



**K.S. RANGASAMY COLLEGE OF ARTS AND SCIENCE**  
**(Autonomous)**

K.S.R Kalvi Nagar, Tiruchengode– 637 215  
Namakkal Dt, Tamil Nadu, India

**Department of Electronics and Communication**

**Value Added Course**

**Academic Year 2020-2021**

**Contents**

<b>S.No.</b>	<b>Name of the Documents</b>	<b>Page No.</b>
1.	Brochure	1
2.	Circular	2
3.	Syllabus	3
4.	Work Plan	5
5.	Students Willing List	6
6.	Attendance	7
7.	Lesson Plan	10
8.	Mark List	12
9.	Certificates	13



### K.S.Rangasamy College of Arts and Science (Autonomous)

NAAC Reaccredited and an ISO Certified Institution

Affiliated to Periyar University, Salem

Included Under 2(f) & 12(B) of UGC Act, 1956

KSR Kalvi Nagar, Tiruchengode - 637 215, Namakkal Dist, Tamil Nadu, India

### Value added courses (Certificate Course) offered by the College



### Academic Year 2020-2021

Course Name	Semester	Hours	Offering Department
• Cell Phone Servicing	- ODD / EVEN	- 30 Hrs	- Electronics and Communication
• Personality Development	- ODD / EVEN	- 30 Hrs	- Commerce and Management
• 3D Animation	- ODD / EVEN	- 30 Hrs	- Computer Science
• MATLAB	- ODD / EVEN	- 30 Hrs	- Mathematics
• Basics of Biotechnology	- ODD	- 30 Hrs	- Life Science
• Understanding Immunity and Vaccination	- EVEN	- 30 Hrs	- Life Science

PRINCIPAL

K. S. Rangasamy College of Arts & Science

(Autonomous)

TIRUCHENGODE - 637 215

NAMAKKAL DIST, TAMIL NADU, INDIA

**K.S.Rangasamy College of Arts and Science (Autonomous)**  
Tiruchengode - 637 215

Department of Electronics and Communication

**CIRCULAR**

**From**  
The Head  
Department of Electronics & Communication

**To**  
All HODs  
Students of all Departments

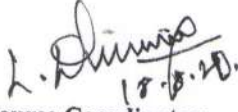
Date: 18-08-2020

**Sub: Certificate Course- Cell Phone Servicing-reg**


Our Department has planned to conduct certificate course on "Cell Phone Servicing" in this semester. Total duration of the course is 30 hours, course starts from September. Students who are all interested may enroll their names to the course coordinator. The Certificate course will be conducted after the class hours 4.15pm to 5.15pm. At the end of this course, certificate will be issued.

Students are advised to meet following staff for registration.


Mr.L.Dhatchinamurthy  
Course Coordinator  
Department of Electronics and Communication  
KSRCAS

  
Course Coordinator

  
Head of the Department  
Dr. K.M. PRABUSANKARLAL, M.Sc., M.Phil., M.E., Ph.D.  
Associate Professor & Head,  
Dept. of Electronics & Communication  
K.S. Rangasamy College of Arts & Science (Autonomous)  
Tiruchengode - 637 215, Namakkal Dt. T.N.

  
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Namakkal-Dt. Tamil Nadu, INDIA

