NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL
INDRA GANESAN COLLEGE OF ENGINEERING

![Indra Ganesan College of Engineering logo]

Indra Ganesan
COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennai
NAAC Accredited, 2(F) Status Institution by UGC

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

1.2 Academic Flexibility (30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	PIC MICROCONTROLLER AND ARM PROCESSOR					
Resource Person:	Mr.Senthil Murugan, Mr.K.Manokar, Trainer, Pantech Solutions Trichy					
Date of conduct from:	02.12.2019	**To:**	06.12.2019	**Duration:**	30 Hours	
Organized Department:	ELECTRONICS AND COMMUNICATION ENGINEERING					
Participant Year:	ECE IV, III, II	**Semester:**	ODD	**No. of Students Registered:**		72
Venue:	DSP Lab, IGCE					

Table of Content

Department of Electronics and Communication Engineering

Academic Year 2019-2020–ODD Semester

22.11.2019

DEPARTMENT CIRCULAR

Department of Electronics and Communication Engineering and IQAC of IGCE in association with Pantech Solution, Trichy, is going to organize Value Added Course for all Second, Third and Final year students on "PIC Micro controller and ARM processor" from 02.12.2019 to 06.12.2019. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

Resource Persons	1. Mr.M.Senthil Murugan , Trainer, Pantech Solutions Trichy 2. Mr.K.Manokar, Trainer, Pantech Solutions Trichy
Venue	DSP lab, IGCE

HOD/ECE

PRINCIPAL

Cc:

- Principal office
- IQAC Co-Ordinator
- Class In charges - II, III & IV-Year
- II, III & IV-Year ECE Students
- Office File
- Notice Board

Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

Value Added Course

"PIC Microcontroller and ARM processor"

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	PIC- Introduction , Architecture, Serial port interfacing devices	3	02.12.2019
2	I/O Programming Arithmetic	3	02.12.2019
3	Peripheral Interfacing of Pic MC- USART,Asynchronous Transmission, BAUD RATEGenerator	3	03.12.2019
4	Timer programming in Assembly and C	3	03.12.2019
5	ARM Architecture, Register Interrupts ,Software Interrupt	3	04.12.2019
6	ARM assembly Language programming	3	04.12.2019
7	Implementation using Keil: Arithmetic and logical operations	3	05.12.2019
8	ARM Development Tools,KEIL IDE Simple Project Creation ,Simulation hardware interface	3	05.12.2019
9	Temperature sensor	3	06.12.2019
10	Accessing on chip ADC and to display the value in PC serial terminal	3	06.12.2019
11	Exam	1	06.12.2019
	Total Hours (Excluding Exam)	30	-

R.Nithy
VAC Coordinator

M.B
HOD/ECE

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Value Added Course

"PIC Microcontroller and ARM processor"
STUDENTS PARTICIPATION LIST

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
1	811216106001	ABARNA T	IV/ECE
2	811216106002	AMSAVALLI S	IV/ECE
3	811216106003	ANUSHYA S	IV/ECE
4	811216106004	AROCKIA NIVETHA S	IV/ECE
5	811216106005	ASHEFA N	IV/ECE
6	811216106006	DHANALAKSHMI T	IV/ECE
7	811216106008	FEMINA BEGUM A	IV/ECE
8	811216106009	GAYATHRI J	IV/ECE
9	811216106011	KEERTHANA P	IV/ECE
10	811216106012	KEERTHANA S	IV/ECE
11	811216106013	KEERTHIKA D	IV/ECE
12	811216106014	LATHASRI S	IV/ECE
13	811216106015	MENAKA R	IV/ECE
14	811216106016	MITHRA P	IV/ECE
15	811216106017	MOHAN RAJ S	IV/ECE
16	811216106018	NILAVAR NISHA F	IV/ECE
17	811216106019	PAVITHRA P	IV/ECE
18	811216106020	PAVITHRA V	IV/ECE
19	811216106021	PRABHU A	IV/ECE
20	811216106022	PREETHA M	IV/ECE
21	811216106024	PREMA S	IV/ECE
22	811216106025	RAAHUL BN	IV/ECE
23	811216106026	RAMYA S	IV/ECE
24	811216106027	RUBAN RAJ S	IV/ECE
25	811216106028	SARANYA M	IV/ECE
26	811216106030	SARAVANAN S	IV/ECE
27	811216106031	SHANAKYA P	IV/ECE
28	811216106032	SORNA J	IV/ECE
29	811216106033	SUDHARSAN K	IV/ECE
30	811216106034	SUVATHI R	IV/ECE
31	811216106035	SWATHI S	IV/ECE
32	811216106036	UDAYA RANI K	IV/ECE
33	811216106037	VETTAI P	IV/ECE
34	811217106001	AISHWARIYA S	III / ECE

