Department of Electronics and Communication Engineering

20.04.2018

EXPERT LECTURE

The ECE students are hereby informed that **Expert Lecture** is scheduled on

"555 timer and its Applications, ALD1502 and ICL8038"

On 21.04.2018.

By

Ms Dhanaselvi D

Project Engineer, ADA, Bangalore

Timing schedule is as follows

S. No	Timings	Semester
1	2:30-4:30	4th (A , B & C)

Respective subject teachers are hereby informed to be present in the Seminar Hall during the schedule.

Note: All Faculty members are invited to attend the same (without affecting regular classes)

Venue: Chanakya Seminar hall

Expert Lecture Faculty Incharge

HoD - ECE

PERSONAL DATA

Name	: Dhanaselvi D.
Designation	: Project Engineer
Organisation	: ADA
Email	: dhanselvi1979@gmail.com
Mobile No	: 9535664773

Education:

> Completed M.E in Embedded System Design from Anna University, Coimbatore in 2011.
> Completed B.E in Electronics & Communication from Anna University, Vellore in 2001.

Professional Details

> 14 years of experience in Avionics, Automotive and Medical Equipment software / Design, Development and verification.

> A proactive leader with abilities in training and motivating cross cultural teams.

> Experienced in ISO-9001-2000 Co-ordination and conduct audit on the industrial training.

> Experienced in corporate training conducted for small scale industries and outside academic Institution.

> Experience in DO-178B Guidelines and DOD-2167a Software Testing Life Cycle of Iterative V-Model for avionics S/W of level A, B & C.

> Experience in H/W - S/W Integration Testing and S/W - S/W Integration Testing, Unit level testing, MBSE using LDRA & Ada Multi and IBM Rational Rhapsody, Cameo System Model & No Magic.

> Experience in DO-254 Standard and prepared Guideline for Development Life Cycle of FPGA based design and formally released to DRDO.

> Worked on configuration management IBM Rational clear case and GIT

> Experience in problem reporting and analysis with tool exposure on Mentor Graphics Questa Prime, Xilinx.

> Experience in Weapon Management System (SIB & PIB), Ghatak, UPIC, ASA-ARU (LRU s) and truck EDC-7 and EDC-17 of Korean ECU s.

> Exposure to FPGA Virtex-5 and Artex-7.

M Gmail

Regarding expert lecture
7 messages

Sachin V <sachuv91@gmail.com>
To: dhanaselvi@jetmail.ada.gov.in

Tue, Apr 3, 2018 at 1:49 PM

Hi,

As discussed, our HOD has agreed to keep the expert lecture on 21st of this month at 2:30 to 4:30. We require your CV and photo for further processing.

Regards,
Sachin

Dhanaselvi D <dhanaselvi@jetmail.ada.gov.in>
To: Sachin V <sachuv91@gmail.com>

Tue, Apr 10, 2018 at 4:43 PM

Dear Sachin,

I have attached my profile.

Regards,

D.Selvi

From: Sachin V [mailto:sachuv91@gmail.com]
Sent: Tuesday, April 03, 2018 1:50 PM
To: dhanaselvi@jetmail.ada.gov.in
Subject: Regarding expert lecture

[Quoted text hidden]

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2 attachments

IMG_0010.jpg
28K

Selvi.pdf
82K

Sachin V <sachuv91@gmail.com>
To: Dhanaselvi D <dhanaselvi@jetmail.ada.gov.in>

Tue, Apr 10, 2018 at 5:05 PM

NEW HORIZON COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
IV Sem "A" Sec

