



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## SAMPLE COPIES OF ACTIVITIES FOR ADVANCED AND SLOW LEARNERS

S.NO	ACTIVITIES	PAGE NUMBER
1.	TUTORIAL TOPICS FOR ADVANCED LEARNERS	2-7
2.	NPTEL CERTIFICATES	8-11
3.	PROJECT COMPLETION CERTIFICATE	12-13
4.	CERTIFICATES OF PARTICIPATIONS	14-18
5.	INTERNSHIP CERTIFICATES	19-22
6.	TEAM BUILDING ACTIVITIES	23
7.	HACKATHON PARTICIPATION CERTIFICATES	24
8.	STUDENT ACTIVITIES (ISTE)	25
9.	OFFICE BEARERS (IETE)	26
10.	REMEDIAL CLASSES CIRCULAR	28,35&41
11.	REMEDIAL CLASSES TIMETABLE	29,36&43
12.	REMEDIAL CLASSES ATTENDANCE	30,37&44
13.	TUTORIAL TOPICS FOR SLOW LEARNERS	31,38&46
14.	IMPACT ANALYSIS	34,40&51

*K. Srinivas*  
PRINCIPAL

PRINCIPAL

Siddharth Institute of Engineering & Technology

Siddharth Nagar

PUTTUR - 517583, Chittoor Dist.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year: 2019-2020

Year & SEM: IV YEAR II-SEM

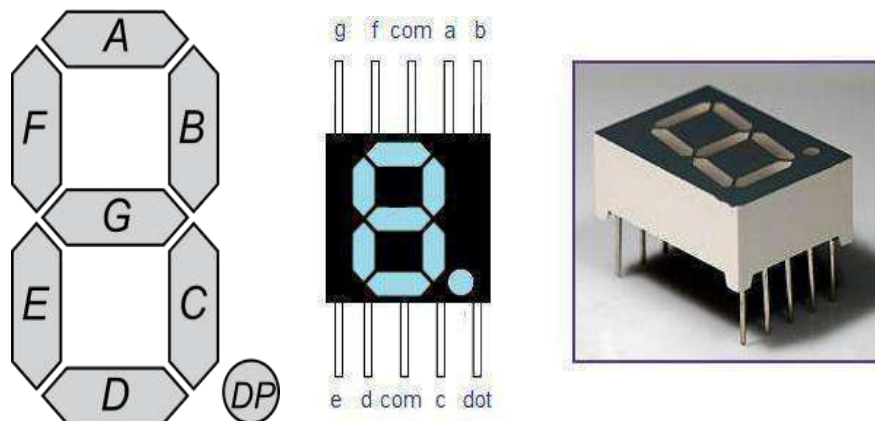
MICROPROCESSORS & MICROCONTROLLERS (16EC423)

TUTORIAL TOPICS FOR ADVANCED LEARNERS

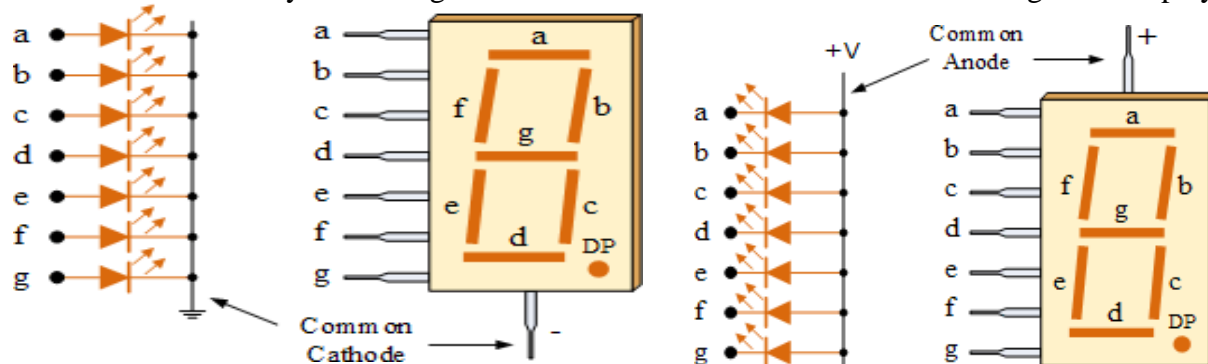
## 1. INTERFACING 7 SEGMENT DISPLAY

segment LED display is a very popular and it can display digits from 0 to 9 and quite a few characters like A, b, C, , H, E, e, F, etc. Knowledge about how to interface a seven-segment display to a micro controller is very essential in designing embedded systems. A seven-segment display consists of seven LEDs arranged in the form of a squarish '8' slightly inclined to the right and a single LED as the dot character. Different characters can be displayed by selectively glowing the required LED segments.

Seven segment displays are of two types, common cathode and common anode. In common cathode type, the cathode of all LEDs are tied together to a single terminal which is usually labeled as 'com' and the anode of all LEDs are left alone as individual pins labeled as a, b, c, d, e, f, g & h (or dot). In common anode type, the anode of all LEDs are tied together as a single terminal and cathodes are left alone as individual pins. The pin out scheme and picture of a typical 7 segment LED displays shown in the image below.



In common cathode, all the cathodes of LEDs are tied together and labeled as com. and the anode are left alone. In common anode, seven segment display all the anodes are tied together and cathodes are left freely. Below figure shows the internal connections of seven segment Display.



To display the digits on 7 segment, we need to glow different logic combinations of segments. For example if you want to display the digit 3 on seven segment then you need to glow the segments a, b,

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

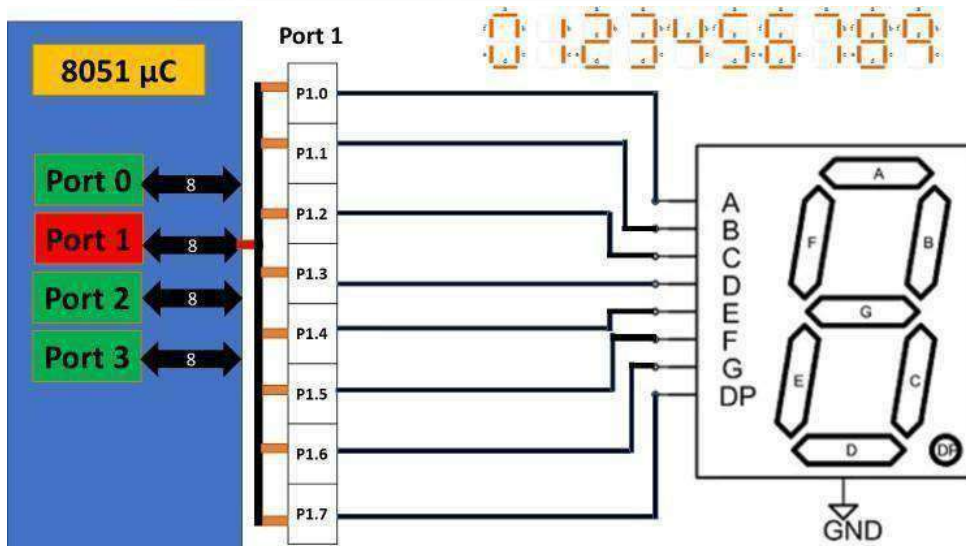
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

c, d and g. The below table show you the Hex decimal values what we need to send from PORT1 to Display the digits from 0 to F.

	h	g	f	e	d	c	b	a	hex value
0	0	0	1	1	1	1	1	1	3F
1	0	0	0	0	0	1	1	0	06
2	0	1	0	1	1	0	1	1	5B
3	0	1	0	0	1	1	1	1	4F
4	0	1	1	0	0	1	1	0	66
5	0	1	1	0	1	1	0	1	6D
6	0	1	1	1	1	1	0	1	7D
7	0	0	0	0	0	1	1	1	07
8	0	1	1	1	1	1	1	1	7F
9	0	1	1	0	1	1	1	1	6F
A	0	1	1	1	0	1	1	1	77
b	0	1	1	1	1	1	0	0	7C
c	0	0	1	1	1	0	0	1	39
d	0	1	0	1	1	1	1	0	5E
E	0	1	1	1	1	0	0	1	79
F	0	1	1	1	0	0	0	1	71





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

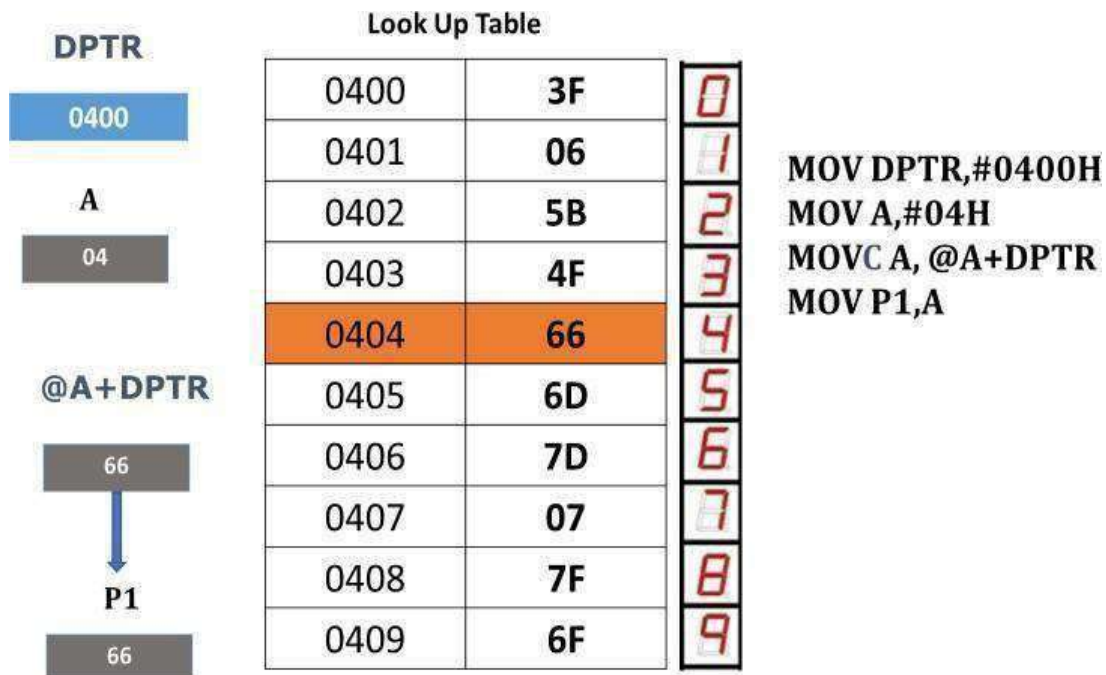
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

