Department of Computer Application
Shri Ram College, Muzaffarnagar
Add on Program
on
Digital Electronics Lab

Objective: Learn and understand the basics of digital electronics, Boolean algebra, and able to design the simple logic circuits and test/verify the functionality of the logic circuits.

Course Outcomes: On successful completion of the course, the student will be able to –

- ➢ Distinguish between analog and digital systems.
- ➢ Identify the various digital ICs and understand their operation.
- ➢ Apply Boolean laws to simplify the digital circuits.
- ➢ Design simple logic circuits.

Course Content:

1. Implement AND, OR, NOT Gate using TTL ICs on PCB (Digital Trainer kit) & verify it with Truth Table & also draw their graphic symbol.
2. Implement Universal Gates (NAND, NOR) Using TTL ICs on PCB (Digital Trainer kit) & verify it with Truth Table & also draw their graphic symbol.
3. Implement XOR & XNOR Gates Using TTL ICs on PCB (Digital Trainer kit) & verify it with Truth Table & also draw their graphic symbol.
4. Implement Half-Adder circuit.

5. Implement Full-Adder circuit.
6. Implement Half-Subtractor circuit.
7. Implement full-Subtractor circuit.
8. Implement BCD to Decimal decoder using IC-7442.
9. Implement 4*1 Mux using IC-74150.

Course Delivery: The course will be delivered through tutorials of one and a half an hour and one and a half an hour of hands-on practice two days in a week.

Electronics Lab Equipment List:

1. 4-Bit Shift Register ME-716.
2. 4-Bit Adder & Subtractor Circuit ME-702.
3. Logic Gate using six TTL ICs ME-675.
4. Flip Flop using NAND gate & TTL ICs ME-702.
5. 4-Bit Counter Synchronous & Asynchronous ME-712.
6. Line Multiplexer & Demultiplexer ME-720.
7. Encoder & Decoder circuit ME-718.

Subject Expert Team:

1. Mrs. Monika Garg
2. Dr. Vikas Kumar
3. Mr. Pramod Kumar (Lab In charge)

Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

Principal
Shri Ram College
Muzaffarnagar

To,

The Principal,

Shri Ram College,

Muzaffarnagar

Subject: Permission for conducting an Add-On course on **"Digital Electronics Lab"**.

Respected Sir,

Department of Computer Application would like to offer an add on course titled **"Digital Electronics Lab"**.The purpose of this course is to familiarize the students with the nuances of Digital Logic.

This course imparting Practical skills in the participants and prove an assist to make concept better. This Course is designed for MSc First year students.

The courses will be Thirty-Seven hours of duration having two Sessions theory & practical. This course iscoordinated byMrs.Monika Garg, interested students can contact with them for further information and registration process.

You are kindly permit usto start the saidshort term course in the benefit of students.

(Dr Nishant Kumar Rathi)

Dean, CA

Shri Ram College, Muzaffarnagar.

Allowed

Principal
Shri Ram College
Muzaffarnagar

Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

Dated: 19/10/2015

Notice

All the students of M.Sc 1st Year are informed that Add-on Class on Digital Electronics Lab will Commence from Monday, dated from 26/10/2015 to 01/12/2015 as per the schedule given below.

S.NO.	DAY	Class
1	Monday & Tuesday	M.Sc. 1st Sem.

Timing:

➢ Theory Session (01:50 PM – 03:20 PM)
➢ Practical Session (03:21PM – 04:50PM)

Venue: Computer Lab, First Floor, SRC

All the students are expected to attend the classes regularly. The students will be assessed for progress after the completion of the course with the help of practical assignment.

Resource Person:

✓ Mrs. Monika Garg (Subject Expert)
✓ Mr. Praveen Kumar (Subject Expert)
✓ Mr. Pramod Kumar (Lab In charge)

CC: 1. The Director, SRC for information

2. Mrs. Neetu Singh, Co-ordinator (M.Sc. CS)

(Dr Nishant Kumar Rathi)

Dean, CA

Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

Shri Ram College, Muzaffarnagar
M.Sc(CS) 1st Year (Session 2015-16) odd Sem
Attendance Sheet