SL.No	USN	NAME	
1	1NH15EC015	DEBBRAT MAHAPATRA	
2	1NH16EC001	A M AMARJITH	
3	1NH16EC002	ABHISHEK KUMAR DESHETTI	
4	1NH16EC003	ADITYA C	
5	1NH16EC004	AFZAL HUSSAIN	
6	1NH16EC005	AKHIL JOSEF	
7	1NH16EC006	AKHILESH VARMA KALIDINDI	
8	1NH16EC007	AKSHAY RAO	
9	1NH16EC008	ANMOL KUMAR	
10	1NH16EC009	ANOOP.A	
11	1NH16EC010	ANUSHA H N	
12	1NH16EC011	ARUN.P	
13	1NH16EC012	ATHIRA AJAYA KUMAR KULLULLY	
14	1NH16EC013	YUGANDHAR REDDY	
15	1NH16EC014	B SRIKANTH REDDY	
16	1NH16EC015	BHASKAR CHOUDHURY	
17	1NH16EC016	BIPIN DIXIT.H	
18	1NH16EC017	KIRAN C A	Kiran
19	1NH16EC018	ARUNA C	
20	1NH16EC019	C.LEHARIKA	
21	1NH16EC020	CHETHAN S	
22	1NH16EC022	DARSHAN RAJ	
23	1NH16EC023	DEEPAK KU. PRADHAN	
24	1NH16EC024	DEEPTHI R	
25	1NH16EC025	DENNIS VINCENT PAULRAJ	
26	1NH16EC026	DUDEKUL AKHASIM	
27	1NH16EC027	ELDHO JOSE	
28	1NH16EC028	ELLINKI JAHNAVI	Jahnavi
29	1NH16EC029	VICTOR ABHILASH	Victor
30	1NH16EC030	G AVINASH	G.Avinash
31	1NH16EC031	GIRISH JATTU GOUDA	Girish
32	1NH16EC032	HARI PRASAD.R	Hari
33	1NH16EC033	HARSH SRIVASTAVA	
34	1NH16EC034	JAGADEESH.D	
35	1NH16EC035	JANANI.B.R	
36	1NH16EC036	GIRIVARDHAN K	
37	1NH16EC037	KALAMADI SREELEKHA	Sreelekha
38	1NH16EC039	KIRAN N	
39	1NH16EC040	KISHORE N	
40	1NH16EC041	K. VENKATA MOUNISH REDDY	
41	1NH16EC042	KORVI CHANDRA KIRAN REDDY	Mounish

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42	1NH16EC043	KUSHI PONNAMMA.K.P	
43	1NH16EC044	LALITHAMBHA S M	
44	1NH16EC046	SACHIT M	
45	1NH16EC047	MADAN GOWDA.M	Madan
46	1NH16EC048	MADHU M DEVAMANE	
47	1NH16EC049	MANJULA.S	Manjula
48	1NH16EC050	MANJUNATH N	
49	1NH16EC051	MANJUNATHA S	
50	1NH16EC052	MAURYA REDDY	
51	1NH16EC053	MEGHASHREE H M	
52	1NH16EC054	MEGHANA V	
53	1NH16EC055	MEGHASHREE R	Meghshree.R
54	1NH16EC056	MISBAH TABASSUM AEJAZ	
55	1NH16EC057	MITHUN.V	
56	1NH16EC058	MOHAMMED ANAS	
57	1NH16EC059	MOHAMMED FAROOQH PASHA	
58	1NH16EC060	MOHIT R	Mohit
59	1NH16EC061	MOHIT SAHU	
60	1NH16EC062	MUJEER PASHA	
61	1NH16EC063	MAHESHWARI N	
62	1NH16EC134	T. HEMANTH KRISHNA	Hemanth
63	1NH16EC135	AKULA ANIL BHARATH	Anil
64	1NH16EC136	ALVIRA SUZANA	
65	1NH16EC137	ANUPOJU SAI VENKAT THRIMURTHY	ASVThri
66	1NH16EC138	ASHISH KUMAR . S	
67	1NH16EC139	KARTHIK . K. S	
68	1NH17EC428	SUMAN . K .T	
69	1NH17EC400	AKASH PRASAD C	
70	1NH17EC402	ARATHI .V	
71	1NH17EC403	BHAVANI . V	
72	1NH17EC412	KIRAN . R	
3	1NH17EC419	PRASANNA KUMAR .A . E	
74	1NH17EC423	RAJESHA . T . A	
75	1NH17EC429	SUPRITHA H . D	