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S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH
35	811217106002	ANEESHA A	III / ECE
36	811217106003	DEEPIKA B	III / ECE
37	811217106004	DURGA D	III / ECE
38	811217106005	GANGADEVI M	III / ECE
39	811217106006	JANANI C	III / ECE
40	811217106009	KARTHICK K	III / ECE
41	811217106010	KOSIANANTH R	III / ECE
42	811217106011	LAKSHMI M	III / ECE
43	811217106012	MANIKANDAN M	III / ECE
44	811217106013	MEKALA DEVI S	III / ECE
45	811217106014	PANDIMEENA R	III / ECE
46	811217106016	PREETHI V	III / ECE
47	811217106017	RAASHITHA JANNATH A	III / ECE
48	811217106018	RANJITHA T	III / ECE
49	811217106019	RIYAS MOHAMMED K	III / ECE
50	811217106020	SAIMOULI N	III / ECE
51	811217106021	SARUMATHI A	III / ECE
52	811217106022	SHALINI M	III / ECE
53	811217106023	SIVA SANKARI M	III / ECE
54	811218106001	ABINAYA R	II / ECE
55	811218106002	AKILA K	II / ECE
56	811218106004	ARTHI M	II / ECE
57	811218106005	AZHAGU MEENA M	II / ECE
58	811218106006	DEVI K	II / ECE
59	811218106007	DHANALAKSHMI S	II / ECE
60	811218106008	HARI KRISHNAN S	II / ECE
61	811218106009	JANANI V	II / ECE
62	811218106010	JENIFER C	II / ECE
63	811218106011	JENIFER S	II / ECE
64	811218106012	KESAVAMURTHI M	II / ECE
65	811218106013	KIRUTHIKA S	II / ECE
66	811218106015	MARIA FRANCIS D	II / ECE
67	811218106016	RAGAVI A	II / ECE
68	811218106017	RUTHRAMOORTHY M	II / ECE
69	811218106018	SABARINATHAN K	II / ECE
70	811218106019	SARMILA M	II / ECE
71	811218106020	SUMATHI S	II / ECE
72	811218106021	THIVYA PRIYA R	II / ECE

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VAC Coordinator

HOD/ECE

REPORT ON VALUE ADDED COURSE

Title:	"PIC Microcontroller and ARM processor"	
Resource Person:	Mr.M.Senthil Murugan, R&D,Pantech Solutions, Trichy	Mr.K.Manokar, Trainer,Pantech Solutions, Trichy

Date of conduct from :	02.12.2019	To:	06.12.2019	Duration:	30 Hours

Organized Department :	Electronics and Communication Engineering	
Participant Year :	2,3,4	No. of Students Registered : 72
Venue:	DSP Lab	

Outcome of Value Added Course (VAC): At the end of the Course, Students can be able to

- Understand the simulation tools in PIC Microcontroller and ARM Processor
- Recognize various tools used for the controller applications
- Examine the methods for Troubleshooting in various simulation tools.
- Gain knowledge about working principle of ARM processor.
- Implement and verify control strategies in the simulation platform for Pic Micro controller

Assessment Process

- Students, who are securing **more than 70% on total score** and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score = (0.5 *Attendance in VAC out of 100 percentage + 0.5 *Test mark in VAC out of 100 marks)

R.Dithy.	M.Bhuvana	
VAC Coordinator	**HoD/ECE**	**Principal**

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SAMPLE PHOTOS OF VALUE ADDED COURSE