18UECCC01	CERTIFICATE COURSE: CELL PHONE SERVICING	ODD/EVEN
<b>Course Objectives:</b> <b>The Course aims</b> <ul style="list-style-type: none"> <li>• Learn the Basic generation and spectrum process</li> <li>• Understand the operating systems and principle of handset</li> <li>• Understand the basic repairing and troubleshooting the handset</li> </ul>		
<b>Duration: 30Hrs</b>		
UNIT	CONTENTS	CO
I	<b>Introduction:</b> Introduction to mobile phones-Generations of mobile phones-FHSS networks-GSM-Spread spectrum-CDMA-TDMA-Fourth Generation (4G)- Fifth Generation (5G) - Basic electronics components.	CO1
II	<b>Handsets:</b> Handset Specific operating systems-Handset features & applications- working principle of mobile handset -Components used in mobile handsets.	CO2
III	<b>Handset Troubleshooting:</b> Tools & Equipment used for repairing - Maintenance of mobile handsets-Types of Power Supply & Batteries-Boosting a Battery-Trouble shooting basics.	CO3
IV	<b>Network Troubleshooting:</b> Network problems-Power failure (dead)- Mobile phone hardware troubleshooting (water damage, hanging, charging & keypad problems)- Handsets Assembly& Disassembly-Soldering & Desoldering -SMD rework station.	CO4
V	<b>Mobile software:</b> Mobile software's-Data cable-Card reader-Mobile display- Remove/replace Component- Mobile phone hardware troubleshooting-Troubleshooting through circuit diagram-Transmission-Transmitter filter- Microphone- Reception- Antenna-RF power amplifier-Local oscillator-Audio IC-speaker- charger.	CO5
<b>Text Books</b>		
1	<i>Chukky Operandu.</i> 2014. <b>Mobile Phones and Tablets Repairs: A Complete Guide for Beginners and Professionals.</b> [First Edition]. Mondraim Nig Limited	
<b>Reference Books</b>		
1	<i>Sajal Kumar Das.</i> 2013. <b>Mobile handset Design.</b> Wiley Publication.	
2	<i>Chukky Operandu.</i> 2014. <b>Smart Phones and Tablets Repairs: A Complete Guide for Beginners and Professionals.</b> [First Edition]. Mondraim Nig Limited	

  
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## COURSE OUTCOMES (CO)

After the completion of the course, the student will be able to

CO1	Establish and run a Mobile Handset Repairing unit
CO2	Repair and Diagnose the Problem of all kinds of faults in Mobile Phone handsets in Hardware as well Software. and
CO3	Use appropriate tools, spares and software updates, conduct test for repairs,
CO4	Ensure admittance of faulty handsets, prioritize and conduct repair activities.
CO5	Rectify the faults using tools, equipments, and softwares




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### Work Plan Schedule

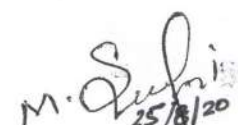
Faculty Name : Ms.M.Sethupoobathi  
 Class : II UG  
 Period : ODD/EVEN 2020-2021

Department : B.Sc. ELEC  
 Subject : CERTIFICATE COURSE: CELL  
 PHONE SERVICING (18UECCC01)

S No	Unit	Topic	No Of Hours
1	I	Introduction to mobile phones-Generations of mobile phones	2
2	I	FHSS networks-GSM-Spread spectrum-CDMA-TDMA	2
3	I	Fourth Generation (4G)- Fifth Generation (5G) -Basic electronics components.	2
4	II	Handset Specific operating systems-Handset features & applications	2
5	II	Working principle of mobile handset	2
6	II	Components used in mobile handsets.	2
7	III	Tools & Equipment used for repairing - Maintenance of mobile handsets	2
8	III	Types of Power Supply & Batteries	2
9	III	Boosting a Battery-Trouble shooting basics.	2
10	IV	Network problems-Power failure (dead)-Mobile phone hardware troubleshooting (water damage, hanging, charging & keypad problems)	2
11	IV	Handsets Assembly & Disassembly	2
12	IV	Soldering & Desoldering -SMD rework station.	2
13	V	Mobile software's-Data cable-Card reader-Mobile display- Remove/replace Component	2
14	V	Mobile phone hardware troubleshooting-Troubleshooting through circuit diagram-Transmission-Transmitter filter	2
15	V	Microphone- Reception- Antenna-RF power amplifier-Local oscillator-Audio IC-speaker-charger	2
16	Others	Revision	2
<b>Total No of Hours</b>			<b>32</b>

  
 HOD Signature  
 with Date  
 [Dr.K.M.PRABUSANKARLAL]



  
 Faculty Signature  
 with Date  
 [Ms.M.Sethupoobathi]

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**S.RANGASAMY COLLEGE OF ARTS & SCIENCE (Autonomous)**