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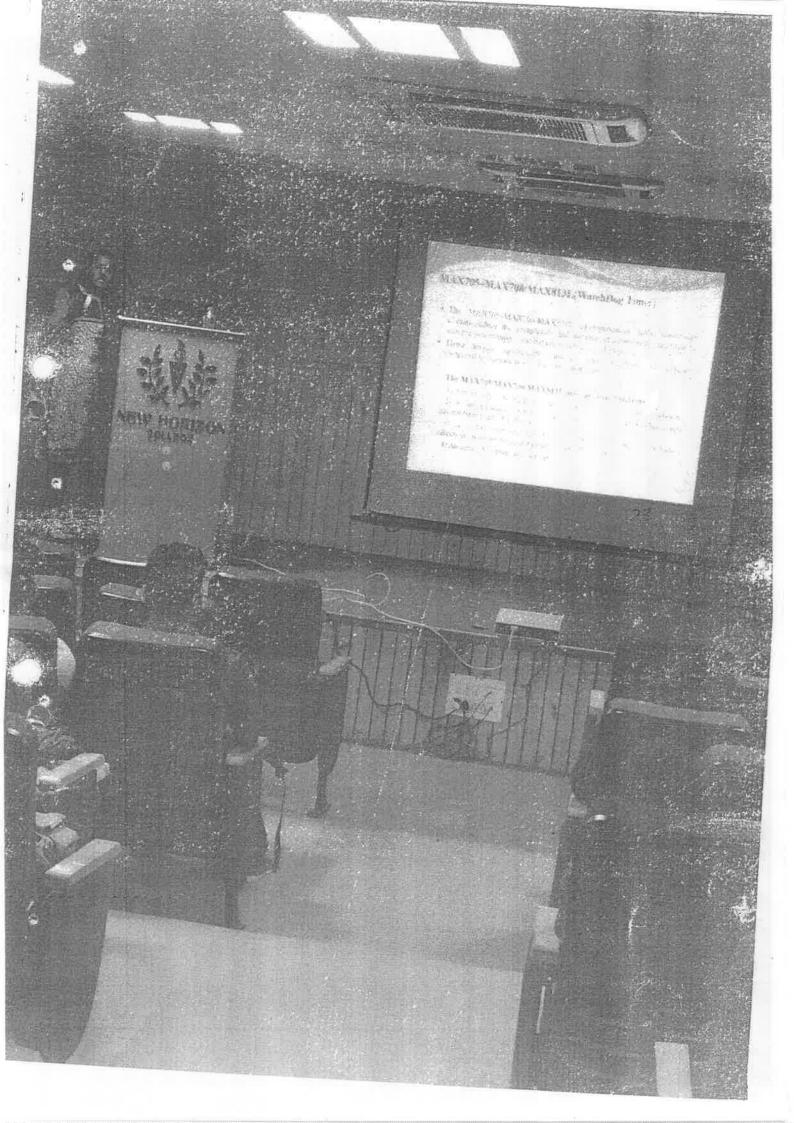## DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
IV Sem "B" Sec

