point, B-7, Shiv Krupa Apartments, Old Nagaradas Road, Andheri (E) Bombay 400 069 (India)

7. Textile Designs- Idea and Applications by Joel Sokoelov; PBC International, Inc., New York

8. History of Textile Design by VA Shenai; Sevak Publications, Bombay 400 031

9. Fabric Art Heritage of India by Sukla Dass; Abhinav Publications

10. Fabric Painting Made Easy by Nancy Ward; Craft Kaleidoscope, Chilton Book Company, Radnor, Pennsylvania

11. Watson's Textile Design and Colour by Z Grosicki; Universal Publishing Corporation, Bombay (India)

12. Textile Designs- 200 years of Patterns for Printed Fabrics Arranged by Motifs, Colours, Period and Design by Susan Maller and Joost Elffers; Thames and Hudson

13. English and American Textiles from 1790 to the Present by Mary Schoeser and Celia Rufey; Thames and Hudson

1.4 COLOUR AND TEXTURE - I

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RATIONALE

Diploma holders of Textile Design should know the basics of colour theory, to enhance the beauty of design. Colour plays a vital role in design. With various mediums like coloured inks, crayon, water colours and poster colours etc, they are taught to create colour mixing, colour combinations and texture, creating various tonal effects

DETAILED CONTENTS

PRACTICAL EXERCISES

1. Introduction and demonstration of Colour Theory

2. Rainbow Colours: Make a chart of VIBGYOR colours

3. Prepare Charts of classification of following colours

   i) Primary Colours: (red, yellow and blue) in various geometrical shapes ii) Secondary colours: Orange, green and violet in circles
   iii) Sub secondary tertiary colours: by mixing secondary and primary colours

4. Colour Wheel (chromatic circle): Make a wheel showing primary, secondary, sub secondary intermediate colours

5. Achromatic Colours: Make a composition of different geometrical shapes in 12”x12” and paint it with acromatic colours giving it as many colours as possible.

6. Monochromatic Colours: Make a composition of floral designs in different blocks using as many shades of monochromatic colours as possible

7. Polychromatic Colours: Make a composition of abstract designs and fill it with polychromatic colours

8. Analogous Colour: Make a floral design showing analogous colour scheme

9. Methods of Modification of colours: Students will produce various colours by mixing different colours in different ratios e.g. yellow + blue = green

Note: Mixing and developing of different colour shades may be shown on computer so that the students are able to appreciate the importance of the subject

RECOMMENDED BOOKS

1. Computer Colour-10,000 computer - Generated Process colours by Michael and Pat Rogondino; Angus and Robertson Publishers (Practical reference of colours Processed by Mixing)

2. Colour in Theory and Practice by HD Murray; Chapman and Hall Ltd., 37 Essex Street, WC 2, London 1952

3. An Introduction to Colour by Ralph M Evans; London Chapman and Hall Ltd.

4. Designer's Guide to Colour 1, 2, 3, 4, 5, 6 by Ikuyashi Shibukawa and Yum Takahashi; Chronicle Books, San Franscisco

5. Colour Harmony- A guide to Creative Colour Combinations by Hideaki Chijiiwa, Professor Musashino College of Art; India Book Distributors

6. Variety Fashion for Freedom by SA Huisain; Trends Today, Bombay, India

7. The 4 - Colour Person by Dr Max Luscher; Simon and Schuster

8. The Colour Handbook how to Use Colour in Commerce and Industry by EP Danger; Gower Publishing Company, Old Post Road, Brookfield Vermont 05036, USA

1.5 INTRODUCTION TO TEXTILE PROCESSES - I

L	T	P
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RATIONALE

The students of textile design are supposed to have introductory knowledge and skill related to various fibres, yarns and fabrics. Thus in this subject students learn different fibres, yarns and fabrics and their manufacturing techniques.

DETAILED CONTENTS

Theory	Practical Exercises
1. Definition of fibre, yarn, fabric, classification of textile fibres and physical and chemical identification of textile fibres (9	1.1 Physical and chemical identification of different types of fibres: cotton, wool, silk, nylon, acrylic, polyester,
2. Source and production of cotton, wool, jute silk fibres their end uses	
3. Cotton, wool, silk, Viscose rayon, nylon, polyester, acrylic polypropolene fibres; their uses and properties (12 hrs)	3.1 Qualitative and quantitative analysis of fibres and their blends
4. Grading of cotton and wool, staple fibre, filament and filament yarn	4.1 Study of fibre cross section of cotton, wool, nylone, polyester, silk
5. Definition of moisture content, moisture region, absolute humidity, relative humidity, their relationship, effects of moisture	

Note: The student may be exposed to different types of textile manufacturing processes through textile mill visit so that they are able to understand the subject properly.

RECOMMENDED BOOKS

1. Textile Fibre by Ghol and Valanslk
2. Yarn to Fabric by Peter Schwarz
3. Fibre to Fabric by BP Corbman
4. Textile Fibres and their processings by KP Hess
5. Elementary Textile By Parul Bhatnagar; Abhishek Publisher, Chandigarh

1.6 STRUCTURAL FABRIC DESIGN - I

L	T	P
3	-	4

RATIONALE

The students of textile design are supposed to have knowledge and skill regarding various weaves and their construction. Hence, in this subject, students will learn different weaves, their method of employment to acquire competency for production of woven designs for different end uses.