TIRUCHENGODE - 637 215

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

CERTIFICATE COURSE Students Name List

Academic Year 2020-2021


Course Code: 18UECCC01

Course Name: Cell Phone Servicing

Batch : 2019-2022

S. No	Register No	Student Name	STUDENTS SIGNATURE
1	19UBC009	JEEVANANTHAM.D	Jeevan
2	19UBC020	MANJUSHREE.P	Manjushree.P.
3	19UBC033	RANJANI PRIYA.P	Ranjani.P.
4	19UBC042	WACHEMA.Z	Wachema.Z
5	19UBT004	AKILA.T	Akila.T
6	19UBT009	DEEPIKA.N	Deepika.N
7	19UBT029	MAHESWARI.R	Maheshwari.R
8	19UBT048	RAJESWARI.B	Rajeshwari.B
9	19UPH011	DHANASEKARAN.R	Dhanasekaran.R
10	19UPH017	DINESHKUMAR.V	Dinesh.Kumar.V
11	19UPH020	GOKUL.G	Gokul.G
12	19UPH033	MARAVARMAN.S	Maravarmann.S
13	19UPH052	SRIMYNDHAN.G	Srimyndhan.G
14	19UCH007	CHANDRU.T	Chandru.T
15	19UCH036	SIRIL.L	Siril.L
16	19UCC127	SARATH KUMAR.V	Sarath.Kumar.V
17	19UCC128	SASI KUMAR.B	Sasi.Kumar.B
18	19UCC129	SASITHARAN.K	Sasitharan.K
19	19UCC131	SATHESHKUMAR.M	Satheshkumar.M
20	19UMB012	HARISH.B	Harish.B
21	19UMB023	MITHRA.D	Mithra.D
22	19UMB028	NAVIN.B	Navin.B
23	19UMB039	SRIDHAR.M	Sridhar.M

  
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Dr. K.M. PRABUSANKARLAL, M.Sc., M.Phil., M.A., Ph.D.  
Associate Professor & Head,  
Dept. of Electronics & Communication  
K.S. Rangasamy College of Arts & Science (Autonomous)  
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# K.S.RANGASAMY COLLEGE OF ARTS & SCIENCE (Autonomous)

TIRUCHENGODE - 637 215

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

**CERTIFICATE COURSE ATTENDANCE**

Academic Year 2020-2021


Course Code: 18UECC01

Course Name: Cell Phone Servicing

Batch : 2019-2022

S. No	Register No	Student Name	7/10	13/10	4/10	29/10	21/10	26/10	3/11	4/11	18/11	24/11	25/11	1/2
1	19UBC009	JEEVANANTHAM.D	/	/	/	/	/	/	/	/	/	/	/	/
2	19UBC020	MANJUSHREE.P	/	/	/	/	a	/	/	a	/	/	/	/
3	19UBC033	RANJANI PRIYA.P	/	/	/	/	/	/	/	/	/	/	/	/
4	19UBC042	WACHEMA.Z	/	/	/	/	/	/	/	/	/	/	/	/
5	19UBT004	AKILA.T	/	/	/	/	/	/	/	/	/	/	/	/
6	19UBT009	DEEPIKA.N	/	/	/	/	/	a	/	/	/	/	/	/
7	19UBT029	MAHESWARI.R	/	/	/	/	/	/	/	a	/	/	/	/
8	19UBT048	RAJESWARI.B	a	/	a	a	/	/	/	/	/	/	/	/
9	19UPH011	DHANASEKARAN.R	/	/	/	/	/	a	/	/	/	/	/	/
10	19UPH017	DINESHKUMAR.V	/	a	/	/	/	/	/	/	/	/	/	/
11	19UPH020	GOKUL.G	/	/	/	/	/	/	/	/	/	/	/	/
12	19UPH033	MARAVARMAN.S	/	/	/	/	/	/	/	/	/	/	/	/
13	19UPH052	SRIMYNDHAN.G	/	/	/	/	/	/	/	/	a	/	/	/
14	19UCH007	CHANDRU.T	/	/	/	/	a	/	/	/	/	/	/	/
15	19UCH036	SIRIL.L	/	/	/	/	/	/	/	/	/	/	/	/
16	19UCC127	SARATH KUMAR.V	/	/	/	/	/	/	/	/	/	/	/	/
17	19UCC128	SASI KUMAR.B	/	/	/	/	/	/	/	/	/	/	/	/
18	19UCC129	SASITHARAN.K	/	/	/	/	/	/	/	/	a	/	/	/
19	19UCC131	SATHESHKUMAR.M	a	/	/	/	/	/	/	/	/	/	/	/
20	19UMB012	HARISH.B	/	/	/	/	/	/	/	/	/	/	/	/
21	19UMB023	MITHRA.D	/	a	/	/	/	/	/	/	/	/	/	/
22	19UMB028	NAVIN.B	/	/	/	/	/	a	/	/	/	/	a	/
23	19UMB039	SRIDHAR.M	/	/	a	/	/	/	/	/	/	/	/	/