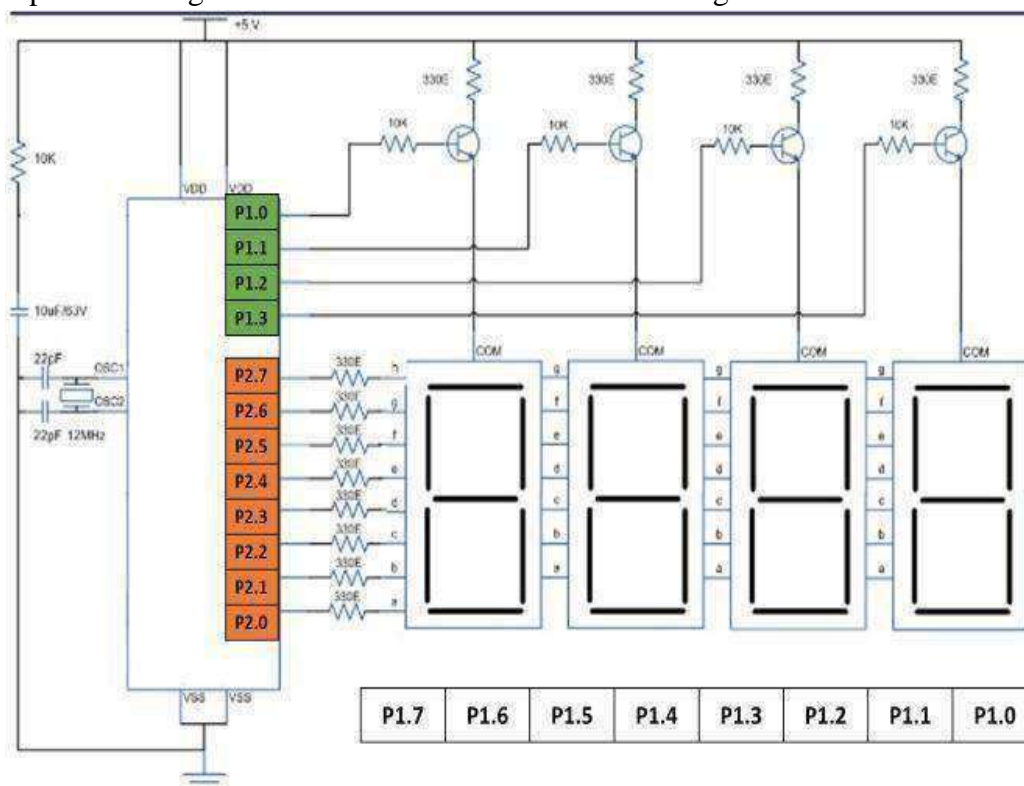
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



The above picture indicates that all the 7-segment display codes are stored in ROM and in the form of look-up tables. To get those codes we use Indexed addressing mode.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

**\*\*Note:** Suppose if you want to display the year 2021, then you need to interface four 7-segment displays to 8051 microcontroller. Here is the program to display 2021. In exam if they ask you to display some other number just change the appropriate number in program, rest of the logic is same. **Program**

```
MOV DPTR, #0400H
MOV A, #02H
MOVC A, @A+DPTR
MOV P1, 01H
MOV P2, A
ACALL DELAY
```

2

```
MOV A, #02H
MOVC A, @A+DPTR
MOV P1, 04H
MOV P2, A
ACALL DELAY
```

2

```
MOV A, #00H
MOVC A, @A+DPTR
MOV P1, 02H
MOV P2, A
ACALL DELAY
```

0

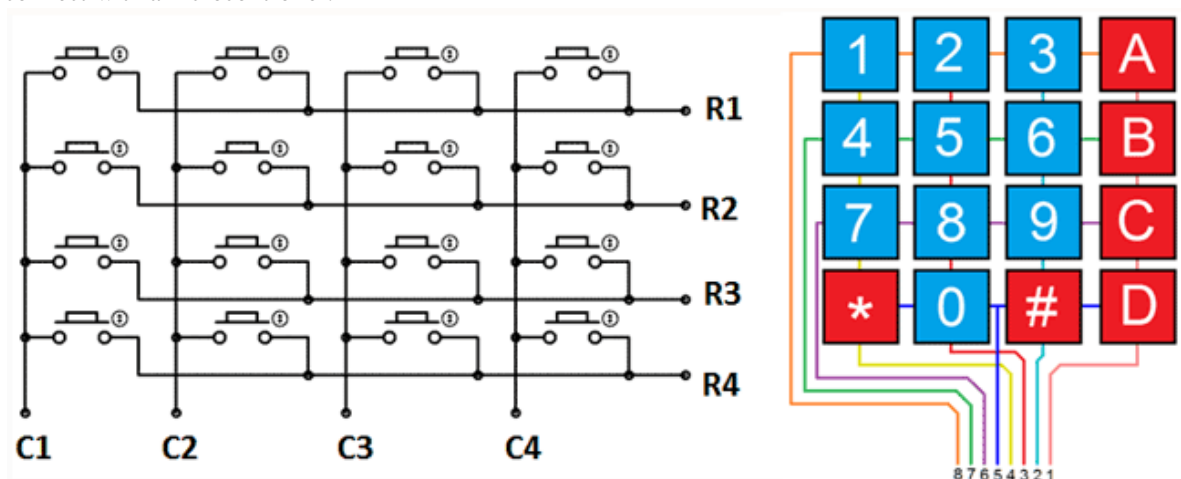
```
MOV A, #01H
MOVC A, @A+DPTR
MOV P1, 08H
MOV P2, A
ACALL DELAY
```

1

## 2. INTERFACING 4X4 MATRIX KEYPAD

Keypads are widely used input devices being used in various electronics and embedded projects. They are used to take inputs in the form of numbers and alphabets and feed the same into system for further processing.

Matrix keypad consists of set of Push buttons, which are interconnected. Like in our case we are using 4X4 matrix keypad, in which there are 4 push buttons in each of four rows. And the terminals of the push buttons are connected according to diagram. In first row, one terminal of all the 4 push buttons are connected together and another terminal of 4 push buttons are representing each of 4 columns, same goes for each row. So we are getting 8 terminals to connect with a microcontroller.





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

MOV A, P2 ; Read the Columns

CJNE A, #0FH, **PRESSED** ; If key is pressed, then go to PRESSED

SJMP **REPEAT** ; Else keep checking

**PRESSED:** ACALL **DELAY** ; Call a delay routine of 20ms for key de-bouncing  
MOV R0, #00H ; Assume Key  
"0" MOV P1, #0EH ; Test for  
Row P1.0 MOV A, P2 ; Read  
the Columns  
CJNE A, #0FH, **DETECT** ; P1.0 Row is Identified. Now Identify the Column

MOV R0, #04H ; Assume Key  
"4" MOV P1, #0DH ; Test for  
Row P1.1 MOV A, P2 ; Read the  
Columns  
CJNE A, #0FH, **DETECT** ; P1.1 Row is Identified. Now Identify the Column

MOV R0, #08H ; Assume Key  
"8" MOV P1, #0BH ; Test for  
Row P1.2 MOV A, P2 ; Read  
the Columns  
CJNE A, #0FH, **DETECT** ; P1.2 Row is Identified. Now Identify the Column

MOV R0, #0CH ; Assume Key  
"C" MOV P1, #07H ; Test for  
Row P1.3 MOV A, P2 ; Read  
the Columns

**DETECT:** RRC A ; Test for each Column  
JNC **FOUND** ; If no carry then Key is detected as the value of R0  
INC R0 ; Else increment R0  
SJMP **DETECT** ; Check next Column

**FOUND:** MOV A, R0 ; Transfer Key value into A register  
MOVC A, @A+DPTR ; Read Seven Segment Code from look-up table  
MOV P0, A ; Display the Key-Pressed on port 0

ACALL **DELAY**; Call a delay routine of 20 ms for key release

SJMP **REPEAT**



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## SAMPLES OF NPTEL CERTIFICATES



The image shows a sample NPTEL Online Certification certificate. It features the NPTEL logo on the left, a student photo on the right, and a red circular stamp indicating a Covid-19 impact. The certificate is awarded to B. Tejaswini for passing the course 'Fuzzy Sets, Logic and Systems & Applications' with a score of 98% in Jan-Apr 2020. It is signed by Prof. Rajesh M. Hegde and Prof. Satyaki Roy, NPTEL Coordinator at IIT Kanpur. The bottom of the certificate includes the IIT Kanpur logo and the Swayam logo.

 **NPTEL Online Certification**  
(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to  
**B. TEJASWINI**  
for passing the course.