DETAILED CONTENTS

(THEORY)

1. Introduction to fabric structure, explanation of woven structures and other fabric structures for example knitted, non-woven, bonded and embroidery, crochet and needle work (8 hrs)

2. Definition of warp and weft, ends and picks, design, repeat of a design, crochet, needle work, draft, lifting or peg plan and denting order (7 hrs)

3. Types of drafts and their uses in the manufacture of various fabrics (5 hrs)

4. Construction of weaves on point or graph paper in relation of draft, design and peg plan (Mill visit) (7 hrs)

5. Construction of plain weave and its derivatives in the form of simple matt or hopsack and ribbed structure (6 hrs)

6. Varigated hopsack or matt weave designs with warp face, weft face and reversible effects. Ornamentation of plain weave by different methods (5 hrs)

7. Construction of Twill weaves and their derivatives (10 hrs)
   - 7.1 Regular twills
   - 7.2 Pointed twills
   - 7.3 Broken twills
   - 7.4 Combined twills
   - 7.5 Fancy twills

PRACTICAL EXERCISES

Following weaves to be constructed on Graph Paper

1. Construction of Plain weave
   - Rib weave - regular and irregular
   - Cord weave - regular and irregular
   - Hopsack weave

2. Construction of Twill weave

- Warp faced twill
- Weft faced twill
- Reversible twill

3. Preparation of samples of plain and twill weave

(a) Napkin

Theme combination of basic weaves
Method Hand loom
Placement checks or stripes
Colour scheme two colour for warp and two colour for weft

(b) Floor Weaving

Theme Durrie weave
Placement Geometrical design with the help of cup shuttle process at
Horizontal strips
Warp - grey yarn count 2/4
Weft - Cotton Jute, Coir, wool

4. Identification of fabrics structures regarding weaving, knitting crochet, embroidery, needle work etc.

5. Drafting and denting of warp for weaves studied in theory

Note: Concept of different weaves should be made clear with the help of samples and bobbin samples so that the students are able to identify different weaves in the fabric samples

RECOMMENDED BOOKS

1. Grammer of Textile Design – Nisbet

2. Structural Fabric Design by – Kilby

3. Woven Structures and Design – Doris Goerner; British Textile Technology Group
WIRA House, Leeds (UK)

4. Fibre to Fabric by Ghosh

5. Watson's Advance Textile Design

6. Watson's Textile Design and Colour

1.7 ART APPRECIATION IN INDIAN TRADITIONAL TEXTILE DESIGN - I

L	T	P
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RATIONALE

Diploma holders of textile design are supposed to know the historical backgrounds of Indian traditional textiles i.e. woven, printed and embroidered and their development of design, fabric uses and technical details. In practical, students learn to prepare replicas, for which they should visit art galleries and museums

DETAILED CONTENTS

Theory	Practical Exercises
1. Study of Indian embroidered textiles with reference to textiles with reference to - Historical significance - Construction techniques - Styles - Textures, colour and - Motifs - Centres of production a) Different Kashmir embroidery b) Panjabi Phulkari c) Himachal – Chamba Rumal d) Bihar and Bengal Suzni Kantha e) UP – Chikan Kari f) Orissa – Applique work g) Karnataka – Kasuti h) Guirat and Rajasthan – Block	1.1 Replication of designs (2 to 4 designs each) 1.2 Assignments to students on designs 1.3 Presentation of assignments 1.4 Any one or more styles of embroidery to be executed
2. Study of Woven textiles with reference to: - Historical significance - Construction techniques(Including raw materials) - Styles, colour and motifs - Centres of production (a) Shawls (b) Brocades – Banaras, south Indian, Baluchar, Pathani (c) Tangail – Jamdani	2.1 Replication of designs (2 to 4 designs each) 2.2 Assignments to students on designs 2.3 Presentation of assignments

Note: Students should be taken for field visits to various production centres to show the samples of the above mentioned textiles (embroidered, woven, printed and dyed) They may also be taken for field visits to various places like art galleries/ museums/religious places

Practically execute any one of the traditional designs in the contemporary form and prepare a file with replica or samples of the given topics

RECOMMENDED BOOKS

1. Folk Embroidery of Himachal Pradesh by Subhashini Aryan

2. Ikat Textile of India by Chetna Desai

3. Indian Painted Textiles by Kamla Dev Chattopadya

4. Carpets of India by Marq

5. Fabric Art heritage of India by Sukla Das

6. Hand Woven Fabric of India by Jasleen Dhamija

7. Indian Sari by Kamla Dev Chattapodya

8. Tie Dyed Textile of India by veronica Muarphy

9. Hand Woven Fabrics of India by Jasleen Dhamija

10. Traditional Indian Textiles by John Gillow

11. Textile Art of India by Kyoto Shoin

12. Hand Painting Textile For the Home by Kaszz Ball and Valcrie

13. Tie Dyed Textiles of India by Murphyd Crill

14. Masterpieces of Indian Textile by Rustam J Mehta

15. Kashmir Shawls by All India Handicrafts Board

16. Everything you ever wanted to know about Fabric Painting by Jill Kennedy and
Jane Vourell

17. Saries of India – RTZ and Singh

18. Saries of Madhya Pradesh

19. Embroidered Textiles of India, Calico Masam of India

20. Painted Textiles of India, Calico Masam of India

21. Printed Textiles of India, Calico Masam of India

22. Woven Textile of India. Calico Masam of India

23. Costumes and Textiles of India by Parul Bhatnagar; Abhishek Publisher, Chandigarh

1.8 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^2 from MS flat

Job: Angular cutting practice of 45^0 (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 φ

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 trey 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/wiresby 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.