Staff Signature *M.M. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S. M.S.*

  
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# K.S.RANGASAMY COLLEGE OF ARTS & SCIENCE (Autonomous)

TIRUCHENGODE - 637 215

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

CERTIFICATE COURSE ATTENDANCE

Academic Year 2020-2021


Course Code: 18UECCC01

Course Name: Cell Phone Servicing

Batch : 2019-2022

S. No	Register No	Student Name	10/11	20/12	1/1	5/1	6/1	7/1	8/1	11/1			
1	19UBC009	JEEVANANTHAM.D	/	a	/	/	/	/	/	a			
2	19UBC020	MANJUSHREE.P	/	/	/	/	/	/	/	/			
3	19UBC033	RANJANI PRIYA.P	/	/	a	/	/	/	a	/			
4	19UBC042	WACHEMA.Z	/	/	/	/	/	/	/	/			
5	19UBT004	AKILA.T	/	a	/	/	/	a	/	/			
6	19UBT009	DEEPIKA.N	/	/	/	/	/	/	/	/			
7	19UBT029	MAHESWARI.R	/	/	/	a	/	/	/	/			
8	19UBT048	RAJESWARI.B	/	/	/	/	/	/	/	/			
9	19UPH011	DHANASEKARAN.R	/	a	/	/	/	/	a	/			
10	19UPH017	DINESHKUMAR.V	/	/	/	/	/	/	/	/			
11	19UPH020	GOKUL.G	a	/	/	/	a	/	/	/			
12	19UPH033	MARAVARMAN.S	/	/	/	/	/	/	/	/			
13	19UPH052	SRIMYNDHAN.G	/	a	/	/	/	/	a	/			
14	19UCH007	CHANDRU.T	/	/	/	a	/	/	/	/			
15	19UCH036	SIRILL	/	/	/	/	/	a	/	/			
16	19UCC127	SARATH KUMAR.V	a	/	/	/	/	/	/	/			
17	19UCC128	SASI KUMAR.B	/	/	/	/	/	/	/	/			
18	19UCC129	SASITHARAN.K	/	a	/	/	/	/	/	/			
19	19UCC131	SATHESHKUMAR.M	/	/	/	/	/	/	a	/			
20	19UMB012	HARISH.B	/	/	/	/	/	/	/	/			
21	19UMB023	MITHRA.D	/	/	/	/	/	/	/	/			
22	19UMB028	NAVIN.B	/	/	/	/	/	/	/	/			
23	19UMB039	SRIDHAR.M	/	/	/	/	/	/	a	/			

Staff Signature *M. S. Rangasamy*

  
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 Namakkal-Dt. Tamil Nadu.



CERTIFICATE COURSE : CELL PHONE

CLASS : II - UG (2020-2021) SUBJECT : SERVICING (18UECC01)