**Fuzzy Sets, Logic and Systems & Applications**

with Score\* **98** %

**Covid-19 impacted  
January 2020  
semester**

  
**Prof. Rajesh M. Hegde**  
Chairman, Centre for Continuing Education  
IIT Kanpur

**Jan-Apr 2020**  
(12 week course)

  
**Prof. Satyaki Roy**  
NPTEL Coordinator  
IIT Kanpur

 Indian Institute of Technology Kanpur

 **swayam**  
FREE ONLINE EDUCATION  
THINK SMART, LEARN MORE



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**Y MUNI SEKHAR**

for passing the course

**Environmental Remediation of Contaminated Sites**

with Score\* **54** %

Covid-19  
impacted  
January 2020  
semester

**Prof. V. C. Srivastava**

Coordinator, Continuing Education Centre  
IIT Roorkee

**Jan-Apr 2020**

**(12 week course)**

**Prof. Inderdeep Singh**

NPTEL Coordinator  
IIT Roorkee



Indian Institute of Technology Roorkee



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**S VENKATA SAI NAVEEN**

for passing the course

**Manufacturing Process Technology I & II**

with Score\* **99** %

**Covid-19  
Impacted  
January 2020  
semester**

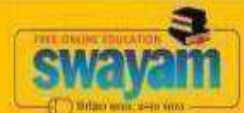
**Prof. Rajesh M. Hegde**  
Chairman, Centre for Continuing Education  
IIT Kanpur

**Jan-Apr 2020**  
(12 week course)

**Prof. Satyaki Roy**  
NPTEL Coordinator  
IIT Kanpur



Indian Institute of Technology Kanpur



\*Continuous online assessment score

To validate and check scores: <https://nptel.ac.in/noc>



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



Elite

## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**KONDURU.SRIKARR**

for successfully completing the course



### The Joy of Computing Using Python

with a consolidated score of **75** %

Online Assignments	24.75/25	Programming Exam	25/25	Proctored Exam	25/50
--------------------	----------	------------------	-------	----------------	-------

Total number of candidates certified in this course: **8505**

**Prof. Devendra Jalihal**

Chairman

Centre for Continuing Education, IITM

Jul-Oct 2019

(12 week course)

**Prof. Andrew Thangaraj**

NPTEL Coordinator

IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL19CS41S62260150

To validate and check scores: <https://nptel.ac.in/noc>

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## PROJECT COMPLETION CERTIFICATE



सीएसआईआर-संरचनात्मक अभियांत्रिकी अनुसंधान केन्द्र

CSIR-Structural Engineering Research Centre

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

(Council of Scientific & Industrial Research)

तरासमी, Taramani, चेन्नई 600113 Chennai 600113

Website: <https://www.serc.res.in>



Dr. J. Rajesanker  
Head, Skill and Human Resource  
Development Division

SS-01-SHRD/D/2019-20  
03-06-2020

### PROJECT COMPLETION CERTIFICATE

This is to certify that Ms. *Challa Seetha*, M.Tech (Structural Engineering), Reg. No. *18F6102008* student of *Siddharth Institute of Engineering and Technology, Puttur, India* has successfully completed her final semester project / dissertation work in CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai during the period from December 2019 to May 2020. She worked under the guidance of Dr. M.B. Anoop, Senior Principal Scientist & Head, Steel Structures Laboratory (SSL), CSIR-SERC. Her project title is "*Remaining life assessment of oil and gas pipelines subjected to corrosion*".

*J. Rajesanker*  
(J. Rajesanker)

Tel: 044-22544760  
E-mail: [sidd@serc.res.in](mailto:sidd@serc.res.in)

Fax: 044-22541508

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



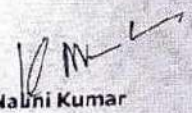
To Whomsoever It May Concern


This is to certify that **Ms. M. RUCHITHA (Reg. No:- 16F61A04H4)**, B.Tech (ECE) Third year student of the Siddharth Institute of Engineering and Technology, Puttur was placed with us for Project work from **30.05.19** to **29.06.19**. This Project work has been organized as part of her study curriculum.

During the period, she had done a Project work with the title of "**Study on Battery Charger Process**" at **AMARARAJA BATTERIES. Ltd.** under the guidance of Mr. K. Bhanu Moorthy, Engineer, Amara Raja Batteries Ltd, Tirupathi.

M. Ruchitha has shown her keen interest while doing the Project work. We found her enthusiastic, diligent and creative. We wish her a bright future.

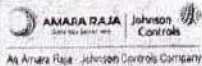
For Amara Raja Batteries Limited,

  
K. Nalini Kumar

 Asst General Manager – Human Resources

Date: 01.07.2019

AMARON®



An Amara Raja - Johnson Controls Company

Amara Raja Batteries Limited | An Amara Raja Group Company  
Registered Office & Works: Karakambadi-517520, Tirupati, Andhra Pradesh, India.  
Tel No. +91 877 2265000, Fax No. +91 877 2285400 E-mail: amararaja@amararaja.co.in  
Corporate Operations Office:  
TERMINAL A  
1-18/1/ANR/HR, Nanakramguda, Dachibowli, Hyderabad-500032, India  
Tel No. +91 40 23131000, Fax No. +91 40 23139901, E-mail: mktg@amararaja.co.in  
Website: www.amararaja.co.in, Corporate Identification Number: L31402AP1985PLC005100

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)



(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## SAMPLE CERTIFICATES OF PARTICIPATIONS



DEPARTMENT OF COMPUTER SCIENCE  
SRI PADMAVATI MAHILA VISVA VIDYALAYAM  
(WOMEN'S UNIVERSITY)  
NATIONAL LEVEL TECHFEST

ASPIRE 2017  
21<sup>st</sup>-22<sup>nd</sup> September

CERTIFICATE

This is to certify that Mr./Ms. D. Harinath Reddy (B.Tech. EEE, III year)  
studying in Siddhartha Institute of Engineering & Technology, Puttur.  
has participated in workshop on \_\_\_\_\_  
/ presented a paper entitled Identification of Transformer Failure in  
Agricultural Areas By Internet of Things  
and won the First place / Second place / Third place in Poster presentation  
Competition / Attended ASPIRE 2017.

M. Usharani  
Prof. M. Usha Rani  
Co-Convener

P. Venkata Krishna  
Prof. P. Venkata Krishna  
Convener

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## SRI VENKATESWARA COLLEGE OF ENGINEERING S.V. ENGINEERING COLLEGE FOR WOMEN

Karakambadi Road, TIRUPATI - 517 507, A.P.

[www.svcolleges.edu.in](http://www.svcolleges.edu.in)



TECH BLOOM-2016



### Certificate of Competence

This is to certify that Mr/Ms. D. Harinath Reddy of Siddhartha College  
participated in paper presentation - Mathematics on 23<sup>rd</sup> April, 2016 organized by,  
Department of GEBHS, SV Colleges, Tirupati. He/She has been awarded First prize.

*[Signature]*  
PRINCIPAL



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



This is to certify that **TAYEE NALINI** .....

bearing number **APSSDC/Siemens/M/45210** has successfully

completed ..... **Electrical (Home)- Expert** ..... Course

Conducted at

..... **Siddharth Institute Of Engineering And Technology, Puttur** .....

from **05-Mar-19** to **16-Mar-19**

Siemens Industry Software Pvt. Ltd

APSSDC

DesignTech Systems Limited

This is an auto generated Certificate and does not require Signatures



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



 **Andhra Pradesh State Skill Development Corporation (APSSDC)**  
(Department of Skill Development, Entrepreneurship & Innovation, Govt. of Andhra Pradesh)

Reg Id: 16F65A0411



**Certificate of Participation**

This is to certify that Mr./Ms./Mrs. B T Vasantha Kumar  
of Siddhartha Institute of Engineering and Technology  
participated in Scilab 2017 - 18  
held from 01-02-2018 to 03-02-2018

*Subbarao Ghanta*  
Director - APSSDC  
(Dr.Subbarao Ghanta)

*S.Murali Krishna*  
Head of the Department  
(S.Murali Krishna)

Principal

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

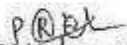


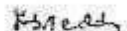
## NATIONAL SERVICE SCHEME

CHITTOOR DISTRICT LEVEL NSS YOUTH FESTIVAL – 2018

### CERTIFICATE OF PARTICIPATION

Certified that Mr./Ms. T. HEMALATHA S/o, D/o T. SURYANARAYANA  
studying at SIETK, PUTTUR college, JNTUA University, Andhra  
Pradesh attended Chittoor District Level NSS Youth Festival at SIDDHARTH INSTITUTE OF ENGINEERING &  
TECHNOLOGY, PUTTUR, Andhra Pradesh during 9<sup>th</sup> JANUARY, 2018. He/  She participated in  
PAINTING competition.

  
NSS PO/ Program Coordinator

  
Chairman & Principal NSS

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## INTERNSHIP CERTIFICATES

**JOTHI ELECTRICAL INDUSTRIES**  
2, R.C Street, Palanganatham, MADURAI-625003  
Email : [jothi.rewinding@gmail.com](mailto:jothi.rewinding@gmail.com) Tele-Fax: 2371763 Cell: 98428-71763

**Certificate of Internship**

This is to certify that Mr./Ms.

D. HARINATH REDDY

In appreciation to your successful work as an intern of Jothi Electrical Industries during the date of 25.6.18 to 15.7.18 with responsibilities of Electrical Motors, Generators, Transformers Mechanics Practically.

  
Managing Director 



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)


(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

Sr.No..SI-20-II-50.....

 **BENNETT UNIVERSITY**  
TIMES OF INDIA GROUP

**SUMMER INTERNSHIP**  
ON  
**ARTIFICIAL INTELLIGENCE AND DEEP LEARNING**

**LEADING INDIA**  
NATIONWIDE AI SKILLING & RESEARCH INITIATIVE

**CERTIFICATE OF COMPLETION**

This is to certify that Uthej K  
from Siddharth Institute of Engineering and Technology  
has successfully completed six weeks internship.  
Duration 01<sup>st</sup> June to 10<sup>th</sup> July 2020  
Venue : Bennett University, Greater Noida (U.P.) India

Dr. Deepak Garg  
Head Computer Science Engineering

Dr. Madhusri Verma  
Internship Coordinator

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



July 15, 2019

## SUMMER INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Ms. Desireddi Gari Suhasini** from **Siddharth Group of Institutions** has successfully completed **Summer Training & Internship** at **YDI Solutions Pvt Ltd, Bangalore** from 17th June 2019, till the close of business hours of 15th July 2019 on **'Applied Machine Learning using R'**.