Sl.	Reg. no.	Name of The Student	Father's Name	28/10	27/10	2/11	3/11	9/11	16/11	17/11	23/11	30/11	6/12
1	MCS15001	ANUJ KUMAR	SHRAWAN KUMAR	A	P	A	P	A	P	A	P	P	A
2	MCS15002	ANKIT GIRI	RAKESH GIRI	P	P	P	P	P	P	P	P	P	P
3	MCS15003	KM. ANJALI	RAJKUMAR TYAGI	P	A	P	A	P	A	P	P	A	P
4	MCS15004	MOHD ALAM	NAQI HUSNAIN ZAIDI	A	P	P	P	P	A	P	A	P	A
5	MCS15005	KM HIMANI GARG	PRADEEP KUMAR GARG	A	P	A	P	A	P	A	A	P	A
6	MCS15006	KM SWATI	PRAVEEN SINGH	P	A	P	A	P	A	P	P	A	P
7	MCS15007	KM SHEETAL MAHENDRA	NARENDRA MAHENDRA	P	P	P	P	P	P	P	P	P	P
8	MCS15008	KM SHIVANI TYAGI	RAJ KUMAR TYAGI	A	P	A	P	A	P	P	P	A	P
9	MCS15009	SUNNY KUMAR	SHSHPAL	P	A	P	P	P	P	P	A	P	A
10	MCS15010	ASJAD	TAUFIQ	A	A	P	P	A	P	P	A	P	P
11	MCS15011	KM VIJETA	NARESH PAL	P	P	P	P	P	P	P	P	P	P
12	MCS15012	KM DIVYA	TEJPAL SINGH	P	P	P	P	P	P	P	P	P	P
13	MCS15013	NITIN KUMAR	SUSHIL KUMAR	P	P	P	P	P	P	P	P	P	P
14	MCS15014	YOGESH KUMAR	YASHPAL SINGH	P	P	A	P	A	P	P	A	P	P
15	MCS15015	ANKIT KUMAR	RAVINDRA KUMAR	A	P	A	P	A	P	P	A	P	P
16	MCS15016	HARI OM	ASHOK KUMAR	P	A	P	P	P	A	P	P	A	P
17	MCS15017	RAHUL SOAM	SURAJ PAL SINGH SOAM	A	P	P	A	P	P	P	A	P	A
18	MCS15018	ANJALI BENIWAL	VIPIN SINGH	P	P	P	P	P	P	P	P	P	P
19	MCS15019	RAHUL SINGH	PREM SINGH	P	A	P	P	P	A	P	P		P
20	MCS15020	NEHA CHHABRA	SANDEEP CHHABRA	P	P	P	P	P	P	P	P	P	P

Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

Sr. No	Experiment Description	Date	Submission Date	Signature
1	Implement AND, OR, NOT gates	26-10-2015		
2	using TTL IC's on PCB.			
3				
4				
5				
6				
7	Implent universal gates (NAND,	27-10-2015		
8	NOR) using TTL IC's on PCB			
9				
10				
11				
12	Implement XOR, XNOR gates	02-11-2015		
13	using TTL IC's on PCB.			
14				
15				
16				
17				
18				
19	Co-ordinator		Principal	
20	IQAC, Shri Ram College,		Shri Ram College	
21	Muzaffarnagar		Muzaffarnagar	
22				
23				
24				
25				

Assignment

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classfollow

S. No.	PARTICULARS	Pages	Date	Remarks
1]	AND, OR, NOT gate		26/10/15	Good
2]	NAND, NOR gate		27/10/15	
3]	XOR, XNOR gate		2/11/15	09/10
	.			
	Co-ordinator IQAC, Shri Ram College, Muzaffarnagar		Principal Shri Ram College Muzaffarnagar	

