MOBILE PHONE HARDWARE REPAIR TECHNICIAN

CURRICULUM / SYLLABUS

7KLV FRXUVH HQFRPSDVVHV RXW RI 1DWLRQDO 2FFXSDWLRQDO 6WDQG
7HFKQLFXDQ LI4FDWLRQ 3DFN LVVXHG E\ ³(OHFWURQLF 6HFWRU 6NLOO &RX

Program Name	Mobile Phone Hardware Repair Technician		
Qualification Pack Name & Reference ID. ID	ELE/Q8104 VERSION 1.0		
Version No.	1.0	Version Update Date	07-May-2017
Pre-requisites to Training	ITI		
Training Outcomes	After completing this programme, participants will be able to: x Receiving procedure of the faulty Mobile Phone : Understanding the Procedure to receive the faulty Mobile Handsets from the Customer x Diagnose the Problem of the Faulty Mobile Phone : Understanding the possible problems talking with the Customer and using diagnostic tools. x Arrangement of Tools and Necessary Parts to Repair the Mobile Phone : Understanding the Tools and Parts Required to Repair the Faulty Mobile Phone. x Repair the Hardware of the Faulty Mobile Phone : Understanding the Repairing Techniques of the Faulty Mobile Phone using tools and equipments. x Repair the Software of the Faulty Mobile Phone : Understanding the Repairing Techniques of the Faulty Mobile Phone using various Software. x Testing the Repaired Mobile phone : Understanding the procedure to test the Repaired Mobile Phone. x Co-ordinating with Colleagues : Understanding the procedures to Co-ordinate with colleagues based on the Company Policy. x Safety Procedures : Understanding to maintain the safety Procedures to Maintain the safe working environment as per the standard.		

and other details such as phone model, complaints, warranty coverage

Understand and use the interactive ERP system of the company and enter appropriate details

Use the system to prepare invoice, stock management, order placement, accessories availability, etc.

Identify problem and decide the action to be taken

Upload only licensed and brand approved applications as per customer requirement using system

Understand the application and software compatibility with the Mobile Phone and suggest to customers accordingly

Check the accessories and perform a demo with the customer to ensure their functionality (chargers, SD card, etc)

Open the panel of the Mobile Phone without damaging them

Replace the parts such as battery and clean the inner parts of the phone

Ensure the functionality of the replaced part

Provide necessary details on the warranty, terms and conditions of the replaced parts

Educate customers on effective usage of Mobile Phone to save battery and to avoid any repeat problem

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Understand the work requirement from superior, periodically

Report to superior on the work completed

Seek technical assistance from superior whenever required

Document the work completed on the company ERP software for tracking and future references

2	Repair and Rectify the faults in the mobile phone Theory Duration (hh:mm) 45:00 Practical Duration (hh:mm) 45:00 Corresponding NOS Code ELE/N8107	_____ _____ Follow the standard procedure as documented by the Mobile Phone brand for each model Take anti static precautions before work and wear ESD wrist straps or aprons Follow standard operating procedure while handling hardware modules such as handling KLOB with ESD standards Use recommended tools for specific operation suggested by the brand Maintain zero-material defect during material handling by following standard operating procedure _____ _____ Open the outer panel of the Mobile Phone using metal / plastic case opening tools Use the brand recommended screwdrivers to remove the screws to open the inner casing locate the connectors and release them to remove the motherboard from the device Use hot air gun and other devices to remove the LCD screen from the panel Follow similar process and use appropriate tools to assemble the Mobile Phone _____ Understand the customer level complaint and confirm the issue Take preventive measures and identify if there are any other issues in the Mobile Phone Use the self diagnostic tools (similar to power on self test (POST) card) to perform standard diagnosis process and ensure functionality of different parts of the device Follow the standard diagnostic procedure as documented by the Mobile Phone brand for each model	x SMD REWARK STATION. x SOLDERING IRON 10Wt. x MICRO SOLDERING IRON WITH TEMP CONTROL. x BGA KIT. x PPD PASTE. x SOLDER WIRE. x PCB HOLDER. x JUMPER WIRE. x ULTASONIC PCB CLEANER. x MULTI SCREW DRIVE SET. x T-4,T-5 SCREW DRIVER SET. x MOBILE OPENER. x ANTI STATIC MAT. x MAGNIFYING LAMP. x BATTARY BOOSTER. x MULTI CHARGER. x COMPUTER WITH FLASHING UNIT. x FLASHING CABLES. x MOBILE PCB OF DIFFERENT MODELS .

		Check the recently installed application or software and verify the compatibility of the software with the Mobile Phone _____ Check the recently installed application or software and verify the compatibility of the software with the Mobile Phone Uninstall the applications that is not compatible or creating issues in the Mobile Phone Install the licensed and authorized software's to resolve issues and suiting the customer's requirement _____ Understand the scope of component level of repair as suggested by the brand Estimate the cost of repair and verify if it is with in Beyond Economic Repair (BER) Heat the singled out component using hot air gun to melt the solder joints and remove from KLOB Clean the board by melting the old solder and removing Place the new component precisely on the board at specified location Solder the component on the KLOB using soldering stations Ensure the soldering is proper and the component is fixed as per the specification Operate automated BGA (ball grid array) work station to precisely remove the chip from the board and repair them Perform reballing function by dismantling, heating the chip to be removed from the board, remove the solder remains, put new solder balls, place the chip and solder them with the KLOB Check for functioning of the hardware after repairing	

		Coordinate with superior for performing quality check on the repaired module _____ _____ . Report on the work load and completion status Submit the appropriate documentation on completion of task assigned Document the work completed on the company ERP software for	