Planned		Topics Covered	Executed		Signature	
Date	Hour		Date	Hour	Faculty	HOD
26/8	4.15-5.15	Introduction to mobile phones	26/8	4.15-5.15	M. R	}
1/9	4.15-5.15	Generations of mobile phones	1/9	4.15-5.15	M. R	
2/9	4.15-5.15	ETSS networks - GSM - Spread	2/9	4.15-5.15	M. R	
8/9	4.15-5.15	Spectrum - CDMA - TDMA	8/9	4.15-5.15	M. R	
9/9	4.15-5.15	Fourth Generation (4G) Fifth	9/9	4.15-5.15	M. R	
15/9	4.15-5.15	Generation (5G) - Basic electronics components.	15/9	4.15-5.15	M. R	}
16/9	4.15-5.15	Handset specific operating	16/9	4.15-5.15	M. R	
22/9	4.15-5.15	system - Handset features & applications.	22/9	4.15-5.15	M. R	}
29/9	4.15-5.15	Working principle of mobile	29/9	4.15-5.15	M. R	
30/9	4.15-5.15	handsets	30/9	4.15-5.15	M. R	
6/10	4.15-5.15	Components used in mobile	6/10	4.15-5.15	M. R	}
7/10	4.15-5.15	handsets.	7/10	4.15-5.15	M. R	
13/10	4.15-5.15	Tools & Equipments used for	13/10	4.15-5.15	M. R	
14/10	4.15-5.15	repairing - Maintenance of mobile handsets.	14/10	4.15-5.15	M. R	}
20/10	4.15-5.15	Types of power supply a	20/10	4.15-5.15	M. R	
21/10	4.15-5.15	Batteries.	21/10	4.15-5.15	M. R	}
28/10	4.15-5.15	Boosting a battery - Trouble	28/10	4.15-5.15	M. R	
3/11	4.15-5.15	Shooting basics.	3/11	4.15-5.15	M. R	
4/11	4.15-5.15	Networks. Problems - Power failure	4/11	4.15-5.15	M. R	}
18/11	4.15-5.15	(dead) mobile phone hardware troubleshooting (water damage, hanging, charging & keypad problems.	18/11	4.15-5.15	M. R	
24/11	4.15-5.15	Handsets Assembly and	24/11	4.15-5.15	M. R	}
25/11	4.15-5.15	Disassembly.	25/11	4.15-5.15	M. R	
1/12	4.15-5.15	soldering and Desoldering -	1/12	4.15-5.15	M. R	
15/12						



CLASS : II UOI 2020-2021 SUBJECT : SERVICING (18UECC01)

Planned		Topics Covered	Executed		Signature	
Date	Hour		Date	Hour	Faculty	HOD
22/12	4.15-5.15	Mobile software's - Data	22/12	4.15-5.15	M. R	
4/1	4.15-5.15	cable - card readers - Mobile display - Remove/replace components.	4/1	4.15-5.15	M. R	
8/1	4.15-5.15	Mobile Phone Hardware	8/1	4.15-5.15	M. R	
06/1	4.15-5.15	troubleshooting - Troubleshooting through circuit diagram - Transmission - Transmitter filter.	06/1	4.15-5.15	M. R	
7/2	4.15-5.15	Microphone - Reception -	7/2	4.15-5.15	M. R	
08/2	4.15-5.15	Antenna - RF power amplifier load oscillator - Audio IC - speaker - charger.	08/2	4.15-5.15	M. R	
18/2	4.15-5.15	Revision	18/2	4.15-5.15	M. R	
19/2	4.15-5.15	Revision.	19/2	4.15-5.15	M. R	
<p>Syllabus Completed</p> <p>M. R</p>						
<p>PRINCIPAL K. S. Rangasamy College of Arts &amp; Science (Autonomous) TIRUCHENGODE - 637 215 Tamil Nadu, INDIA</p>						



