

Department of Electronics

**Sri Y N College(Autonomous) – Narsapur
Andhra Pradesh, India**

**Add-on Course in
Smartphones Technology**



SRI Y N COLLEGE (AUTONOMOUS)

(Affiliated to Adikavi Nannaya University)

Thrice Accredited by NAAC at 'A' Grade

Recognized by UGC as "College with Potential for Excellence"

ADD-ON COURSE IN SMARTPHONES TECHNOLOGY

(60 Lectures)

(Credits: Theory-04,Practicals-02)

Module I

(15 Lectures)

Basics: Basics of Mobile Communication and Electronics, Study of Digital Electronics, Assembling & Disassembling of different types of Mobile Phones, Use of various tools & instruments used in mobile phone repairing, Details of various components used in mobile phones, Study of basic parts of mobile phones(Mic, speaker, vibrator, LCD, ,antenna etc), Testing of various parts with multimeter.

Module II

(15 Lectures)

Hardware: Basic Circuit Board/ Motherboard introduction, Names of different BGA ICs, Work of different BGA and Glass ICs, How to recognize different ICs, Soldering & Desoldering components using soldering iron, Soldering & Desoldering components using rework station, working on SMD/BGA ICs and the PCB.

Module III

(15 Lectures)

Software: Introduction of various software faults, introduction of different flasher boxes, Flashing of various brands of handsets, formatting of virus affected handsets, Unlocking of handsets through codes and software, use of secret codes, Downloading

Module IV

(15 Lectures)

Troubleshooting & Advance Troubleshooting: Fault finding & troubleshooting,, Steps of repairing hardware and software problems, Circuit tracing, jumpering techniques and solutions, Troubleshooting through schematic diagrams, repairing procedure for fixing other new hardware faults, Advanced troubleshooting techniques.

Reference Books:

1. Training material for students provided by Department



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ADD-ON COURSE IN SMARTPHONES TECHNOLOGY LAB

(Hardware and software)

(All Experiments should be done)

(30 Lectures)

1. Identifying and familiarization of Common Mobile phones components and spare parts.
2. Understanding major integrated circuits on mobile phones.
3. Testing of Mobile phone Speakers, Buzzer or Ringer, Microphone, Charger voltage, Vibrator, battery voltage, ON/OFF switch.
4. Soldering of SMD components manually by hand.
5. Troubleshooting not charging issues, no charge response, charger not supported, insert SIM card problem, invalid SIM card problem, Earphone, Buzzer Or Ringer, Headset, vibrator, Display problems.
6. Software issues
7. HWK (UFS) Box A. Nokia (Basic, Multimedia, Window). B. Samsung (Basic, Multimedia, Android). C. LG (Basic, Multimedia). D. Sony (Basic, Multimedia).
8. GPG Dragon Box. China (Basic, Multimedia, Android).
9. Z3X Box. A. Samsung (Basic, Multimedia, Android). B. Samsung Tablet Flashing.
10. How to install UFS Box.
11. Flashing Samsung Android phone with Odin Tools
12. Flashing Samsung Android phone with Multiloader Tools.
13. Flashing China Android phone with SP (Smart Phone) Tools.
14. Flashing China Android phone with Upgrade Tools.
15. Unlock Pattern Lock using Android Multi Tool.
16. Sony Xperia Flashing with PC Companion
17. How to Enable USB Debugging Mode.
18. How to Repair Android Mobile IMEI.
19. How to use Team Viewer.
20. I-phone Flashing



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ADD-ON COURSE IN SMARTPHONES TECHNOLOGY

Duration: 2Hrs

Max Marks: 50

SECTION-A

Answer ALL questions

3X10M = 30M

- (a) Explain the functional block diagram of Smartphone.
(Or)
(b) Explain the various components used in mobile phones.
- (a) Explain the different types of BGA ICs used in Smartphones.
(Or)
(b) Explain about the various tools and instruments used in mobile phone repairing.
- (a) Explain about different flasher boxes.
(Or)
(b) Discuss the steps of repairing hardware & software problem.

SECTION-B

Answer any FOUR questions

4X5M = 20M

- What are the safety procedures for handling of Tools & Test equipment in Mobile phone?
- Write testing procedure for speaker, ringer, Buzzer??
- Write different advanced troubleshooting techniques?
- Write about jumpering techniques?
- Explain about the troubleshooting of not charging issues?
- Explain the tracing procedure for Mobile phone?