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Resource Person:	Mr.M.Senthil Murugan, R&D,Pantech Solutions, Trichy — Mr.K.Manokar, Trainer,Pantech Solutions, Trichy

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Organized Department : **Electronics and Communication Engineering**

Participant Year: **2,3,4**	No. of Students Registered : **72**

Venue: **DSP Lab**

Sample Photos

Manikandam, Tamil Nadu, India
PJRP+2XG, Manikandam, Panjappur, Tamil Nadu 620012, India
Lat 10.741398°
Long 78.637846°
02/12/19 10:19 AM GMT +05:30

VAC Coordinator   **HoD/ECE**   Principal

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Value Added Course
"PIC Microcontroller and ARM processor"

Name of the Student: **Year/ Sem:**

AU Register Number:

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

1. **Which of the following should a microcontroller at-least should consist of ?**
   a)CPU, ROM, I/O ports, and timers   b) RAM, ROM, I/O ports, and timers
   c) CPU, RAM, I/O ports, and timers   d) CPU, RAM, ROM, I/O ports, and timers

2. **Which of the following buses are present in a microcontroller for transferring data from one place to another?**
   a) data bus only   b) data bus, address bus
   c) address bus only   d) address bus, data bus, control bus

3. **Which of the following file extension that is loaded in a micro controller for executing any instruction?**
   a). c   b) .txt   c) .hex   d) .doc

4. **Which of the following architecture is followed by general-purpose microprocessors?**
   a) Von Neumann architecture   b) Harvard architecture
   c) None of the mentioned   d) All of the mentioned

5. **Which of the following micro controller doesn't match with its architecture below?**
   a) ARM7 - Von Neumann   b) Microchip PIC - Harvard
   c) ARM9 Harvard   d) MSP430 Harvard

6. **When the micro controller executes some arithmetic operations, then the flag bits of which of the following register are affected?**
   a) DPTR   b) PSW   c) PC   d) SP

7. **Which of the following steps have to be followed for interfacing a sensor to a microcontroller 8051?**
   a) interface sensor with ADC and ADC with 8051
   b) interface sensor with the MAX232, send now to micro controller, analyse the results controller, ADC conversion, analyse the results
   c) make the appropriate connections with the micro controller
   d) none of the mentioned

8. Which of the following devices are specifically being used for converting serial to parallel and from parallel to serial respectively?

  a) Micro controller   b) timers   c) counters   d) registers

9. Which of the following pins of a micro controller are directly connected with 8255?

  a)WR   b) D0-D7   c) RD   d) All of the mentioned

10. Why are solid-state relays advantageous over electro mechanical relays?
  a) they need less voltage to be energized   b) they need zero voltage circuit
  c) they need less current to be energized   d) none of the mentioned

11. The total space for the data memory available in the AVR-based microcontroller is?

  a) FFFH   b) FH   c) FFFFH   d) FFFFFFFH

12. Which of the following is correct about BRNE instruction in avr micro controller ?
  a) it is used to jump to the given mentioned label when the zero flag accounts to 0
  a) it is used to check the zero flag
  b) it is used to compare two registers
  c) it is used to compare two values

13. AVR, which of the following registers are there for the I/O programming of ports?
  a) PIN   b) DDR   c) PORT   d) All of the mentioned

14. What will happen in that condition, if an interrupt occurs while the microcontroller is serving any other interrupt?
  a) the interrupt that is more priority in the interrupt vector table will be served first
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15 .Which of the following bits are used for setting the data frame size?
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16. What is the internal Vref of an Atmega32 series?
  a) 3.3V   b) 2.56V   c) 5V   d) all of the mentioned

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19. Does 8255 have handshaking capability?

a) depends on the conditions   b) cant be said

c) yes   d) no

20. Why are ULN2803 normally used between the micro controllers and the relays?

a) for increasing the voltage capability required by a relay

b) for switching purposes

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d) all of the mentioned

21 .Why are opto isolators normally used between the micro controllers and the LN2803?

a) to reduce the back emf   b) to increase the current   c) to increase the voltage   d) to optimize the current

22. Which of the following bit/s of the status register that allows the microcontroller to operate in its low power mode?

