

TCET/FRM/IP-02/10

Revision: B

Semester Plan (Practical / Tutorials / Assignment)

Semester: III

Course: S.E EXTC-A & B

Batches: A3-A4, B1-B2,

 Subject Digital System Design Laboratory
(ECL302)

Class: S.E EXTC- A & B

Batch size: 20 Students

 Laboratory faculty in charge: Dr. Sangeeta Mishra (104)
 Mr. Yogesh Kumar (105)

 Lab Assistant: Ms. Jinal Rathod
 Ms. Asmita Parab

Note: Experiment planned as per University Curriculum

Basic Experiments:

Sr. No.	TITLES Experiments / Tutorials / Assignment (Planning with use of Technology)	Batches	Planned Date	Completion Date	Remarks
1.	Verify Universal gates NAND and NOR and design EXOR and EXNOR gates using Universal gates.	A3-A4	26/07/2017		
		B1-B2	25/07/2017		
2.	Implement Half adder, Full adder, Half subtractor and Full subtractor circuits.	A3-A4	02/08/2017		
		B1-B2	01/08/2017		
3.	Flip flops conversion JK to D, JK to T and D to TFF.	A3-A4	09/08/2017		
		B1-B2	08/08/2017		
4.	Implement logic equations using Multiplexer.	A3-A4	16/08/2017		
		B1-B2	05/09/2017		
5.	Design synchronous MOD N counter using IC-7490.	A3-A4	30/08/2017		
		B1-B2	12/09/2017		
6.	Verify encoder and decoder operations.	A3-A4	06/09/2017		
		B1-B2	19/09/2017		

Design/ Development Experiments:

7.	Write VHDL simulation code for different logic gates.	A3-A4	13/09/2017		
		B1-B2	26/09/2017		
8.	Write VHDL simulation code for 4:1 Multiplexer, 2 line to 4 line binary decoder	A3-A4	13/09/2017		
		B1-B2	26/09/2017		

Group Learning Activity:

Issued By: MR

Approved By: Principal

9.	Design BCD counter and show operation on Seven Segment Display.	A3-A4	20/09/2017		
		B1-B2	03/10/2017		
10.	Write VHDL code to implement traffic light controller.	A3-A4	04/10/2017		
		B1-B2	17/10/2017		
1. Mini /Minor Projects Objective: To get hands on experience to execute projects with respect to student choice in the following areas. (30 Hrs / Semester / Student). (Total 120 Hrs) The areas are : 1. Research 2. Core 3. Interdisciplinary 4. Application					
Mini/ Major project : As per University Scheme					
S. No	Project Title/Group Size	Class	Type / Project Hours	Modes of Learning	Reference
1.	Power Shoe using Piezoelectric technique (A mobile charging technique)	BE EXTC B	Research	Project Based Learning	1. https://www.youtube.com/watch?v=FGQ_7fMXBf8 2. http://ieeexplore.ieee.org/document/7343993/?reload=true
2.	Braille Glove	BE EXTC B	Application	Project Based Learning	1. https://www.youtube.com/watch?v=ONnZ_HP-dzM 2. http://content.time.com/time/specials/packages/article/0,28804,1934259_1934277,00.html
3	Hand Assistive System for Deaf, Dumb and blind	BE EXTC B	Application	Project Based Learning	1. https://www.youtube.com/watch?v=xQaRHk9H0 2. https://www.google.com/patents/US5047952
4	Border Safety Robot	BE EXTC A	Application	Project Based Learning	1. https://www.youtube.com/watch?v=patTN3Dh6ZY 2. http://ieeexplore.ieee.org/document/5234120/
5	Smart Attendance System	BE EXTC A	Application	Project Based Learning	1. https://www.youtube.com/watch?v=0OKaoih3J44 2. http://www.smartattendancesystem.com/
6	Automatic Bus Ticketing	BE EXTC A	Application	Project Based Learning	1. https://www.youtube.com/watch?v=OHSD4NbuBlw 2. http://iopscience.iop.org/article/10.1088/175
Issued By: MR			Approved By: Principal		

								<u>7-</u> <u>899X/114/1/012146/m</u> <u>eta</u>	
No. of Prac	Planned	Co mpl ete d	No. of Assig nme nts	Planned	Completed	No. of Tutorial	Planned	Completed	
	Basic Exp: 06 Design Base Exp: 02 Group Learning: 2 Bridge Course: 01 Major Project: 06			02			NIL	NIL	
DOSLNE:					DOSLE (engaged in some other dates):				
Group activities are required to be added with the practical related to course to enhance the learning activity of the student in the course. Group activity includes: Group presentation, new experiment design, mini projects etc. Note: 1. The practical plan date and completion date shall be in compliance. For any non-compliance reason(s) required to be stated in remark column. 2. Learning objective and outcome shall be clearly stated with each of experiments/ tutorials/ assignments and are required to be mapped at the end of the semester. 3. Entry for DOSLE (engaged on some other date) shall be done with proper mapping to DOSLNE.									
Sd.. (Ms. Jeslin Edison) Name & Signature of Faculty			Sd.... (Dr. Vinitkumar Dongre) Signature of HOD			Sd..... (Dr. R. R. Sedamkar) Signature of Principal / Dean Academic			
Date: 20/07/2017			Date: 20/07/2017			Date: 20/07/2017			
Issued By: MR					Approved By: Principal				