Title of Skill Course: Power Supply Design and Maintenance Technician

1. Department: Department of Electronics

2. Paper Title: Power Supply Design and Maintenance Technician

3. Sector: Electronics

4. Year of implementation: 2022

Course Structure

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of Studentsin Batch
4	10	05	15	01	30

Syllabus

Course Objectives:

1. To Study the roles and responsibilities of Electronics technician.
2. To Study and understand the complications and troubleshooting associated with power supply and design efficient power supply for consumer product.

Theory Syllabus **Contact Hrs: 10**

Unit I: Role and Responsibility

Nature of working, work environment, relationships, Duties and responsibilities, Safety rules, accident prevention, regulations, environmental protection, Identify electrical hazards, work practice and information of precision tools.

Unit II: Technical Knowledge

Basics of Electrical and Electronics, Electronics kit, Identification and working of Electronic Components and Equipment, SMD component, different types of power supply, basic fault finding and troubleshooting.

Course Outcomes: after completion of the course, Student should be able to…

1. Understand the roles and responsibilities of an electronics technician
2. Troubleshoot and develop the power supply as per requirement of customer.

Reference Books:

1. R. S. Sedha, A Textbook of applied electronics, S. Chand Publication, 2009.
2. Milton Kaufman, Arthur H. Seidman, Handbook for Electronics Engineering Technicians, McGraw-Hill, 2011.

Practical:

1. Identification of Electronics Components and Equipment.
2. Study of Precision Tools.
3. Study of test and measurement equipment.
4. Design of 5V/9V/12V power supply.
5. Fault finding and repair different power supplies.

BOS Sub Committee:

Sr. No.	Name of Member	Designation	Address
1	Mr. G .R. Attar	Chairman	Assistant Professor, Department of Electronics, YCIS, Satara
2	Mr. S.D. Jadhav	Member	Assistant Professor, Department of Electronics YCIS, Satara,
3	Mr. P.R. Bagade	Academic Expert	Asst. Professor, Vivekanand College, Kolhapur (Autonomous)
4	Mr. N. M. Patil	Industrial Expert	Founder, Patil technologies, vita

Mobile Repairing and Software Installation Technician

Class: B.Sc. - I

DURATION: Six Months

Mr. G. R. Attar

Department of Electronics

1. Title: **Mobile Repairing and Software Installation Technician**

2. Year of implementation: 2020

3. Structure of Skill Development Course:

Eligibility	Duration	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch	NSQF Level
H.S.C Pass	6 Month	20	30	50	03	30	L4

4. Evaluation Structure:

Theory Marks			Practical Assessment			Project/Field Visit	Total
ISE	ESE	Total	Exam	Journal	Total	Submission+Viva Voice	100
10	30	40	30	10	40	20	

Syllabus

Learning Objectives:

1. To Factual Knowledge about mobile repairing Skill.
2. To Conceptual knowledge of Software Installation.

Theory Syllabus

Unit I: Mobile Phone Components Identification & Working (10)

Functional block diagram of Mobile Phone, Types of mobile phones, Battery, Charger, LCD and its types, Keypad, Connectors, Mic, Speaker, Antenna, PCB.

Unit II: Problems Findings and repairing techniques. (10)

Testing & Checking Active and Passive components by using electronic instruments, Installation of operating system, Add-on software's, and flashing software's, software problems and their solutions.

Learning Outcome:

At the end of this course, the students should be able to

1. Explain Architecture of Mobile Phone
2. Skill of finding the fault

Practical Syllabus

Objectives:

1. To study PCB of mobile phones.
2. To Understand and familiarize with use of DSO, Micro Iron, SMD Rework Machine, Hot Air-gun and Multimeter.
3. To study different jumper and display changing methods
4. To learn different mobile flashing techniques.

List of Experiments: Practical Training (30 hours)

1) Identification of section's on PCB
2) Checking of SMD component working on PCB.
3) Soldering & De-soldering Practice
4) Proper use of Micro Iron, SMD Rework Machine, Hot Air-gun, Etc.
5) Chip Component Removing & Replacing.
6) Jumper Practice. (Antenna Switch Jumper, Track Breakage Jumper, Display Cont. Jumper)
7) Display Changing Practice (Patta Displays)
8) Ribben & Patta changing Practice.
9) Driver IC changing Practice.
10) Study of Mobile flashing techniques.

Learning Outcomes:

After completion of the practical, Student are able to:

1. Identify active and passive electronic components on PCB of mobile phones.
2. Understand use of DSO,Micro Iron, SMD Rework Machine, Hot Air-gun and Multimeter
3. Analyse different jumper and display changing methods and apply different mobile flashing techniques.
4. Establish Self business.

Reference books:

1. Repair and Maintenance of Mobile Cell Phones, OAsis Home
2. Advance Mobile Repairing by Sanjib Pandit, BPB Publications, December 2010
3. Android & Windows Mobile Phone Repairing, BPB Publications
4. Mobile Phone Repair and Maintenance, Commonwealth of Learning, November, 2017

BOS Sub Committee:

Mr.G .R. Attar, Assistant Professor, Department of Electronics, YCIS, Satara	Chairman
Mr. S.D. Jadhav , Assistant Professor, Department of Electronics, YCIS, Satara	Member

Expert

Mr. Ajinkya Shinde Samsung Mobile Service ,Satara	Member
Mr. Shivraj Salukhe mi Mobile Service Center, Satara	Member