We found her to be self starter who is motivated, honest, diligent, and hard working. Her performance as a **Intern** was good.

We wish all the best in her future endeavors.

For YDI Solutions Pvt Ltd



**Kandukuri Balachandra Reddy**  
(Chief Data Scientist/Director)

13A, 1st floor, 18th Cross, 3rd sector, HSR Layout, Bangalore - 560102  
[www.ydisolutions.ai](http://www.ydisolutions.ai)

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)



(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)


Puttur -517583, Chittoor District, A.P. (India)



Website: <http://srfmtti.dacnet.nic.in/>  
E-Mail: [fntti-sr@nic.in](mailto:fntti-sr@nic.in) Tele: 08551-286441

**दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान**  
**SOUTHERN REGION FARM MACHINERY TRAINING AND TESTING INSTITUTE**

  
भारत सरकार  
Government of India  
कृषि एवं किसान कल्याण मंत्रालय  
Ministry of Agriculture and Farmers Welfare  
कृषि, सहकारिता एवं किसान कल्याण विभाग  
Department of Agriculture, Cooperation and Farmers Welfare  
गार्लदिन्ने, जिला: अनंतपुर (आ.प्र.) / Garladinne, Distt: Anantapur (A.P.)-515731  
(AN ISO-9001:2015 CERTIFIED INSTITUTE)

---

अनुक्रमांक/Serial No.: **NB/65/07/14581/28512/2019-20**

**प्रमाण पत्र / CERTIFICATE**

यह प्रमाण-पत्र श्री/कु. **मक्किनेनी पावनी** पुत्र/पुत्री श्री **एम नागमनायडु** को प्रदान किया जाता है, जिन्होंने इस संस्थान में दिनांक 16.03.2020 से 20.03.2020 तक कृषि मशीनीकरण संबंधी पाठ्यक्रम के अंतर्गत गहन प्रशिक्षण प्राप्त किया।


This certificate is awarded to Shri/Kum **Makkineni Pavani** Son/Daughter of Shri **M. Nagamanaidu** who has undergone intensive training on Agricultural Mechanization at this Institute from 16.03.2020 to 20.03.2020

उन्हे मुख्य रूप से निम्न लिखित विषयों में प्रशिक्षण प्रदान किया गया। He/She has been imparted training mainly on the following subjects:

- स्टेशनरी आई.सी. इंजन का अध्ययन, मरम्मत एवं ओवरहालिंग। Study, Repair and Overhauling of Stationary I.C. Engine.
- सॉयल हेल्थ कार्ड के महत्व की जानकारी। Familiarization with importance of Soil Health Card.

उन्होंने प्रशिक्षण सफलतापूर्वक पूरा किया। He/She has completed the course successfully.

दिनांक/DATE: 20.03.2020.



(डॉ. पी. पी. राव) (Dr. P. P. RAO)  
निदेशक/DIRECTOR



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## TEAM BUILDING ACTIVITIES





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## HACKATHON PARTICIPATION





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Anantapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## STUDENT ACTIVITIES



SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(Autonomous)

(Approved by AICTE & Affiliated to JNTUA, Anantapuramu)

(Accredited by NAAC & NBA)

ISTE STUDENTS CHAPTER (2019-20)



### CIRCULAR

Date:-28-01-2020

ISTE Students Chapter of SIETK is glad to announce that the following events are planned to be conducted for ISTE student members only. All the student members are instructed to take part in each and every event and explore themselves.

**Eligibility: ISTE members only**

S. No	Name of the Event	Date of Event	Remarks
1	Idea Pitching	30-01-2020	College level
2	Guest lecture - I	01-02-2020	College Level
3	Quiz	07-02-2020	College level
4	Rangoli	14-02-2020	College Level (Girls)
5	Guest Lecture - II	22-02-2020	Department level
6	Photography	07-03-2020	College level
7	Class Decoration	12-03-2020	College level

- ❖ Attractive prizes for winners and runners in each event.
- ❖ ISTE student members are advised to enroll their names with the department student coordinators and participate actively in all the events.

  
FACULTY ADVISOR

  
CONVENER

- CC to :
1. Principal
  2. All HOD's
  3. II, III & IV classrooms
  4. All Dept. Faculty coordinators
  5. File
  6. Notice board

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## OFFICE BEARERS



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**

**Siddharth Nagar, Narayanavanam Road – 517583**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

### CIRCULAR

The Managing Committee of IETE Students' Forum (ISF) constituted for the Academic year 2019-2020 is as follows:

1. Dr. P. Ratna Kamala	Professor & Head, ECE	Ex-officio President
2. Mr. E. Kosalendra	Asst. Professor, ECE	Faculty Coordinator
3. Mr. P. Pavan Kumar	Asst. Professor, ECE	Student Advisor
4. Ms. S. Gayathri	16F61A0450 IV B.Tech.	Chairman
5. Mr. A. Rajesh	17F61A04F8 III B.Tech.	Hony. Secretary
6. Ms. A. Priyanka	17F61A04F0 III B.Tech.	Member
7. Ms. K. Pavithra	17F61A04E1 III B.Tech.	Member
8. Ms. C. Muneeswari	18F65A0405 III B.Tech.	Member
9. Mr. T. Trivikram	18F61A04O3 III B.Tech.	Member
10. Mr. K. Jayanth Varna	18F61A0487 II B.Tech.	Member

  
29/4/19  
**CO-ORDINATOR, ISF**

  
**HOD**

HE: 4D

Department Of Electronics & Communication Engg  
**Siddharth Institute Of Engg. &  
Narayanavaram Road, PUTTUR-517583**

# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

(Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)



## SAMPLE COPIES OF ACTIVITIES FOR SLOW LEARNERS

S.NO	ACTIVITIES	PAGE NUMBER
1.	REMEDIAL CLASSES CIRCULAR	28,35&41
2.	REMEDIAL CLASSES TIMETABLE	29,36&43
3.	REMEDIAL CLASSES ATTENDANCE	30,37&44
4.	SOLVED TUTORIAL PROBLEMS FOR SLOW LEARNERS	31,38&46
5.	IMPACT ANALYSIS	34,40&51



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

### REMEDIAL CLASSES

### CIRCULAR

Academic Year : 2020-2021  
Year & Sem : I Year I Sem  
Name of the Subject : Business Statistics for Managers

Date: 20/04/2021

Remedial classes for I MBA students (who scored below 60% of marks in Mid-I examination) are scheduled between 4:00PM to 5:30PM. Hence the following students are instructed to attend the classes without fail as per the given schedule.

#### LIST OF STUDENTS IDENTIFIED AS SLOWLEARNERS

S.NO.	ROLL NO.	NAME OF THE STUDENT
1.	20F61E0003	CHAITHANYA M
2.	20F61E0018	KIRAN.V
3.	20F61E0039	VAMSI KRISHNA K
4.	20F61E0043	YESWANTH K

  
Signature of the Faculty

  
HOD

HEAD  
Department Of Management Studies  
Siddharth Institute Of Engg. & Tech  
Narayanavaram Road, PUTTUR-517583.



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)  
Accredited by NAAC with 'A' Grade)  
Puttur -517583, Chittoor District, A.P. (India)

**DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION**  
**REMEDIAL CLASSES TIME TABLE**  
**CIRCULAR**

**Academic Year: 2020-2021**

**Date: 20/04/2021**

Remedial classes for I MBA students are arranged from 4:00PM to 5:30 PM on the following subjects. Hence the students are instructed to attend the classes without fail as per the given schedule.

NAME OF THE SUBJECT	NAME OF THE FACULTY	DATE		SIGNATURE OF STAFF
Business Statistics for Managers	S SREENIVASULU	Unit-1	22/04/2021	
		Unit-2	30/04/2021	
		Unit-3	07/05/2021	
		Unit-4	15/05/2021	
		Unit-5	21/05/2021	

- COPY TO :**
- 1. NOTICE BOARD**
  - 2. CLASS TEACHER**
  - 3. I YEAR CLASS ROOMS**

**HOD**

**HEAD**  
Department Of Management Studies  
Siddharth Institute Of Engg. & Tech  
Narayanavaram Road, PUTTUR



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

### BUSINESS STATISTICS FOR MANAGERS

#### ATTENDANCE SHEET

Academic Year: 2020-2021

Date: 21/05/2021

S.NO.	ROLL NO.	NAME OF THE STUDENT	DAY1	DAY2	DAY3	DAY4	DAY5
1.	20F61E0003	CHAITHANYA M	P	P	P	P	P
2.	20F61E0018	KIRAN.V	P	A	P	P	P
3.	20F61E0039	VAMSI KRISHNA K	P	P	P	P	A
4.	20F61E0043	YESWANTH K	A	P	P	P	P

#### TOPICS COVERED:

##### DAY-1

- 1) Measures of central tendency
- 2) Measures of Dispersion

##### DAY-3

- 1) Correlation
- 2) Regression

##### DAY-5

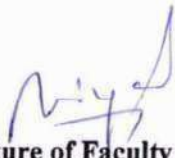
- 1) t-test, Z-test
- 2) Chi-Square test

##### DAY-2

- 1) Classification of data
- 2) Tabulation of Data

##### DAY-4

- 1) Hypothesis testing process

  
Signature of Faculty

HEAD  
Department Of Management Studies  
Siddharth Institute Of Engg. & Tech  
Narayanavaram Road, PUTTUR-517583.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

### BUSINESS STATISTICS FOR MANAGERS TUTORIAL PROBLEMS FOR SLOW LEARNERS

#### 1. MEASURES OF CENTRAL TENDENCY

##### Measures of Central Tendency

Measures of central tendency describe a set of data by identifying the central position in the data set as a single representative value. There are generally three measures of central tendency, commonly used in statistics- mean, median, and mode. Mean is the most common measure of central tendency used to describe a data set.