		15. Resolve conflicts and achieve smooth workflow 16. Follow the company policy during cross functional interaction	
4	Maintain Safe and Secure Work Environment Theory Duration (hh:mm) 45:00 Practical Duration (hh:mm) 45:00 Corresponding NOS Code ELE/N9910	1. Comply with safety procedures followed in the company 2. Take adequate safety measures while handling hazardous materials or tools 3. Follow Electrostatic Discharge (ESD) measures for electronic components 4. Escalate matters about hazardous materials or things found in the premises 5. Use safety materials such as gloves, goggles, masks, etc. 6. adequate safety measures while on work to prevent accidents 7. Ensure zero accidents in work 8. Avoid damage of components due to negligence in ESD procedures 9. Ensure no loss for company due to safety negligence 10. Participate in regular safety drills for being prepared in the event of a fire or natural calamity 11. Help others during the drill or calamity 12. Administer basic first aid 13. Participate in company organized games and fitness sessions such as yoga, etc. 14. Develop good posture for working so that long term health problems do not arise	xANTISTIC MAT xANTISTATIC BANDs xRUBBER SHOES
	Total Durat ion Theory Duration 180:00 Practical Duratio n 180:00	Unique Equipment Required: x Anti-Static Pad xBGA Rework Station (Automatic) xCompatible Software with variety of Handsets xCompatible Software with variety of Handsets xCompatible Software with variety of Handsets x Connecting Wires x Digital Multimeter x ESD Brush x ESD Coat x ESD Gloves x ESD Wrist Band	

		x ESD-Safe Twizzer - Flat x ESD-Safe Twizzer - Sharp x Isopropyl Solution (IP) x LCD Opening Absorber x Magnifying Lens x Mobile Opener x Multi-Phone Charger x PCB Holder x Precision Screw Drivers x Regulated Dc Power Supply x Scrap Smart Phone x SMB Rework Station x Soldering Station

Grand Total Course Duration: 360 Hours 00 Minutes

(This syllabus/ curriculum has been approved ***Electronics Sector Skills Council of India***

Annexure A: TRAINER-Prerequisites

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Sr. No.	Area	Details
1		To deliver accredited training service, mapping to the curriculum detailed DERYH LQ DFFRUGDQFH ZLWK WKH 4XDOLILI Version 1.0´
2		Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for Earn and keep oneself updated with the latest in the mentioned field quality and for developing others; well-

	PC1. follow the standard procedure as documented by the smartphone brand for each model		2	1	1
	PC2. take anti static precautions before work and wear ESD wrist straps or aprons		2	1	1
	PC3. follow standard operating procedure while handling hardware modules such as handling PCB with ESD standards		2	1	1
	PC4. use recommended tools for specific operation suggested by the brand		2	0	2
	PC5. maintain zero-material defect during material handling by following standard operating procedure		2	1	1
	PC6. open the outer panel of the smartphone using metal / plastic case opening tools		2	1	1
	PC7. use the brand recommended screwdrivers to remove the screws to open the inner casing		2	1	1
	PC8. locate the connectors and release them to remove the motherboard from the device		2	1	1
	PC9. use hot air gun and other devices to remove the LCD screen from the panel		2	1	1
	PC10. follow similar process and use appropriate tools to assemble		2	1	1

PC23. place the new component precisely on the board at specified location	1	0	1
PC24. solder the component on the PCB using soldering stations	1	0	1
PC25. ensure the soldering is proper and the component is fixed as per the specification	1	0	1
PC26. operate automated BGA (ball grid array) work station to precisely remove the chip from the board and repair them	1	0	1
PC27. perform reballing function by dismantling, heating the chip to be removed from the board, remove the solder remains, put new solder balls, place the chip and solder them with the PCB	1	0	1
PC28. check for functioning of the hardware after repairing	1	0	1
PC29. ensure that there is no damage of PCB while removal and fixing of SMD components	1	0	1
PC30. ensure other components are not damaged while using hot air gun for removal of a component which could cause damage	1	0	1
PC31. ensure adequate soldering for fixing the component and no further rework is required	1	0	1
PC32. receive spare module / component from stores	2	1	1
PC33. identify and decide on replacing the module or component as the appropriate solution	2	1	1
PC34. take adequate measures and follow procedures when replacing expensive or delicate components such as LCD	2	1	1
PC35. ensure that cost of replacing is justified as the repair cost is beyond economic repair (BER)	2	1	1
PC36. ensure that replaced module or component is working and no further rework is required	2		
PC37. identify and use appropriate tools and manuals for repairing the specific issue			
PC38. prevent any accidents while handling hazardous tools			
PC39. achieve results using appropriate tools for specific rework activity			
PC40. maintain zero-material defect during material handling by following standard operating procedure for tools handling			
PC41. seek technical assistance from engineer on faults that cannot be fixed			
PC42. receive instruction from engineers on use of specific tools or new repair processes			
PC43. discuss with superior if the cost estimate is found to be Beyond Economic repair (BER) and take recommended action			
PC44. coordinate with superior for performing quality check on the repaired module			
PC45. report on the work load and completion status			
PC46. submit the appropriate documentation on completion of task assigned			
PC47. document the work completed on the company ERP software for tracking and future references			

	PC10. participate in regular safety drills for being prepared in the event of a fire or natural calamity		10	4	6
	PC11. help others during the drill or calamity		10	4	6
	PC12. administer basic first aid		10	4	6
	PC13. participate in company organised games and fitness sessions such as yoga, etc.		10	4	6
	PC14. develop good posture for working so that long term health problems do not arise		10	4	6