a) CPU off   b) Z

c) N   d) Reserved

23. To improve the efficiency of an MSP430 based microcontroller, for one register

a) there are two values for each addressing mode

b) there is only one value for all addressing modes

c) there are 4 values for four addressing modes

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24. Which of the following is the basic functions of a timer?

a) it can control the compare, capture mode

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25. Which of the following is correct about WDTCTL?

a) it is guided against accidental writes that require a password

b) a rese will occur if a value with an incorrect password is written to WDTCTL

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d) all of the mentioned

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Value Added Course

"PIC Microcontroller and ARM processor"

ANSWER KEY

1	d	6	b	11	c	16	b	21	a
2	d	7	a	12	a	17	b	22	a
3	c	8	d	13	d	18	d	23	c
4	a	9	d	14	a	19	c	24	d
5	d	10	c	15	d	20	c	25	d

VAC Coordinator

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Value Added Course
"PIC Microcontroller and ARM processor"

Name of the Student: pairthra. V   **Year/ Sem:** IV / VII

AU Register Number: 8112106020

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Value Added Course
"PIC Microcontroller and ARM processor"

Name of the Student: Keerthika.D   **Year/ Sem:** $\overline{IV}$ / $\overline{VII}$

AU Register Number: 811216106013

$\frac{21}{25}$

MULTIPLE CHOICE QUESTIONS (25X1 = 25 Marks)

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19. Does 8255 have handshaking capability?
a) depends on the conditions   b) cant be said
c) yes   d) no

20. Why are ULN2803 normally used between the micro controllers and the relays?
a) for increasing the voltage capability required by a relay
b) for switching purposes
c) for increasing the current capability required by a relay
d) all of the mentioned

21 .Why are opto isolators normally used between the micro controllers and the LN2803?

a) to reduce the back emf   b) to increase the current   c) to increase the voltage   d) to optimize the current

22. Which of the following bit/s of the status register that allows the microcontroller to operate in its low-power mode?
a) CPU off   b) Z
c) N   d) Reserved

23. To improve the efficiency of an MSP430 based microcontroller, for one register
a) there are two values for each addressing mode
b) there is only one value for all addressing modes
c) there are 4 values for four addressing modes
d) there are 2 values for four addressing modes

24. Which of the following is the basic functions of a timer?
a) it can control the compare, capture mode
b) it provided a time delay
c) it can act as a counter
d) all of the mentioned

25. Which of the following is correct about WDTCTL?
a) it is guided against accidental writes that require a password
b) a rese will occur if a value with an incorrect password is written to WDTCTL
c) it is a 16 bit register
d) all of the mentioned

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Department of Electronics and Communication Engineering

Academic Year 2019-2020 – Odd Semester

STUDENTS ATTENDANCE LIST

Value Added Course

"PIC Micro Controller and ARM Processor"

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	02.12.2019 FN	02.12.2019 AN	03.12.2019 FN	03.12.2019 AN	04.12.2019 FN	04.12.2019 AN	05.12.2019 FN	05.12.2019 AN	06.12.2019 FN	06.12.2019 AN	NO OF SESSIONS ATTENDED	SIGN OF THE STUDENT
1	811216106001	ABARNA T	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	G. Abarna
2	811216106002	AMSAVALLI S	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	S. Amsavalli
3	811216106003	ANUSHYA S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Anush.S
4	811216106004	AROCKIA NIVETHA S	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Arockia Nivetha.S
5	811216106005	ASHEFA N	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Ashya N
6	811216106006	DHANALAKSHMI T	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Dhanalakshmi
7	811216106008	FEMINA BEGUM A	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Femina Begum
8	811216106009	GAYATHRI J	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	B. Kauthi
9	811216106011	KEERTHANA P	IV/ECE	✓	✓	✓	✓	A	✓	✓	✓	✓	✓	9	
10	811216106012	KEERTHANA S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	S. Keerthana
11	811216106013	KEERTHIKA D	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	D. Keerthika
12	811216106014	LATHASRI S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Lathi
13	811216106015	MENAKA R	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Meena
14	811216106016	MITHRA P	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	P. Mithra