# K. S.RANGASAMY COLLEGE OF ARTS & SCIENCE (Autonomous)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION

CERTIFICATE COURSE MARK LIST

Academic Year 2020-2021

Course Code: 18UECCC01

Course Name: Cell Phone Servicing

Batch : 2019-2022

Max Marks: 100

S. No	Register No	Student Name	ASS 1 (10)	ASS 2 (10)	Test (75)	Att %	Att (5)	Total
1	19UBC009	JEEVANANTHAM.D	8	8	70	94	5	91
2	19UBC020	MANJUSHREE.P	7	9	70	92	5	91
3	19UBC033	RANJANI PRIYA.P	9	7	70	93	5	91
4	19UBC042	WACHEMA.Z	8	8	72	94	5	93
5	19UBT004	AKILA.T	7	7	71	92	5	90
6	19UBT009	DEEPIKA.N	7	9	73	93	5	94
7	19UBT029	MAHESWARI.R	6	6	70	94	5	87
8	19UBT048	RAJESWARI.B	8	9	74	92	5	96
9	19UPH011	DHANASEKARAN.R	7	8	71	94	5	91
10	19UPH017	DINESHKUMAR.V	8	7	72	93	5	92
11	19UPH020	GOKUL.G	7	7	72	90	5	91
12	19UPH033	MARAVARMAN.S	8	8	70	92	5	91
13	19UPH052	SRIMYNDHAN.G	8	8	73	92	5	94
14	19UCH007	CHANDRU.T	8	9	71	94	5	93
15	19UCH036	SIRIL.L	8	8	72	96	5	93
16	19UCC127	SARATH KUMAR.V	9	7	70	97	5	91
17	19UCC128	SASI KUMAR.B	7	8	73	95	5	93
18	19UCC129	SASITHARAN.K	6	7	74	93	5	92
19	19UCC131	SATHESHKUMAR.M	8	9	70	92	5	92
20	19UMB012	HARISH.B	7	8	73	97	5	93
21	19UMB023	MITHRA.D	9	7	73	96	5	94
22	19UMB028	NAVIN.B	8	9	72	95	5	94
23	19UMB039	SRIDHAR.M	7	9	70	95	5	91

Staff Signature

(Ms.M.Sethupobathi)

HoD

(Dr.K.M.Prabusankarlal)

PRINCIPAL

(Dr.V.Radhakrishnan)

Dr. K.M. PRABUSANKARLAL, M.Sc., M.Phil., M.E., Ph.D.,  
Associate Professor & Head,  
Dept. of Electronics & Communication  
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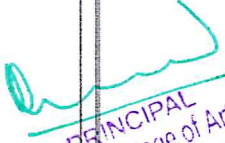
Included Under 2(f) & 12(B) of UGC Act, 1956


KSR Kalvi Nagar; Tiruchengode - 637 215; Namakkal Dist, Tamil Nadu, India




**. Certificate**

This is to certify that **JEEVANANTHAM.D, (19UBC009)** of **II B.Sc., BC** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
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Course Coordinator

  
**Dr. K.M. Prabhakar**  
Head of the Department

  
**Dr. V. Radhakrishnan**  
Principal

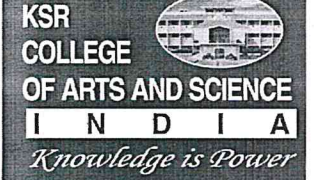


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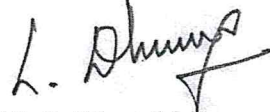
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**Certificate**

This is to certify that MANJUSHREE.P, (19UBC020) of II B.Sc., BC has completed a Certificate Course in *Cell Phone Servicing* during the academic year 2020-2021, ODD/EVEN semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
**Mr.L.Dhatchinamurthy**  
Course Coordinator

  
**Dr. K.M.Prabusankarlal**  
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**Dr.V.Radhakrishnan**  
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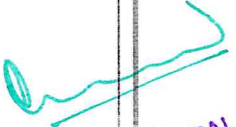
**Certificate**

This is to certify that **RANJANI PRIYA.P, (19UBC033)** of **II B.Sc., BC** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
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Course Coordinator

  
**Dr. K.M.Prabusankarlal**  
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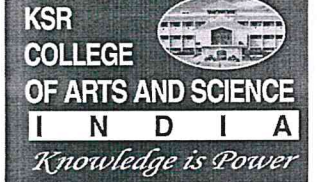


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***Certificate***

*This is to certify that WACHEMA.Z, (19UBC042) of II B.Sc., BC has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

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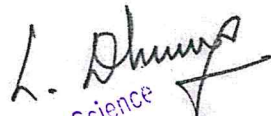
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***Certificate***