We come across new data every day. We find them in newspapers, articles, in our bank statements, mobile and electricity bills. Now the question arises whether we can figure out some important features of the data by considering only certain representatives of the data. This is possible by using measures of central tendency. In the following sections, we will look at the different measures of central tendency and the methods to calculate them.

##### What are Measures of Central Tendency?

Measures of central tendency are the values that describe a data set by identifying the central position of the data. There are 3 main measures of central tendency - Mean, Median and Mode.

- Mean- Sum of all observations divided by the total number of observations.
- Median- The middle or central value in an ordered set.
- Mode- The most frequently occurring value in a data set.

##### Measures of Central Tendency Definition

The central tendency is defined as the statistical measure that can be used to represent the entire distribution or a dataset using a single value called a measure of central tendency. Any of the measures of central tendency provides an accurate description of the entire data in the distribution.

#### 2. MEASURES OF DISPERSION

##### Measures of Dispersion

The following data provide the runs scored by two batsmen in the last 10 matches.

Batsman A: 25, 20, 45, 93, 8, 14, 32, 87, 72, 4

Batsman B: 33, 50, 47, 38, 45, 40, 36, 48, 37, 26



## SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

$$\text{Mean of Batsman A} = \frac{25 + 20 + 45 + 93 + 8 + 14 + 32 + 87 + 72 + 4}{10} = 40$$

$$\text{Mean of Batsman B} = \frac{33 + 50 + 47 + 38 + 45 + 40 + 36 + 48 + 37 + 26}{10} = 40$$

### 1. Range

The difference between the largest value and the smallest value is called Range.

$$\text{Range } R = L - S$$

$$\text{Coefficient of range} = (L - S) / (L + S)$$

where  $L$  - Largest value;  $S$  - Smallest value

**Example 8.1** Find the range and coefficient of range of the following data: 25, 67, 48, 53, 18, 39, 44.

**Solution** Largest value  $L = 67$ ; Smallest value  $S = 18$

$$\text{Range } R = L - S = 67 - 18 = 49$$

$$\text{Coefficient of range} = (L - S) / (L + S)$$

$$\text{Coefficient of range} = (67 - 18) / (67 + 18) = 49/85$$

$$= 0.576$$

**Example 8.2** Find the range of the following distribution.

Age (in years)	16-18	18-20	20-22	22-24	24-26	26-28
Number of students	0	4	6	8	2	2

**Solution** Here Largest value  $L = 28$

Smallest value  $S = 18$

$$\text{Range } R = L - S$$





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)  
Accredited by NAAC with 'A' Grade  
Puttur - 517583, Chittoor District, A.P. (India)

### 3. CORRELATION

Calculate coefficient of correlation for the following data by using origin & scale.

X	100	200	300	400	500	600	700
Y	30	50	60	80	100	110	130

X	$u_i = x_i - 400$	$v_i = y_i - 80$	$uv$	$u^2$	$v^2$
100	-300	30	-9000	90000	900
200	-200	50	-10000	40000	2500
300	-100	60	-6000	10000	3600
400	0	80	0	0	6400
500	100	100	10000	10000	10000
600	200	110	22000	40000	12100
700	300	130	39000	90000	16900
$\Sigma u = 0$		$\Sigma v = 0$	$\Sigma uv = 46000$	$\Sigma u^2 = 280000$	$\Sigma v^2 = 76000$

$$r_{(uv)} = \frac{n \Sigma uv - \Sigma u \Sigma v}{\sqrt{n \Sigma u^2 - (\Sigma u)^2} \sqrt{n \Sigma v^2 - (\Sigma v)^2}}$$

$$= \frac{7(46000) - (0)(0)}{\sqrt{7(280000) - (0)^2} \sqrt{7(76000) - (0)^2}}$$

$$= \frac{322000}{\sqrt{1960000} \sqrt{532000}}$$

$$= \frac{322000}{(1400)(730.6)}$$

$$= \frac{322000}{1022840} = +0.99$$

  
 Signature of Faculty



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

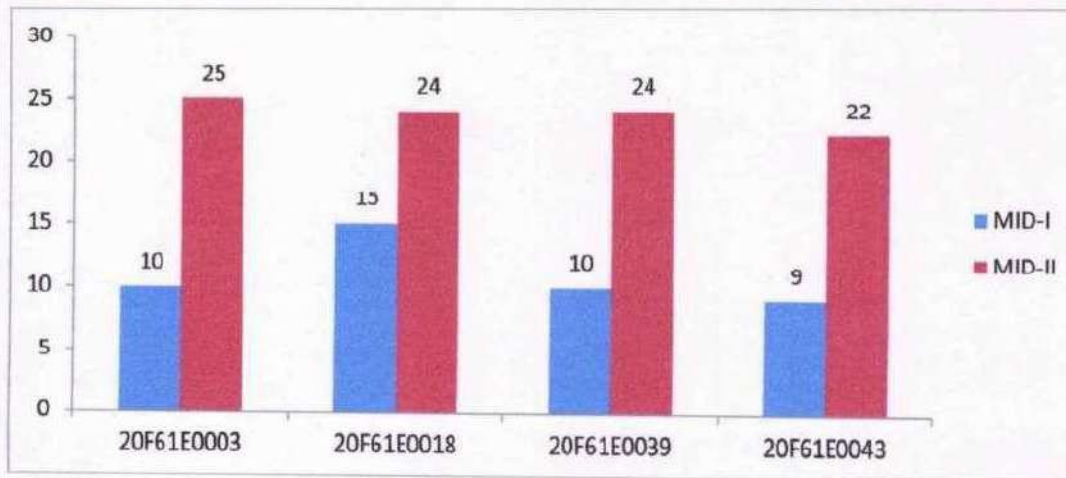
### BUSINESS STATISTICS FOR MANAGERS

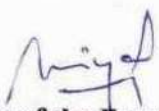
#### IMPACT ANALYSIS


Academic Year: 2020-2021

YEAR /SEM: I /I

S.NO	ROLL NO.	STUDENT NAME	MID-I MARKS (30 Marks)	MID-II MARKS (30 Marks)
1.	20F61E0003	CHAITHANYA M	10	25
2.	20F61E0018	KIRAN.V	15	24
3.	20F61E0039	VAMSI KRISHNA K	10	24
4.	20F61E0043	YESWANTH K	9	22



  
Signature of the Faculty

  
HOD  
HEAD  
Department Of Management Studies  
Siddharth Institute Of Engg. & T  
Narayanavaram Road, PUTTUR-517...



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

### REMEDIAL CLASSES

### CIRCULAR

Academic Year : 2020-2021

Date: 21/05/2021


Year & Sem : II Year I Sem

Name of the Subject : Microprocessors & Microcontrollers (19EC0421)

Remedial classes for II B.Tech CSIT students (who scored below 60% of marks in Mid-I examination) are scheduled between 4:00PM to 5:30PM at Room no: AUDI-301. Hence the following students are instructed to attend the classes without fail as per the given schedule.

#### LIST OF STUDENTS IDENTIFIED AS SLOWLEARNERS

S.NO.	ROLL NO.	NAME OF THE STUDENT
1.	19F61A0609	HIMA BINDU.N
2.	19F61A0613	LAKSHMI VARAPRASAD.M
3.	19F61A0621	MUNI VAMSI.N
4.	19F61A0622	NAVEEN REDDY.D
5.	19F61A0623	NETAJI.V
6.	19F61A0630	RAHUL.B
7.	19F61A0638	SRAVANI.G
8.	19F61A0646	UMAMAHESH.N

  
Signature of the Faculty

  
HOD

HEAD

Dept. of Computer Science & Information Technology  
SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY  
Siddharth Nagar, Narayanavanam Road,  
PUTTUR, Chittoor Dt. (A.P.)-517583.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

### REMEDIAL CLASSES TIME TABLE

#### CIRCULAR

Academic Year: 2020-2021

Date: 21/05/2021

Remedial classes for II B.Tech CSIT students are arranged from 4:00PM to 5:30 PM on the following subjects at Room no: AUDI-301. Hence the students are instructed to attend the classes without fail as per the given schedule.

