Practical Plan

Branch: Computer Engineering
Semester: IV   Div-A   **Year: 2022-23**

Course Title: Microprocessor Lab	
Total Contact Hours: 2 hours/week	
SEE Marks: TW 25	
Practical Plan Author: Prof. Heenakausar Pendhari	Date: 30/01/2023
Checked By:	Date: 01/02/2023

Prerequisite: Basic knowledge digital integrated circuits

Course Outcomes (CO):

On successful completion of course learner will be able to:

CSL 404.1 To develop programming skills for Microprocessors 8086
CSL 404.2. To interface various devices with Microprocessor 8086

CO-PO Mapping:(BL – Blooms Taxonomy, C – Competency, PI – Performance Indicator)

CO	BL	C	PI	PO	Mapping
CSL404.1	1,2	1.3	1.3.1	PO1	3
		2.1	2.1.2	PO2	1
		5.1	5.1.1	PO5	1
CSL404.2	2	1.3	1.3.1	PO1	3
		2.1	2.1.2	PO2	1
		5.1	5.1.1	PO5	1

CO-PO-PSO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CSL404.1	3	1			1							
CSL404.2	3	1			1							

Note: No PSOs Map to the CSC405

Justification of PO to CO mapping

Course Outcome	Competency	Performance Indicator
CSL404.1	1.3 Demonstrate competence in engineering fundamentals	1.3.1 Apply engineering fundamentals
	2.1 Demonstrate an ability to identify and formulate complex engineering problem	2.1.2 Identify processes/modules/algorithms of a computer-based system and parameters to solve a problem
	5.1 Demonstrate an ability to identify/create modern engineering tools, techniques and resources	5.1.1 Identify modern engineering tools, techniques and resources for engineering activities
CSL404.2	1.3 Demonstrate competence in engineering fundamentals	1.3.1 Apply engineering fundamentals
	2.1 Demonstrate an ability to identify and formulate complex engineering problem	2.1.2 Identify processes/modules/algorithms of a computer-based system and parameters to solve a problem
	5.1 Demonstrate an ability to identify/create modern engineering tools, techniques and resources	5.1.1 Identify modern engineering tools, techniques and resources for engineering activities

CO Measurement Weightages for Tools:

Course Outcomes	Indirect Method (20%)			
	Lab Performance(skill)	Journal (postlab) Assessment	Mock practical exam	Course exit survey
CSL404.1	30%	20%	50%	100%
CSL404.2	30%	20%	50%	100%

Attainment:

CO CSL404.1:
Direct Method

$A_{csc404.1D} = 0.3*$Lab performance $+ 0.2*$ Postlab $+ 0.5*$Mock practical exam

Final Attainment: $A_{csc404.1} = 0.8 * A_{csc404.1D} + 0.2 * A_{csc404.1I}$

CO CSL404.2:
Direct Method

$A_{csc404.2D} = 0.3*$Lab performance $+ 0.2*$ Postlab $+ 0.5*$Mock practical exam

Final Attainment: $A_{csc405.1} = 0.8 * A_{csc405.2D} + 0.2 * A_{csc405.2I}$

Practical Plan:

SR NO.	Name of the Experiment	Hours	Batch	Planned date	Actual date	Remark
1	Addition of two 8/16/32 numbers	2	A	24/1/23		
			B	25/1/23		
			C	27/1/23		
			D	23/1/23		
2	Multiplication of 8/16/32 numbers	2	A	31/1/23		
			B	1/2/23		
			C	3/2/23		
			D	30/1/23		
3	Block transfer using string instruction	2	A	7/2/23		
			B	8/2/23		
			C	10/2/23		
			D	6/2/23		
4	Arrange the given numbers in Ascending / Descending order	2	A	14/2/23		
			B	15/2/23		
			C	17/2/23		
			D	13/2/23		
5	Count the Even and odd numbers from the given Array	2	A	21/2/23		
			B	22/2/23		
			C	24/2/23		
			D	20/2/23		
6	3 X 3 Matrix Addition/Multiplication	2	A	14/3/23		
			B	8/3/23		
			C	10/3/23		
			D	13/3/23		
7	Display A to Z on screen	2	A	21/3/23		
			B	15/3/23		
			C	17/3/23		
			D	20/3/23		
8	Password Verification	2	A	21/3/23		
			B	15/3/23		
			C	17/3/23		
			D	20/3/23		
9	Check whether the string is a palindrome or not	2	A	11/4/23		
			B	5/4/23		
			C	24/3/23		
			D	27/3/23		
10	Implement up/Down	2	A	15/4/23		Extra

	counter (8255)					**scheduled**
			B	**12/4/23**		
			C	**15/4/23**		**Extra scheduled**
			D	**10/4/23**		
11	Calculator		**For All Batches**			**Extra scheduled**

Textbooks:	
1	John Uffenbeck, "8086/8088 family: Design Programming and Interfacing", PHI.
2	Yu-Cheng Liu, Glenn A. Gibson, "Microcomputer System: The 8086/8088 Family,Architecture, Programming and Design", Prentice Hall
3	Walter A.Triebel, "The 80386DX Microprocessor: hardware, Software and Interfacing", Prentice Hall
4	Tom Shanley and Don Anderson, "Pentium Processor System Architecture", Addison-Wesley.
5	K. M. Bhurchandani and A. K. Ray, "Advanced Microprocessors and Peripherals", McGraw Hill

References:	
1	Barry B. Brey, "Intel Microprocessors", 8th Edition, Pearson Education India
2	Douglas Hall, "Microprocessor and Interfacing", Tata McGraw Hill.
3	Intel Manual
4	Peter Abel, "IBM PC Assembly language and Programming", 5th Edition, PHI
5	James Antonakons, "The Pentium Microprocessor", Pearson Education

Web References:
https://www.youtube.com/watch?v=_uxcSkWFYpk

Term Work:	
1	Term work should consist of 10 experiments, out of theses at least one experiment on hardware interfacing.
2	Journal must include at least 2 assignments on content of theory and practical of "Microprocessor"
3	The final certification and acceptance of term work ensures that satisfactory performance of laboratory work and minimum passing marks in term work.
4	Total 25 Marks (Experiments: 15-marks, Attendance Theory& Practical: 05-marks, Assignments: 05-marks)

Verified by:

Programme Coordinator   Subject Expert