Sl.	Reg. no.	Name of The Student	Father's Name	Marks (10)
1	MCS15001	ANUJ KUMAR	SHRAWAN KUMAR	06
2	MCS15002	ANKIT GIRI	RAKESH GIRI	09½
3	MCS15003	KM. ANJALI	RAJKUMAR TYAGI	07
4	MCS15004	MOHD ALAM	NAQI HUSNAIN ZAIDI	06
5	MCS15005	KM HIMANI GARG	PRADEEP KUMAR GARG	04
6	MCS15006	KM SWATI	PRAVEEN SINGH	06
7	MCS15007	KM SHEETA MAHENDRA	NARENDRA MAHENDRA	09
8	MCS15008	KM SHIVANI TYAGI	RAJ KUMAR TYAGI	08
9	MCS15009	SUNNY KUMAR	SHSHPAL	06
10	MCS15010	ASJAD	TAUFIQ	07
11	MCS15011	KM VIJETA	NARESH PAL	08½
12	MCS15012	KM DIVYA VASHISHTH	TEJPAL SINGH	09
13	MCS15013	NITIN KUMAR	SUSHIL KUMAR	09
14	MCS15014	YOGESH KUMAR	YASHPAL SINGH	6
15	MCS15015	ANKIT KUMAR	RAVINDRA KUMAR	07
16	MCS15016	HARI OM	ASHOK KUMAR	08
17	MCS15017	RAHUL SOAM	SURAJ PAL SINGH SOAM	09
18	MCS15018	ANJALI BENIWAL	VIPIN SINGH	09
19	MCS15019	RAHUL SINGH	PREM SINGH	06
20	MCS15020	NEHA CHHABRA	SANDEEP CHHABRA	09½

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Shri Ram College, Muzaffarnagar

Department of Computer Application

Report Summary

Add on Program on "Digital Electronics Lab"

Department of Computer Application Successfully completed an Add on Program on "Digital Electronics Lab".

The program is designed for BCA first year students for improving their understanding in the subject, they can learn theory concepts and perform experiments.

In BCA Curriculum Digital Electronics Lab is not proposed it is hard to grab nuances of the subject to keep this in mind department of Computer Application designed an add on course on Digital Electronics.

It is the fundamental course on digital logic & design that more emphasize on practical concept rather than relying on theory concept.

The course was conducted in the second week of March 2016. Respected Director sir, **Dr. D.S. Rawat** motivated the students about the course and talked about the importance of such add on courses.

This course primarily focuses on the practical approach rather than a theoretical one and is designed for absolute beginners with little or no prior knowledge of Digital Electronics.

The aim of the Program is to imparting the necessary skills and knowledge to the participants so that they can sustain in today's competitive scenario.
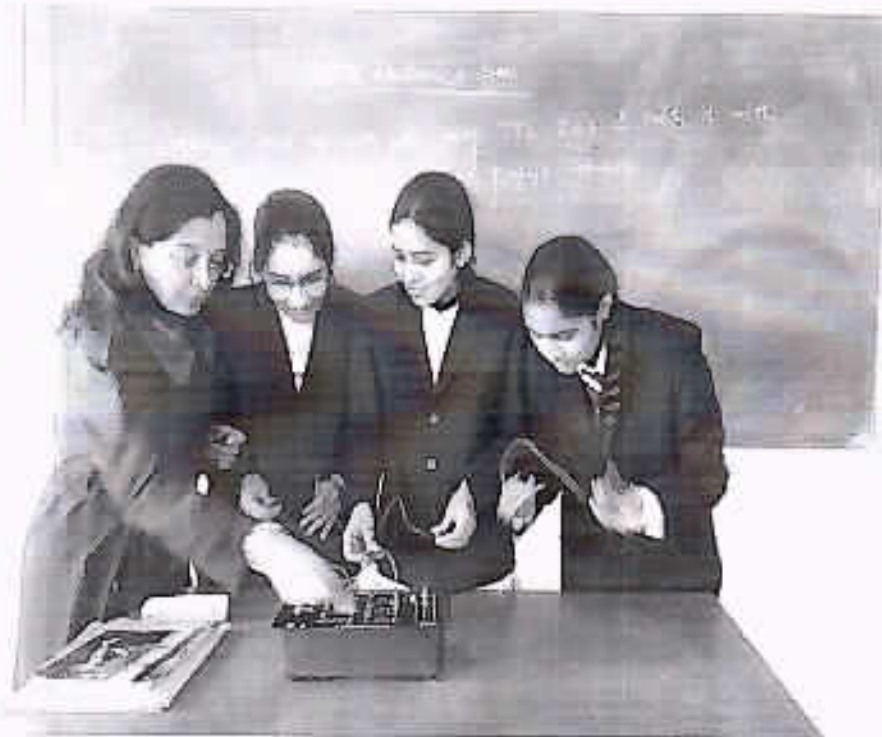
In the end of the course practical exam was conducted in the last of April month to check the effectiveness of the program.

All sixty-six students successfully completed the course.

Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

Principal
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LAB   PHOTOGRAPHY