*This is to certify that AKILA.T, (19UBT004) of II B.Sc., BT has completed a Certificate Course in **Cell Phone Servicing** during the academic year 2020-2021, ODD/EVEN semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***



**Mr. D. Dhatchinamurthy**  
Course Coordinator



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Head of the Department



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**Certificate**

*This is to certify that DEEPIKA.N, (19UBT009) of II B.Sc., BT has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

L. Dhatchinamurthy

**Mr. L. Dhatchinamurthy**  
Course Coordinator

**Dr. K.M. Prabusankarlal**  
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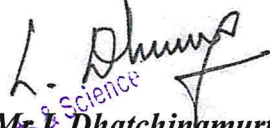
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**Certificate**

This is to certify that MAHESWARI.R, (19UBT029) of II B.Sc., BT has completed a Certificate Course in Cell Phone Servicing during the academic year 2020-2021, ODD/EVEN semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
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**Dr. K.M. Prabusankarlal**  
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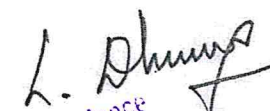
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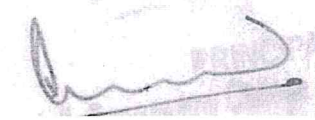



**Certificate**

This is to certify that **RAJESWARI.B, (19UBT048)** of **II B.Sc., BT** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
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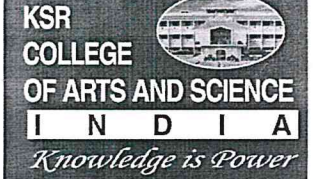
  
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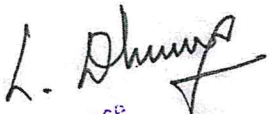
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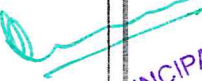
## ***Certificate***

*This is to certify that **DHANASEKARAN.R, (19UPH011)** of **II B.Sc., PHY** has completed a Certificate Course in ***Cell Phone Servicing*** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, ***K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15****

  
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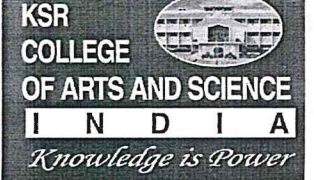


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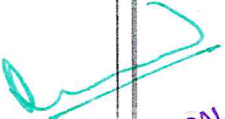
**Certificate**

This is to certify that **DINESHKUMAR.V, (19UPH017)** of **II B.Sc., PHY** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
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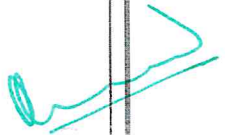
## ***Certificate***

*This is to certify that **GOKUL.G, (19UPH020)** of **II B.Sc., PHY** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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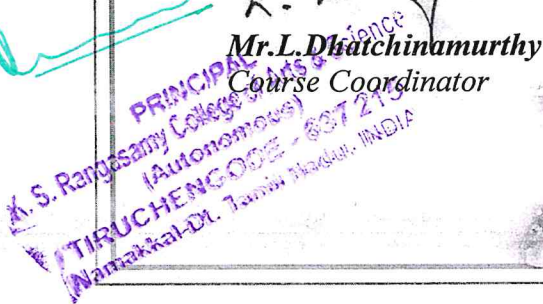
## ***Certificate***

*This is to certify that **MARAVARMAN.S, (19UPH033)** of **II B.Sc., PHY** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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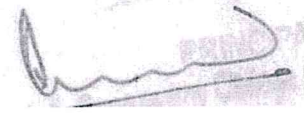


## ***Certificate***

*This is to certify that **SRIMYNDHAN.G, (19UPH052)** of **II B.Sc., PHY** has completed a Certificate Course in ***Cell Phone Servicing*** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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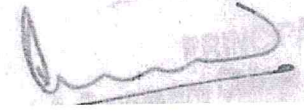


## ***Certificate***

*This is to certify that **CHANDRU.T, (19UCH007)** of **II B.Sc., CHE** has completed a  
Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN**  
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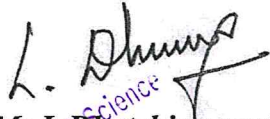
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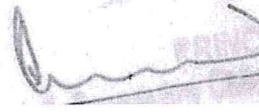