NAME OF THE SUBJECT	NAME OF THE FACULTY	DATE		SIGNATURE OF STAFF
Microprocessors & Microcontrollers	D.Muneendra	Unit-1	24/05/2021	
		Unit-2	31/05/2021	
		Unit-3	07/06/2021	
		Unit-4	14/06/2021	
		Unit-5	21/06/2021	
Compiler Design	D.Viswasahithya	Unit-1	25/05/2021	
		Unit-2	01/06/2021	
		Unit-3	08/06/2021	
		Unit-4	15/06/2021	
		Unit-5	22/06/2021	
Web Technologies	N.Poornima	Unit-1	26/05/2021	
		Unit-2	02/06/2021	
		Unit-3	09/06/2021	
		Unit-4	16/06/2021	
		Unit-5	23/06/2021	

COPY TO : 1. NOTICE BOARD

2. CLASS TEACHER

3. II YEAR CLASS ROOMS

HOD

HEAD

Dept. of Computer Science & Information Technology  
SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY  
Siddharth Nagar, Narayanavanam Road,  
PUTTUR, Chittoor Dt. (A.P.)-517583.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

### MICROPROCESSORS & MICROCONTROLLERS

(19EC0421)

### ATTENDANCE SHEET

Academic Year: 2020-2021

Date: 24/5/2021 to 21/6/2021

S.NO.	ROLL NO.	NAME OF THE STUDENT	DAY1	DAY2	DAY3	DAY4	DAY5
1.	19F61A0609	HIMA BINDU.N	P	P	P	P	P
2.	19F61A0613	LAKSHMI VARAPRASAD.M	P	A	P	P	P
3.	19F61A0621	MUNI VAMSI.N	P	P	P	P	P
4.	19F61A0622	NAVEEN REDDY.D	P	P	P	P	P
5.	19F61A0623	NETAJI.V	P	P	P	P	A
6.	19F61A0630	RAHUL.B	A	A	A	P	P
7.	19F61A0638	SRAVANI.G	P	P	P	P	A
8.	19F61A0646	UMAMAHESH.N	P	P	P	P	P

#### TOPICS COVERED:

##### DAY-1

- 1) Microprocessor Architecture
- 2) Example of a microcomputer system
- 3) Microprocessor controlled temperature system (MCTS)

##### DAY-3

- 1) Counters and timers
- 2) Interrupts
- 3) 8051 microcontroller hardware

##### DAY-5

- 1) D/A and A/D Conversion -
- 2) Displays

##### DAY-2

- 1) The 8085 Microprocessor
- 2) Data format and Data Storage
- 3) Overview of the 8085 Instruction set

##### DAY-4

- 1) Logical operations
- 2) Addressing modes
- 3) Programs using Interrupts

  
Signature of Faculty



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade

Puttur - 517583, Chittoor District, A.P. (India)

## DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

### MICROPROCESSORS & MICROCONTROLLERS

#### TUTORIAL FOR SLOW LEARNERS

UNIT 2 : 16 bit Microprocessor Instruction Set and ALP ①

Programmer Model of Intel 8086

8086 has 20 address lines i.e) 1 MB of memory  
 It is divided into 4 segments each 64 KB

General purpose 16 bit registers: AX, BX, CX, DX

operand Types

- \* Bytes - 8 bit
- \* Words - 16 bit
- \* short Integers - 8 bit
- \* Integers - 16 bit
- \* Double words - 32 bit
- \* Long Integers - 32 bit
- \* string → Series of bytes (or) series of words stored in sequential memory locations.

Signed - Byte, Word, DW  
 Unsigned - short, long, DWORD

Instruction format

An Instruction length may range between 1 to 6 bytes

1 byte → opcode  
 2 bytes → register mask



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur - 517583, Chittoor District, A.P. (India)

## Introduction

Microprocessor based system will contain memory, input unit and output unit.

O/P devices  $\rightarrow$  7 segment LED Display  
CRT Monitor  
Printer

I/P device  $\rightarrow$  Keyboard, Digital inputs, ~~MP~~  
Analog inputs sensors

Support IC chips for peripheral interfacing of the 8085 and 8086 MP.

- \* Programmable Peripheral Interface (Intel 8255)
- \* Keyboard and Display controller (Intel 8279)
- \* Programmable interval timer (Intel 8253/8254)

others

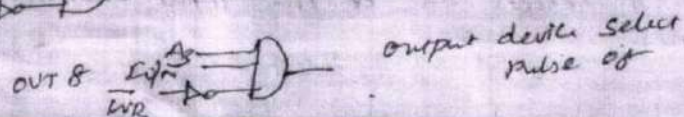
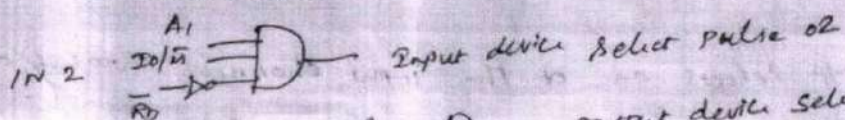
DMA controller  
Interrupt controller.

## Generation of I/O ports

Microprocessor inputs and outputs the data through ports.

Port  $\rightarrow$  one unit of data i.e. byte (or) word can be accessed through their unique addresses read or write. called port numbers.

CS  $\rightarrow$  Chip select. It is an Active low, used to enable communication between MP & I/O.



Signature of Faculty



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

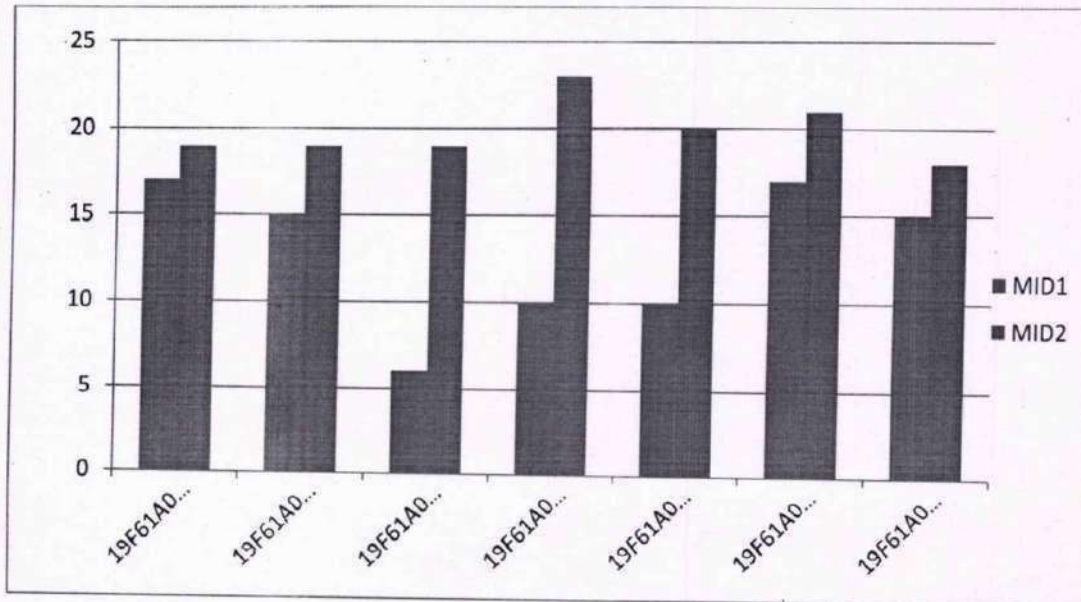
### MICROPROCESSORS & MICROCONTROLLERS

#### IMPACT ANALYSIS

Academic Year: 2020-2021

Year /Sem: II /I

S.NO	ROLL NO.	STUDENT NAME	MID-I MARKS (30 Marks)	MID-II MARKS (30 Marks)
1.	19F61A0609	HIMA BINDU.N	17	19
2.	19F61A0613	LAKSHMI VARAPRASAD.M	15	19
3.	19F61A0622	NAVEEN REDDY.D	06	19
4.	19F61A0623	NETAJI.V	10	23
5.	19F61A0630	RAHUL.B	10	20
6.	19F61A0638	SRAVANI.G	17	21
7.	19F61A0646	UMAMAHESH.N	15	18



Signature of the Faculty

HOD

HEAD

Dept. of Computer Science & Information Technology  
SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY  
Siddharth Nagar, Narayanavanam Road;  
PUTTUR, Chittoor Dt. (A.P.)-517583;





**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**REMEDIAL CLASSES**

**CIRCULAR**

Academic Year : 2016-2017  
Year & Sem : IV YEAR I-SEM  
Name of the Subject : Embedded Systems (13A04709)

Date: 21/10/2016

Remedial classes for IV-B.Tech ECE students (who scored below 60% of marks in Mid-I examination) are scheduled between 4:00PM to 5:30PM at B-202. Hence, the following students are instructed to attend the classes without fail as per the given schedule.

**LIST OF STUDENTS IDENTIFIED AS SLOWLEARNERS**

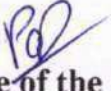
S.NO.	ROLL NO.	NAME OF THE STUDENT
1.	13F61A0454	GURUPRAKASH.P
2.	13F61A0480	JOSHUA.J
3.	13F61A0483	JYOTHI.M
4.	13F61A0490	KAVYASREE.V
5.	13F61A04A9	MADHURI R
6.	13F61A04B5	MANASA.A
7.	13F61A04D6	PAVAN KUMAR.M
8.	14F65A0402	ANANDHAN.G
9.	14F65A0421	PURUSHOTHAM.N
10.	14F65A0422	RAGHUVARAN.G
11.	14F65A0425	SARATH BABU.G
12.	14F65A0427	THAMILARASAN.N
13.	14F65A0428	THAYAGARAJAN.M



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE  
Accredited by NAAC with 'A' Grade)  
Puttur -517583, Chittoor District, A.P. (India)

14.	14F65A0432	VIJAY KUMAR.C
15.	12F61A04C7	OMKIRAN.P
16.	12F61A04C9	P.PADMALATHA
17.	12F61A04D3	R PAVAN KUMAR

  
Signature of the Faculty

  
HOD  
HEAD  
Dept. of Electronics & Communication Engg  
Siddharth Institute of Engg. & Tech.  
Narayanavanam Road, Puttur-517 583.



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**REMEDIAL CLASSES TIME TABLE**

**CIRCULAR**

**Academic Year: 2016-2017**

**Date: 21/10/2016**

Remedial classes for IVB.Tech ECE students are arranged from 04:00PM to 05:30 PM on the following subjects at B-203. Hence the students are instructed to attend the classes without fail as per the given schedule.