SL.No	USN	NAME	
1	1NH16EC064	NEHA MAHESH	
2	1NH16EC066	NISHU DUBEY	
3	1NH16EC067	NITESH K	
4	1NH16EC068	NITHIN.E	
5	1NH16EC070	MAHALAKSHMI P	
6	1NH16EC071	DEEPAK P S	
7	1NH16EC072	PARITHOSH VEMA	
8	1NH16EC074	PAVAN KUMAR S	
9	1NH16EC075	POOJA SHANTARAM NAYAK	
10	1NH16EC076	PRAJWAL.T.J	
11	1NH16EC077	PRANAY REDDY S	
12	1NH16EC078	PRASHANTH GOWDA.R.S	
13	1NH16EC079	PRAVEEN KUMAR S	
14	1NH16EC080	PRESHIKA J M	
15	1NH16EC081	PRITHIPA A	
16	1NH16EC082	R.PAVAN RAJ	
17	1NH16EC083	RAJVARDHAN	
18	1NH16EC084	RAKSHITHA N	
19	1NH16EC085	ROSHINI.M	
20	1NH16EC086	RUSHAB.S.G	
21	1NH16EC087	SAI KIRAN	
22	1NH16EC088	SAI PRASHANTH	
23	1NH16EC089	S P SAAJU	
24	1NH16EC090	SAGAR	
25	1NH16EC091	SAM LEANDER D	
26	1NH16EC092	SANNAPANENI PAVANI	
27	1NH16EC093	SHAIK NOORULLA BASHA	
28	1NH16EC094	SHAIKH ASIF	
29	1NH16EC095	SHASHANK B	
30	1NH16EC096	SHRAVIN.R.SEKHAR	
31	1NH16EC097	SHRIPAD AITHAL	
32	1NH16EC098	SIDDESH JALAGERI	
33	1NH16EC099	JAGAN MOHAN REDDY	
34	1NH16EC100	SIDRAMAPPA	
35	1NH16EC101	SINDHU C R	
36	1NH16EC102	SIVA CHALLA	
37	1NH16EC103	SPOORTHY.G	
38	1NH16EC105	SUSHMA CHIKKUR	
39	1NH16EC106	T.E.HABISHEK	
40	1NH16EC107	T.SAI DEEPTHI	
41	1NH16EC108	TANUJ.A	

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42	1NH16EC109	UDIT BAHUGUNA	
43	1NH16EC110	VARUN MISHRA	
44	1NH16EC111	VEDA MILIND KULKARINI	
45	1NH16EC112	VEENA K	
46	1NH16EC113	VIDYA VISHNU	
47	1NH16EC114	VIJAY C	
48	1NH16EC115	VIJAY KUMAR C	
49	1NH16EC116	VIJAY S	
50	1NH16EC118	VISHWANATH VEERANNA	
51	1NH16EC119	W M MAGDOOM FUAAD	
52	1NH16EC120	YATHIN S	
53	1NH16EC121	YATHISH K	
54	1NH16EC122	YESHWANTH J M	
55	1NH16EC124	YESHWANTH.M	
5	1NH16EC125	YESHWANTH.M.L	
57	1NH16EC128	SIMON CHAUHAN	
58	1NH16EC129	ASHOK CHOUDHARY	
59	1NH16EC130	M.V.K BHARATH	
60	1NH16EC131	NAMRATHA PRAKSAH	
61	1NH16EC132	PREM KUMAR	
62	1NH16EC133	SRIDHAR. P	
63	1NH17EC401	AKSHAY GAMBHIR SADALAGI	
64	1NH17EC406	DEEPAK KUMAR.. R	
65	1NH17EC407	GURURAJ SHIVASHANKAR NATIKAR	
66	1NH17EC410	JYOTHI CHANDRASHEKAR	
67	1NH17EC414	LINGARAJ G. B	
68	1NH17EC417	MONIKA T . M	
69	1NH17EC426	SACHIN . M	
	1NH17EC427	SHAMBULING V . PATIL	
71	1NH17EC430	SUSHMITHA	

20

NEW HORIZON COLLEGE OF ENGINEERING
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IV Sem "C" Sec