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				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
15	811216106017	MOHAN RAJ S	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	S. Moharaj
16	811216106018	NILAVAR NISHA F	IV/ECE	✓	✓	✓	✓	A	✓	✓	A	✓	✓	8	Navi Nli. F
17	811216106019	PAVITHRA P	IV/ECE	✓	✓	✓	✓	✓	A	✓	A	✓	✓	8	Pavithra. P.
18	811216106020	PAVITHRA V	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Pralhp
19	811216106021	PRABHU A	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Pavithea
20	811216106022	PREETHA M	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Preetha M
21	811216106024	PREMA S	IV/ECE	✓	✓	✓	A	✓	A	✓	✓	✓	✓	8	Proma. B
22	811216106025	RAAHUL BN	IV/ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	RggR
23	811216106026	RAMYA S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Ramya. S
24	811216106027	RUBAN RAJ S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Ribe
25	811216106028	SARANYA M	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Saranya M
26	811216106030	SARAVANAN S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Saaven'n
27	811216106031	SHANAKYA P	IV/ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Sany ela p
28	811216106032	SORNA J	IV/ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Sorna. S.
29	811216106033	SUDHARSAN K	IV/ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Sudharsan. K.
30	811216106034	SUVATHI R	IV/ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Suothi
31	811216106035	SWATHI S	IV/ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Clasthi S
32	811216106036	UDAYA RANI K	IV/ECE	✓	✓	✓	✓	A	✓	✓	✓	✓	✓	9	Velehya hunk
33	811216106037	VETTAI P	IV / ECE	✓	✓	✓	A	✓	✓	A	✓	✓	✓	8	Vettai P
34	811217106001	AISHWARIYA S	III /ECE	✓	✓	✓	✓	A	✓	✓	✓	✓	✓	9	July.s
35	811217106002	ANEESHA A	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Aneesha A
36	811217106003	DEEPIKA B	III / ECE	✓	✓	✓	✓	✓	✓	A	✓	✓	✓	9	Deepik B.

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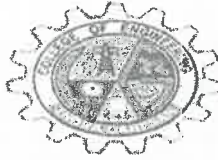IG Valley, Madurai Main Road
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				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
37	811217106004	DURGA D	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
38	811217106005	GANGADEVI M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
39	811217106006	JANANI C	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
40	811217106009	KARTHICK K	III / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	
41	811217106010	KOSIANANTH R	III / ECE	✓	✓	✓	A	✓	✓	✓	A	✓	✓	8	
42	811217106011	LAKSHMI M	III / ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	
43	811217106012	MANIKANDAN M	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
44	811217106013	MEKALA DEVI S	III / ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	
45	811217106014	PANDIMEENA R	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
46	811217106016	PREETHI V	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
47	811217106017	RAASHITHA JANNATH A	III / ECE	✓	A	✓	✓	✓	✓	✓	✓	✓	✓	9	
48	811217106018	RANJITHA I	III / ECE	✓	A	✓	A	✓	✓	✓	✓	✓	✓	8	
49	811217106019	RIYAS MOHAMMED K	III / ECE	✓	✓	✓	✓	A	✓	✓	A	✓	✓	8	
50	811217106020	SAIMOULI N	III / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	
51	811217106021	SARUMATHI A	III / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
52	811217106022	SHALINI M	III / ECE	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	9	
53	811217106023	SIVA SANKARI M	III / ECE	✓	A	✓	✓	✓	✓	A	✓	✓	✓	8	
54	811218106001	ABINAYA R	II / ECE	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	9	
55	811218106002	AKILA K	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
56	811218106004	ARTHI M	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
57	811218106005	AZHAGU MEENA M	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
58	811218106006	DEVI K	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
59	811218106007	DHANALAKSHMI S	II / ECE	✓	✓	✓	A	✓	A	✓	✓	✓	✓	8	
60	811218106008	HARI KRISHNAN S	II / ECE	✓	✓	✓	✓	✓	A	✓	A	✓	✓	8	
61	811218106009	JANANI V	II / ECE	✓	✓	✓	A	✓	✓	✓	✓	✓	✓	9	
62	811218106010	JENIFER C	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
63	811218106011	JENIFER S	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	