NAME OF THE SUBJECT	NAME OF THE FACULTY	DATE		SIGNATURE OF STAFF
		Unit	Date	
Embedded Systems	P.Pavan Kumar	Unit-1	24/10/2016	
		Unit-2	31/10/2016	
		Unit-3	07/11/2016	
		Unit-4	14/11/2016	
		Unit-5	21/11/2016	
Digital Image processing	K.S.Deveswari	Unit-1	25/10/2016	
		Unit-2	01/11/2016	
		Unit-3	08/11/2016	
		Unit-4	15/11/2016	
		Unit-5	22/11/2016	
Optical Fibre Communication	P. Vijaya	Unit-1	26/10/2016	
		Unit-2	02/11/2016	
		Unit-3	09/11/2016	
		Unit-4	16/11/2016	
		Unit-5	23/11/2016	
Wireless Communication	T. V. A. BhanuPrakash	Unit-1	27/10/2016	
		Unit-2	03/11/2016	
		Unit-3	10/11/2016	
		Unit-4	17/11/2016	
		Unit-5	24/11/2016	

- COPY TO :**
1. NOTICE BOARD
  2. CLASS TEACHER
  3. IV YEAR CLASS ROOMS

**HOB**

**HEAD**

Dept. of Electronics & Communication Engg  
Siddharth Institute of Engg. & Tech.  
Narayanavanam Road, Puttur-517 583.



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**EMBEDDED SYSTEMS (13A04709)**

**ATTENDANCE SHEET**

**Academic Year: 2016-2017**

**Date: 24/10/2016 to 21/11/2016**

S.NO	ROLL NO.	STUDENT NAME	DAY1	DAY2	DAY3	DAY4	DAY5
1.	13F61A0454	GURUPRAKASH.P	P	P	P	P	P
2.	13F61A0480	JOSHUA.J	P	P	P	P	P
3.	13F61A0483	JYOTHI.M	P	P	P	P	P
4.	13F61A0490	KAVYASREE.V	P	P	P	P	P
5.	13F61A04A9	MADHURI R	P	P	P	P	P
6.	13F61A04B5	MANASA.A	P	P	P	P	P
7.	13F61A04D6	PAVAN KUMAR.M	P	P	P	P	P
8.	14F65A0402	ANANDHAN.G	P	P	P	P	P
9.	14F65A0421	PURUSHOTHAM.N	P	P	P	P	P
10.	14F65A0422	RAGHUVARAN.G	P	P	P	P	P
11.	14F65A0425	SARATH BABU.G	P	P	P	P	P
12.	14F65A0427	THAMILARASAN.N	P	P	P	P	P
13.	14F65A0428	THAYAGARAJAN.M	P	P	P	P	P
14.	14F65A0432	VIJAY KUMAR.C	P	P	P	P	P
15.	12F61A04C7	OMKIRAN.P	P	A	P	A	P
16.	12F61A04C9	P.PADMALATHA	P	P	P	P	P
17.	12F61A04D3	R PAVAN KUMAR	P	P	P	A	P

**TOPICS COVERED:**

**DAY-1**

- 1) Embedded system overview, applications, features
- 2) CISC Vs RISC design philosophy, Von-Neumann Vs Harvard architecture
- 3) Instruction set and instruction formats
- 4) Weighing Machine application using MSP430



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

## DAY-2

- 1) on-chip peripherals (analog and digital)
- 2) Low Power aspects of MSP430
- 3) Interrupt programming.
- 4) Watchdog timer.

## DAY-3


- 1) Timer & Real Time Clock (RTC)
- 2) Timing generation and measurements
- 3) Analog interfacing and data acquisition
- 4) Remote Controller of Air Conditioner Using MSP430

## DAY-4

- 1) Serial communication basics
- 2) Synchronous/Asynchronous interfaces (like UART, USB, SPI, and I2C).
- 3) Implementing and programming UART, I2C, SPI
- 4) A Low-Power Battery less Wireless Temperature & Humidity Sensor with Passive Low Frequency RFID

## DAY-5

- 1) IoT overview and architecture
- 2) Embedded Wi-Fi
- 3) Building IoT applications using CC3100 user API for connecting sensors.
- 4) Implementing Wi-Fi Connectivity in a Smart Electric Meter

  
21/11/2016  
Signature of Faculty with Date



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

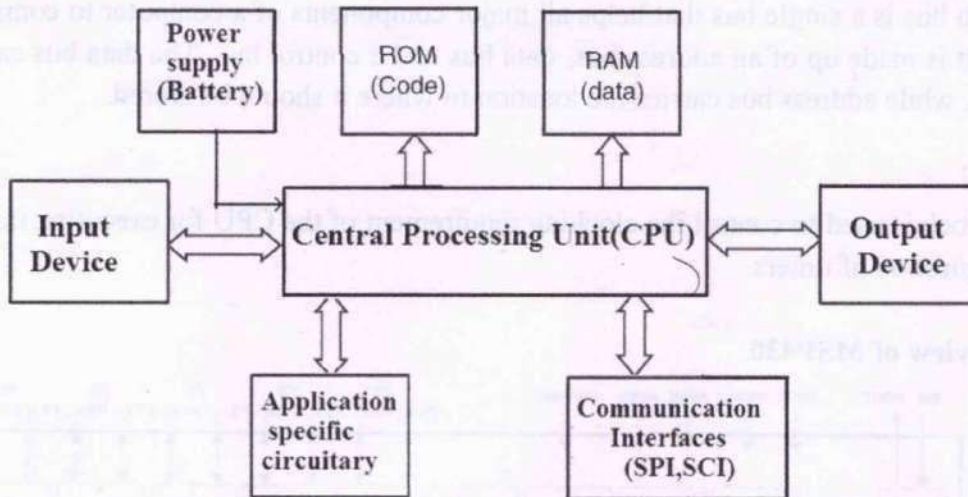
Puttur -517583, Chittoor District, A.P. (India)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### EMBEDDED SYSTEMS (13A04709)

#### TOPICS REVISED FOR SLOW LEARNERS

##### Architecture of Embedded system:



##### Central Processing Unit:

The CPU in the embedded system may be a general purpose processor like a microcontroller or a special purpose processor like a DSP (Digital signal processor). But any CPU consists of an Arithmetic Logic Unit (ALU), a Control Unit (CU), and many internal registers that are connected by buses. The ALU performs all the mathematical operations (Add, Sub, Mul, Div), logical operations (AND, OR), and shifting operations within CPU.

##### Memory:

Embedded system memory can be either on-chip or off-chip. The memory is divided into Data Memory and Code Memory. Most of the data is stored in Random Access Memory (RAM) and code is stored in Read Only Memory (ROM).

##### Communication Interfaces:

To transfer the data or to interact with other devices, the embedded devices are provided with various communication interfaces like RS232, RS422, RS485, USB, SPI (Serial Peripheral Interface), SCI (Serial Communication Interface), Ethernet etc.



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)  
Accredited by NAAC with 'A' Grade  
Puttur -517583, Chittoor District, A.P. (India)

## Application Specific Circuitry:

The embedded system sometimes receives the input from a sensor or actuator. In such situations certain signal conditioning circuitry is needed. This hardware circuitry may contain ADC, Op-amps, DAC etc. Such circuitry will interact with the embedded system to give correct output.

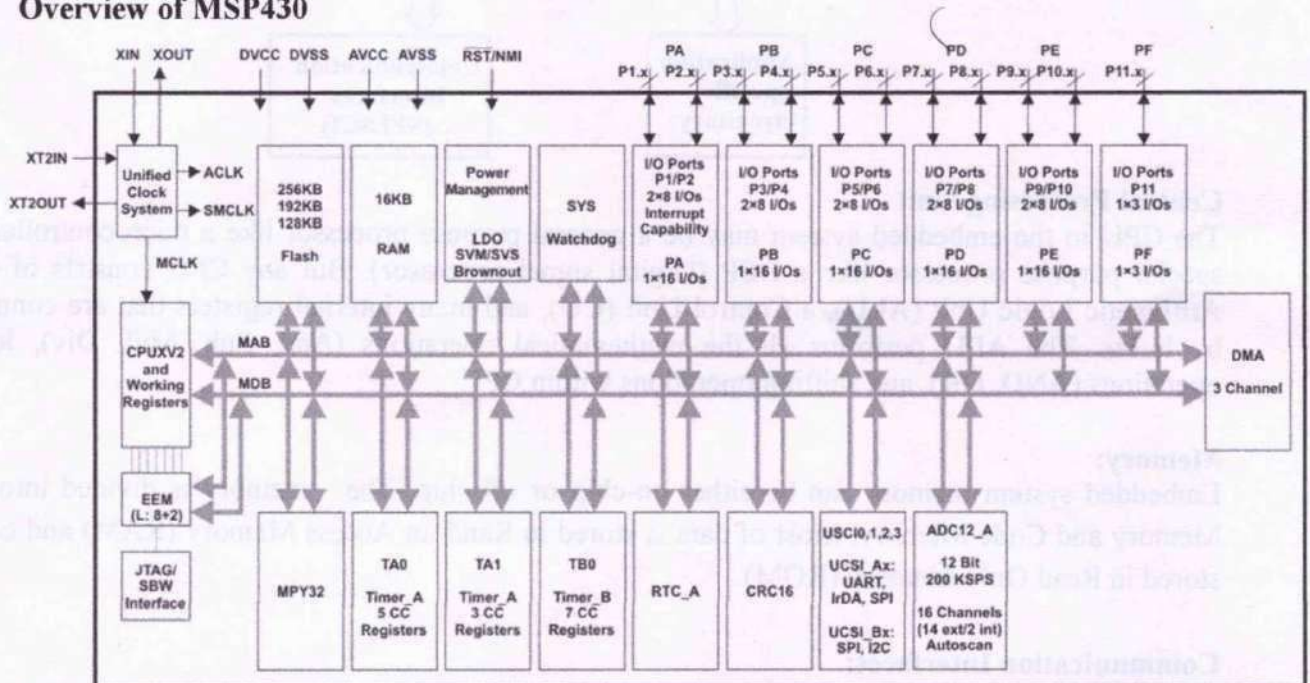
## Address bus and data bus:

System bus is a single bus that helps all major components of a computer to communicate with each other. It is made up of an address bus, data bus and a control bus. The data bus carries the data to be stored, while address bus carries the location to where it should be stored.