SL.No	USN	NAME	
1	1NH13EC730	MAMATHA V K	
2	1NH14EC001	ABHIJITH S RAJ	
3	1NH14EC047	Harshavardhana A	
4	1NH14EC087	N. SHANTH KUMAR	
5	1NH14EC724	O. BHARGAVA REDDY	
6	1NH15EC007	A. VIKRAM KUMAR REDDY	
7	1NH15EC075	R RAGHAV SRIVATSAV	
8	1NH15EC109	SNEHIL BASU	
9	1NH15EC434	SUDHANYA S	
10	1NH15EC736	RISHAV PAUL	
11	1NH16EC702	ABHISHEK KHOT	
12	1NH16EC703	ABHISHEK PATTAJOSHI	
13	1NH16EC704	ABU BAKAR SIDDIQ	
14	1NH16EC705	AKSHAY.V	Akong. V
15	1NH16EC706	AMMIDAL VISHNU VIKAS	
16	1NH16EC707	ANITA CHAUHAN	
17	1NH16EC708	ANJU GOPINATH	
18	1NH16EC709	ASHUTOSH MANISH	
19	1NH16EC710	B VAMSHI KRISHNA REDDY	
20	1NH16EC711	BALAJI L	
21	1NH16EC712	CHETHAN.D.R	
22	1NH16EC713	CHIRAG S	
23	1NH16EC714	GAGANA M R	
24	1NH16EC715	GOWRI SNEHA PRIYA S	
25	1NH16EC716	GURRAM VENKATA NIKESH	
26	1NH16EC717	HARSHITA.P	
27	1NH16EC718	JEEVAN.K	
28	1NH16EC719	MITHUN KUMAR	
29	1NH16EC720	KIRAN SAGAR N P	
30	1NH16EC722	LINGRAJ JAMKHANDI	
31	1NH16EC723	M ANISHA	
32	1NH16EC724	M PRIYADARSHINI	
33	1NH16EC725	MSVV RITVIK	
34	1NH16EC726	MANJUNATH T	
35	1NH16EC727	MANSOOR ELAHI	
36	1NH16EC728	MOHAMMED ZEESHAN ALI	
37	1NH16EC729	SIVA NAGAMUNI REDDY	
38	1NH16EC730	MOUNIKA E	Manika
39	1NH16EC731	THILAK PRASAD	
40	1NH16EC733	NAWAZ KHAN	
41	1NH16EC734	NISHA ANANDU NAIK	
42	1NH16EC735	NIVEDITHA N	

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43	1NH16EC736	NIVEDITHA R	
44	1NH16EC738	PAVITHRA.N	
45	1NH16EC739	PAWAN KUMAR SRIVASTAVA	pawan
46	1NH16EC740	POOJA P CHOUHAN	
47	1NH16EC741	PRAVEEN KUMAR	Pur
48	1NH16EC742	RACHANA.S	
49	1NH16EC743	K RAGHAVENDRA	
50	1NH16EC744	RAMYA.R	Ramya
51	1NH16EC745	REDDY SHEKAR.B.S	As
52	1NH16EC746	RUCHIKA PRADEEP	
53	1NH16EC747	S.SARAVANA	
54	1NH16EC748	S SHYAM	sshyam
55	1NH16EC749	SHRIYA.G	Shriye.G
56	1NH16EC750	SINDHU A	Sindhu.s
57	1NH16EC751	SMITHA B S	smfls
58	1NH16EC752	SWATHI K	Swathi K
	1NH16EC753	T.R. BHOOMIKA	Bhoomika
60	1NH16EC754	TARUN SAI REDDY	Tarun
61	1NH16EC755	ULTHI KEDARNATH	kedar
62	1NH16EC756	YESHASWINI K M	Yeshaswini
63	1NH16EC757	YUVASHREE R	Yuvashree R
64	1NH16EC758	PRAVEEN.S	Praveen
65	1NH16EC759	SHASHANK RAO.M	Shashak
66	1NH17EC404	CHIRANJEEVI . K	
67	1NH17EC405	B . N CHITHRASREE	
68	1NH17EC408	JANARDHANA . T	
69	1NH17EC409	JAYANTH . V	
70	1NH17EC411	B . J KOWSALYA	
71	1NH17EC413	LIKITH B. M	
72	1NH17EC415	MANASA . C	
73	1NH17EC416	MANOJ . R	
74	1NH17EC418	NAVEEN KUMAR . J	
	1NH17EC420	PRATHAMESH KADAM	
	1NH17EC421	RAGHU . R	
77	1NH17EC422	RAHUL JAIN	
78	1NH17EC424	RAKESH KUMAR . T	
79	1NH17EC431	VASANTH . R	Vasanth.R

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REPORT ON GUEST LECTURE BASED ON 555 TIMER IC

The **555 timer IC** is an integrated circuit (chip) used in a variety of timer, pulse generation, and oscillator applications. The 555 can be used to provide time delays, as an oscillator, and as a flip-flop element. Derivatives provide two (556) or four (558) timing circuits in one package.