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				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
64	811218106012	KESAVAMURTHI M	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	
65	811218106013	KIRUTHIKA S	II / ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Kiruthika
66	811218106015	MARIA FRANCIS D	II / ECE	✓	A	✓	A	✓	✓	✓	✓	✓	✓	8	mariafrans.
67	811218106016	RAGAVI A	II / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Ragavi.A
68	811218106017	RUTHRAMOORTHY M	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Ruth
69	811218106018	SABARINATHAN K	II / ECE	✓	✓	✓	✓	✓	A	✓	✓	✓	✓	9	Sabari
70	811218106019	SARMILA M	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Sar la
71	811218106020	SUMATHI S	II / ECE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	Sum.S.
72	811218106021	THIVYA PRIYA R	II / ECE	✓	✓	✓	✓	✓	✓	✓	A	✓	✓	9	Thivyapriya R

R. Dithya
VAC Coordinator

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Manikandam, Trichy-620 012.

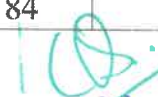**HoD/ECE**

Department of Electronics and Communication Engineering

Academic Year 2019-2020 – Odd Semester

VALUE ADDED COURSE ASSESMENT SHEET

Pic Microcontroller and ARM Processor

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811216106001	ABARNA T	IV/ECE	30	100	20	80	90
2	811216106002	AMSAVALLI S	IV/ECE	27	90	19	76	83
3	811216106003	ANUSHYA S	IV/ECE	27	90	19	76	83
4	811216106004	AROCKIA NIVETHA S	IV/ECE	27	90	21	84	87
5	811216106005	ASHEFA N	IV/ECE	27	90	19	76	83
6	811216106006	DHANALAKSHMI T	IV/ECE	27	90	19	76	83
7	811216106008	FEMINA BEGUM A	IV/ECE	30	100	20	80	90
8	811216106009	GAYATHRI J	IV/ECE	27	90	19	76	83
9	811216106011	KEERTHANA P	IV/ECE	27	90	19	76	83
10	811216106012	KEERTHANA S	IV/ECE	27	90	19	76	83
11	811216106013	KEERTHIKA D	IV/ECE	30	100	21	84	92

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				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
12	811216106014	I ATHASRI S	IV/ECE	27	90	20	80	85
13	811216106015	MENAKA R	IV/ECE	30	100	21	84	92
14	811216106016	MITHRA P	IV/ECE	30	100	19	76	88
15	811216106017	MOHAN RAJ S	IV/ECE	27	90	19	76	83
16	811216106018	NILAVAR NISHA F	IV/ECE	24	80	20	80	80
17	811216106019	PAVITHRA P	IV/ECE	24	80	21	84	82
18	811216106020	PAVITHRA V	IV/ECE	27	90	22	88	89
19	811216106021	PRABHU A	IV/ECE	30	100	20	80	90
20	811216106022	PREETHA M	IV/ECE	27	90	21	84	87
21	811216106024	PREMA S	IV/ECE	24	80	20	80	80
22	811216106025	RAAHUL BN	IV/ECE	27	90	21	84	87
23	811216106026	RAMYA S	IV/ECE	30	100	20	80	90
24	811216106027	RUBAN RAJ S	IV/ECE	30	100	16	64	82
25	811216106028	SARANYA M	IV/ECE	30	100	19	76	88
26	811216106030	SARAVANAN S	IV/ECE	30	100	21	84	92
27	811216106031	SHANAKYA P	IV/ECE	27	90	19	76	83
28	811216106032	SORNA J	IV/ECE	27	90	19	76	83
29	811216106033	SUDHARSAN K	IV/ECE	27	90	19	76	83
30	811216106034	SUVATHI R	IV/ECE	27	90	19	76	83