## ***Certificate***

*This is to certify that **SIRIL.L, (19UCH036)** of **II B.Sc., CHE** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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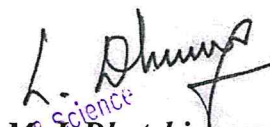
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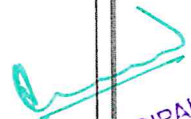
**Certificate**

This is to certify that **SARATH KUMAR.V, (19UCC127)** of **II B.COM CA** has completed a  
Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN**  
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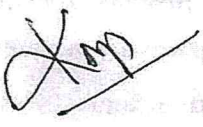
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## ***Certificate***

*This is to certify that **SASI KUMAR.B, (19UCC128)** of **II B.COM CA** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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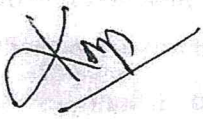
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## ***Certificate***

*This is to certify that **SASITHARAN.K, (19UCC129)** of **II B.COM CA** has completed a Certificate Course in ***Cell Phone Servicing*** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
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## ***Certificate***

*This is to certify that **SATHESHKUMAR.M, (19UCC131)** of **II B.COM CA** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***



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Course-Coordinator



**Dr. K.M.Prabusankarlal**  
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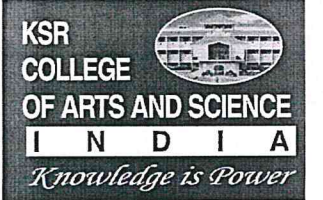
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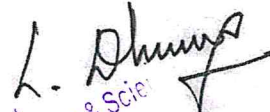
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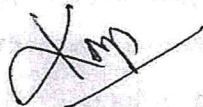
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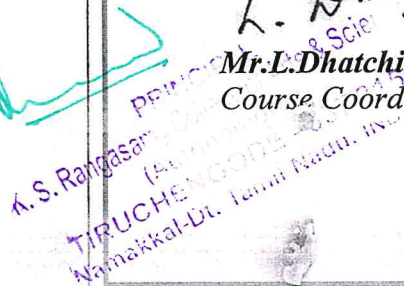
**Certificate**

This is to certify that **HARISH.B, (19UMB012)** of **II B.Sc., MB** has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**

  
**Mr.L.Dhatchinamurthy**  
Course Coordinator

  
**Dr. K.M.Prabusankarlal**  
Head of the Department

  
**Dr.V.Radhakrishnan**  
Principal

  
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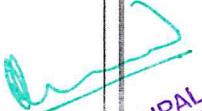
**Certificate**

*This is to certify that MITHRA.D, (19UMB023) of II B.Sc., MB has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
**Mr.L.Dhatchinamurthy**  
Course Coordinator

  
**Dr. K.M.Prabusankarlal**  
Head of the Department

  
**Dr.V.Radhakrishnan**  
Principal

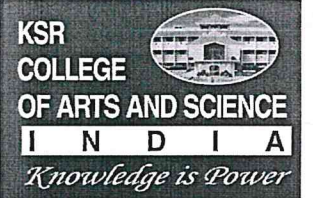
  
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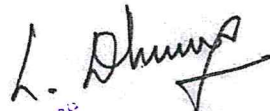
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## ***Certificate***

*This is to certify that NAVIN.B, (19UMB028) of II B.Sc., MB has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15***

  
**Mr.L.Dhatchinamurthy**  
Course Coordinator

  
**Dr. K.M.Prabusankarlal**  
Head of the Department

  
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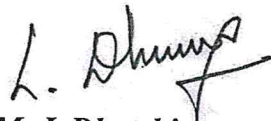
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**Certificate**


This is to certify that SRIDHAR.M, (19UMB039) of II B.Sc., MB has completed a Certificate Course in **Cell Phone Servicing** during the academic year **2020-2021, ODD/EVEN** semester conducted by the Department of Electronics and Communication, **K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode-15**



**Mr.L.Dhatchinamurthy**  
Course Coordinator



**Dr. K.M.Prabusankarlal**  
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