Introduced in 1972 by Signetics, the 555 is still in widespread use due to its low price, ease of use, and stability. It is now made by many companies in the original bipolar and in low-power CMOS technologies. As of 2003, it was estimated that 1 billion units were manufactured every year. The 555 is the most popular integrated circuit ever manufactured.

Design

Depending on the manufacturer, the standard 555 package includes 25 transistors, 2 diodes and 15 resistors on a silicon chip installed in an 8-pin dual in-line package (DIP-8).Variants available include the 556 (a DIP-14 combining two complete 555s on one chip), and 558 / 559 (both a DIP-16 combining four reduced-functionality timers on one chip).

The **NE555** parts were commercial temperature range, 0 °C to +70 °C, and the **SE555** part number designated the military temperature range, −55 °C to +125 °C. These were available in both high-reliability metal can (T package) and inexpensive epoxy plastic (V package) packages. Thus the full part numbers were NE555V, NE555T, SE555V, and SE555T.

Low-power CMOS versions of the 555 are also available, such as the Intersil ICM7555 and Texas Instruments LMC555, TLC555, TLC551. CMOS timers use significantly less power than bipolar timers, also CMOS timers cause less supply noise than bipolar version when the output switches states. The ICM7555 datasheet claims that it usually doesn't require a "control" capacitor and in many cases does not require a decoupling capacitor across the power supply pins. For good design practices, a decoupling capacitor should be included, however, because noise produced by the timer or variation in power supply voltage might interfere with other parts of a circuit or influence its threshold voltages.

Modes

The IC 555 has three operating modes:

1. **Astable** (free-running) mode – the 555 can operate as an electronic oscillator. Uses include LED and lamp flashers, pulse generation, logic clocks, tone generation, security alarms, pulse position modulation and so on. The 555 can be used as a simple ADC, converting an analog value to a pulse length (e.g., selecting a thermistor as timing resistor allows the use of the 555 in a temperature sensor and the period of the output pulse is determined by the temperature). The use of a

microprocessor-based circuit can then convert the *pulse period to temperature*, linearize it and even provide calibration means.

2. **Monostable** mode – in this mode, the 555 functions as a "one-shot" pulse generator. Applications include timers, missing pulse detection, bounce-free switches, touch switches, frequency divider, capacitance measurement, pulse-width modulation (PWM) and so on.

3. **Bistable** (schmitt trigger) mode – the 555 can operate as a flip-flop, if the DIS pin is not connected and no capacitor is used. Uses include bounce-free latched switches.

Simple 555 Timer Circuits and Applications

There are many applications of 555 timers. Here as an example we will discuss 555 Timers used in Lamp Dimmer, Wiper Speed control,TimerSwitch,Variable duty cycle fixed frequency 555 oscillator etc. You can open any of these circuits and edit it to you want.

.NE555 Astable

NE555 is configured in astable (bistable) mode, due to the pin 3 of the IC is a coupled MOSFET or (if you want,it can also be a power transistor that matches the pins of the MOSFET), you can connect a bigger load such as DC motors or 12VDC bulbs to adjust the light intensity or speed of rotation by potentiometer.

.Lamp Dimmer using NE555

This project is about simple lamp dimmer project using NE555 timer IC. PWM method is used for controlling the brightness of the lamp. This method is very power efficient and low cost compared to linear power control circuits. In PWM method the load is driven using a high frequency square wave and the duty cycle of this square wave is varied for controlling the power delivered to the load. The efficiency of this circuit was found to be 95.5% when tested in the lab. The same circuit can be also used to control the speed of DC motors.

Wiper Speed control using NE555

This project is about a simple automobile wiper speed control. The speed of the automobile wiper can be adjusted using a potentiometer using this circuit. The circuit operates from 12V DC and can be fitted to any automobile operating on 12V electrical system. With slight modification, the same circuit can be made to operate on 24V systems also.