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				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
31	811216106035	SWATHI S	IV/ECE	30	100	19	76	88
32	811216106036	UDAYA RANI K	IV/ECE	27	90	19	76	83
33	811216106037	VETTAI P	IV / ECE	24	80	21	84	82
34	811217106001	AISHWARIYA S	III /ECE	27	90	20	80	85
35	811217106002	ANEESHA A	III / ECE	30	100	21	84	92
36	811217106003	DEEPIKA B	III / ECE	27	90	19	76	83
37	811217106004	DURGA D	III / ECE	30	100	19	76	88
38	811217106005	GANGADEVI M	III / ECE	30	100	19	76	88
39	811217106006	JANANI C	III / ECE	30	100	21	84	92
40	811217106009	KARTHICK K	III / ECE	27	90	21	84	87
41	811217106010	KOSIANANTH R	III / ECE	24	80	20	80	80
42	811217106011	LAKSHMI M	III / ECE	27	90	21	84	87
43	811217106012	MANIKANDAN M	III / ECE	30	100	20	80	90
44	811217106013	MEKALA DEVI S	III / ECE	27	90	19	76	83
45	811217106014	PANDIMEENA R	III / ECE	30	100	19	76	88
46	811217106016	PREETHI V	III / ECE	30	100	21	84	92
47	811217106017	RAASHITHA JANNATH A	III / ECE	27	90	19	76	83
48	811217106018	RANJITHA T	III / ECE	24	80	20	80	80
49	811217106019	RIYAS MOHAMMED K	III / ECE	24	80	20	80	80

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				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
50	811217106020	SAIMOULI N	III / ECE	27	90	19	76	83
51	811217106021	SARUMATHI A	III / ECE	30	100	20	80	90
52	811217106022	SHALINI M	III / ECE	27	90	19	76	83
53	811217106023	SIVA SANKARI M	III / ECE	24	80	21	84	82
54	811218106001	ABINAYA R	II / ECE	27	90	20	80	85
55	811218106002	AKILA K	II / ECE	30	100	21	84	92
56	811218106004	ARTHI M	II /ECE	30	100	19	76	88
57	811218106005	AZHAGU MEENA M	II /ECE	30	100	20	80	90
58	811218106006	DEVI K	II /ECE	30	100	21	84	92
59	811218106007	DHANALAKSHMI S	II /ECE	27	90	21	84	87
60	811218106008	HARI KRISHNAN S	II /ECE	24	80	20	80	80
61	811218106009	JANANI V	II / ECE	27	90	20	80	85
62	811218106010	JENIFER C	II / ECE	30	100	19	76	88
63	811218106011	JENIFER S	II / ECE	30	100	20	80	90
64	811218106012	KESAVAMURTHI M	II / ECE	30	100	21	84	92
65	811218106013	KIRUTHIKA S	II / ECE	27	90	21	84	87
66	811218106015	MARIA FRANCIS D	II / ECE	24	80	20	80	80
67	811218106016	RAGAVI A	II / ECE	27	90	21	84	87
68	811218106017	RUTHRAMOORTHY M	II / ECE	30	100	20	80	90
69	811218106018	SABARINATHAN K	II / ECE	27	90	19	76	83
70	811218106019	SARMILA M	II / ECE	30	100	19	76	88
71	811218106020	SUMATHI S	II / ECE	30	100	21	84	92
72	811218106021	THIVYA PRIYA R	II / ECE	27	90	19	76	83

VAC Coordinator

HOD/ECE

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CERTIFICATE OF PARTICIPATION

This is to certify that Ms. PREMA.S, IV Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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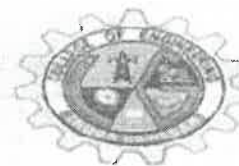
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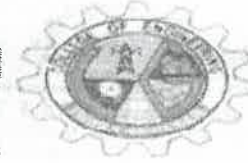
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This is to certify that Ms. VETTAI P, IV Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.AISHWARIYA S, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.JANANI C, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Mr.MANIKANDAN M, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.RANJITHA T, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.SAIMOULI N, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.SIVA SANKARI M, III Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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This is to certify that Ms.AKILA K, II Year, ECE has successfully completed the
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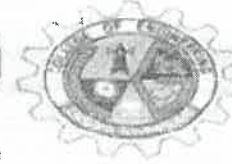
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This is to certify that Mr.SABARINATHAN K, II Year, ECE has successfully completed the Value Added Course on "Pic Micro Controller and ARM processor" organized by Department of Electronics & Communication Engineering and IQAC of our Institution in Association with Pantech Solutions from 02nd December 2019 to 06th December 2019 (5days) during the Academic year 2019-2020.

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