## Clock:

The clock is used to control the clocking requirement of the CPU for executing instructions and the configuration of timers.

## Overview of MSP430



The MSP430 is a 16-bit microcontroller that has a number of special features not commonly available with other microcontrollers:

- Complete system on-a-chip — includes LCD control, ADC, I/O ports,
- ROM, RAM, basic timer, watchdog timer, UART, etc.
- Extremely low power consumption — only 4.2 nW per instruction, typical
- High speed — 300 ns per instruction @ 3.3 MHz clock, in register and register addressing mode
- RISC structure — 27 core instructions



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

- Orthogonal architecture (any instruction with any addressing mode)
- Seven addressing modes for the source operand
- Four addressing modes for the destination operand
- Constant generator for the most often used constants (-1, 0, 1, 2, 4, 8)
- Only one external crystal required — a frequency locked loop (FLL) oscillator derives all internal clocks
- Full real-time capability — stable, nominal system clock frequency is available after only six clocks when the MSP430 is restored from low-power mode (LPM) 3; — no waiting for the main crystal to begin oscillation and stabilize
- The 27 core instructions combined with these special features make it easy to program the MSP430 in assembler or in C, and provide exceptional flexibility and functionality. For example, even with a relatively low instruction count of 27

3. Write a program to transfer the data by using following serial interfaces in MSP430

(i) SPI      (ii) UART

Answer:

### (i) Programming SPI using USCI module in MSP430

The recommended USCI initialization/re-configuration process is:

- Set UCSWRST (BIS.B #UCSWRST, &UCxCTL1);
- Initialize all USCI registers with UCSWRST = 1 (including UCxCTL1);
- Configure ports;
- Clear UCSWRST via software (BIC.B #UCSWRST, &UCxCTL1);
- Enable interrupts (optional) via UCxRXIE and/or UCxTXIE

```
#include <msp430.h>
volatile char received_character = 0;
int main(void) {
    WDTCTL = WDTPW + WDTHOLD; // Stop WDT
    P1DIR |= BIT5; // for selecting of slave device(STE/SS)
    P1OUT |= BIT5; // Set STE bit to high
    P1SEL = BIT1 | BIT2 | BIT4; // Select 1-SOMI(RXB),2-SIMO(TXB),4-SCLK
    P1SEL2 = BIT1 | BIT2 | BIT4; // Select 1-SOMI(RXB),2-SIMO(TXB),4-SCLK
    UCA0CTL1 = UCSWRST //Configure Software reset
    UCA0CTL0 |= UCCKPH + UCMSB + UCMST + UCSYNC; //3-pin,8-bit SPI MST
```





# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

```
UCA0CTL1 |= UCSSEL_2; // SMCLK
UCA0BR0 |= 0x02; // divide by 2
UCA0BR1 = 0; // divide by 1
UCA0MCTL = 0; // No modulation
UCA0CTL1 &= ~UCSWRST; // **Initialize USCI state machine**
P1OUT &= (~BIT5); // make STE low to Select Device
while (!(IFG2 & UCA0TXIFG)); // USCI_A0 TX buffer ready?
UCA0TXBUF = 0xAA; // Send 0xAA over SPI to Slave
while (!(IFG2 & UCA0RXIFG)); // USCI_A0 RX Received?
received_character = UCA0RXBUF; // Store received data
P1OUT |= (BIT5); // Unselect Device
}
```

## (ii) Programming UART using USCI module in MSP430

```
#include <msp430.h>

int main(void) {
    WDTCTL = WDTPW + WDTHOLD; // Stop WDT
    DCOCTL = 0; /* Use Calibration values for 1MHz Clock DCO*/
    BCSC1L1 = CALBC1_1MHZ;
    DCOCTL = CALDCO_1MHZ;
    P1SEL = BIT1 | BIT2; /* Configure Pin Muxing P1.1 RXD and P1.2 TXD */
    P1SEL2 = BIT1 | BIT2;
    UCA0CTL1 = UCSWRST; /* Place UCA0 in Reset to be configured */
    /* Configure */
    UCA0CTL1 |= UCSSEL_2; // SMCLK
    UCA0BR0 = 104; // 1MHz 9600
    UCA0BR1 = 0; // 1MHz 9600
    UCA0MCTL = UCBSR0; // Modulation UCBSRx = 1
    UCA0CTL1 &= ~UCSWRST; /* Take UCA0 out of reset */
    IE2 |= UCA0RXIE; /* Enable USCI_A0 RX interrupt */
    __bis_SR_register(LPM0_bits + GIE); // Enter LPM0, interrupts enabled
}

/* Echo back RXed character, confirm TX buffer is ready first */
#pragma vector=USCIAB0RX_VECTOR
__interrupt void USCI0RX_ISR(void)
```



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)

(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)

Accredited by NAAC with 'A' Grade)

Puttur -517583, Chittoor District, A.P. (India)

{

while (!(IFG2&UCA0TXIFG)); // USCI\_A0 TX buffer ready?

UCA0TXBUF = UCA0RXBUF; // TX -&gt; RXed character

}

  
Signature of Faculty



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE  
Accredited by NAAC with 'A' Grade)  
Puttur -517583, Chittoor District, A.P. (India)

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**EMBEDDED SYSTEMS (13A04709)**

**IMPACT ANALYSIS**

**Academic Year: 2016-2017**

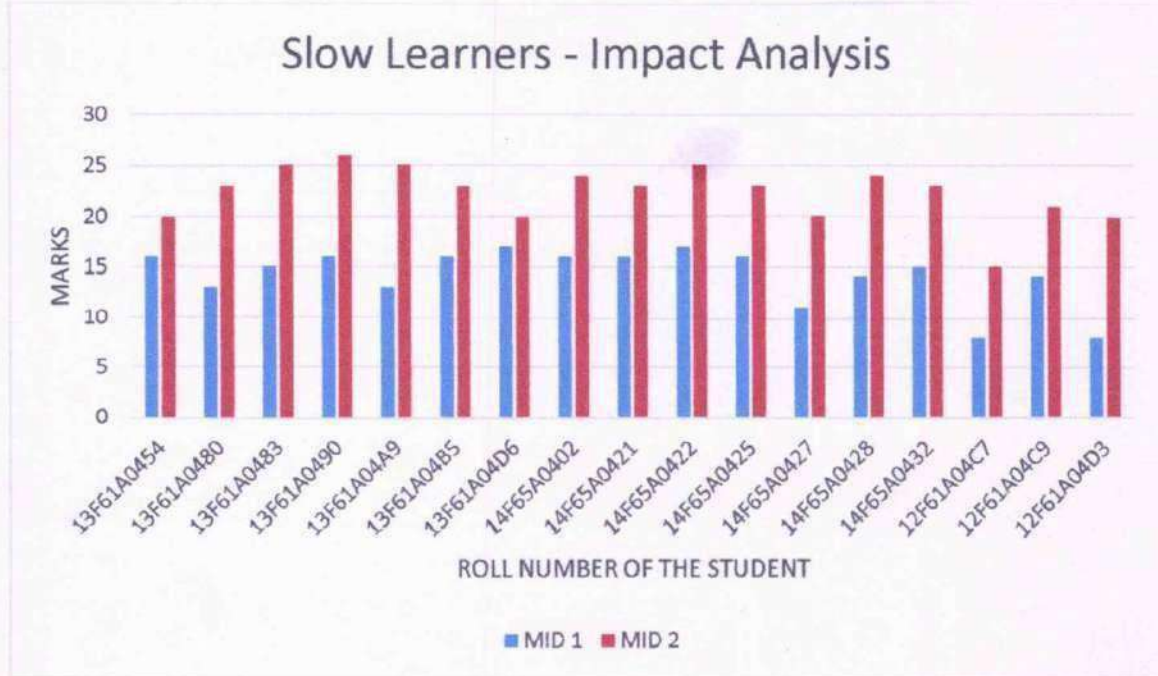
**YEAR /SEM: IV /I**

<b>S.NO</b>	<b>ROLL NO.</b>	<b>STUDENT NAME</b>	<b>MID-I MARKS (30 Marks)</b>	<b>MID-II MARKS (30 Marks)</b>
1.	13F61A0454	GURUPRAKASH.P	16	20
2.	13F61A0480	JOSHUA.J	13	23
3.	13F61A0483	JYOTHIM	15	25
4.	13F61A0490	KAVYASREE.V	16	26
5.	13F61A04A9	MADHURI R	13	25
6.	13F61A04B5	MANASA.A	16	23
7.	13F61A04D6	PAVAN KUMAR.M	17	20
8.	14F65A0402	ANANDHAN.G	16	24
9.	14F65A0421	PURUSHOTHAM.N	16	23
10.	14F65A0422	RAGHUVARAN.G	17	25
11.	14F65A0425	SARATH BABU.G	16	23
12.	14F65A0427	THAMILARASAN.N	11	20
13.	14F65A0428	THAYAGARAJAN.M	14	24
14.	14F65A0432	VIJAY KUMAR.C	15	23
15.	12F61A04C7	OMKIRAN.P	8	15
16.	12F61A04C9	P.PADMALATHA	14	21
17.	12F61A04D3	R PAVAN KUMAR	8	20



# SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)  
(Accredited by NBA for Civil, EEE, Mech., ECE & CSE)  
Accredited by NAAC with 'A' Grade  
Puttur -517583, Chittoor District, A.P. (India)



Signature of the Faculty

  
HOB  
HEAD  
Dept. of Electronics & Communication Engg.  
Siddharth Institute of Engg. & Tech.  
Narayanavanam Road, Puttur-517 583.