	Date: P. No:
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	Carlo Income 1 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Technology, Bhopal
	Department
	of the second se
	Computer science AND [Nginulosia]
- VII	
	LAB MANUAL (CS404)
	Name - Antaryami singh
<u> </u>	En xoll no. → 0105 C5203 D03
	course code -> cs404
	Course -> computer org. & Aschitecture.
	Session - JAN-TUN 2021
	Section -> (B)

	Experiment -1 Date
	Objective 3- Study of multiplexer and
	Theory 1-
	1) multiplexes 3-
	A multiplexim is a network
	that here merry rosputs and me to output
	that hers many imputs and me to output; omed the value of the old will be
	the value of one of inputs which
	will be decided by some solvet
	Lines. The simplest Type of multiplexes
	is two toone line duta multiplexies.
	Let A be one of the inputs and
_	Bis the other input and y is the
	output as 100 fig. (1) and 5 to the
+	splect line then
H	
H	$A \longrightarrow \begin{bmatrix} 2 \times 1 \\ $
	B mux
-	
	Select
A L	GJ.W
AS:	Two to one line multiplexes.

Žane.	CONTRACTOR OF THE CONTRACTOR O
	Date: P. No:
	Y= A if sulpet =0.
	y = B if $sp pct = 1$.
	The logic circuit diagram of the
Sper ip uic	two to one une multiplexes
	13 shows Fig. (2)
F. L.	Do
2	
S	
6	Fig. (2)
	logic circuit of two to one
<i>-</i>	Example: Design the following
	Example: Design the following
	10em
	Not variables = 3
	No-d Variables = 3 F (AB,C) = AC +BC + ABC
7	solution: _ no of variables = 3, It
	is better to use 4-to D
100 H	
Control of the Contro	

Date P No

Line multiplex, 1.e.

No of solaction lines = no of valuable-1,

Touth Tubbe

-		_	()	1
	A	В		F
	٥	0	0	00
	O	O	Ĭ	1
	0	1 - 1	٥	00
	0	1	, 1	# 1
	1	0	O	1 5
	- A	0	1.1.5	61
	1 1	7	0	The Artic
		1	1	0.
_				

27 Demultiphexions-

A demultiplexer basically realerse of the multiplexer function.

It is take data from one line and distribute them to given no. of output lines, fig 13) shown a one to fows line demultiplexer.

Crocuit.

Date: P. No: MUX pmox fig (3) Experiment-2 study of Half Addirs and full Half adder :-Half addies has two imputs gos the two bits to be added and two outputs one Bross the sum's' and other from the Carry 'c' into the higher inddies

Date P No position, above circuit is called as a curry signal from the 319mi Acant

3	Α-	B	CARRY	5015	
	()	O	0		_/_
	0	1	0		
	7	0	0	1	1
		1	/	<u> </u>	
	1				

2) full ordeless 3-A full adoler is a combinational asscrit that forms the authoretic sum of input; it consists of three imputs and two butputs. In full addies sum of will be taken from X-OR hate, anely output will be taken ford OR hate. · lugic Diagram :-Full addies using Two Hult adding: -

P No -

Touth Table 9-

_						-
	A	ß	C	CARRY	sum	
	0	0	0	0	0	
	0	0	7	0		
	0	7	0	0	j.	
	0	7	1	1 1	0	
	1	0	0	0	Ĭ.	
		0	1		0	
	1	1	0 /	/ /	0	
		1	1 /			
f						

Experiment => 3

Objective 3-

ornel full subtractors

Heary :- Half subtractor 3-

subtractor is constructed using x-or and and hate, the half subtractor.

Date: P. No: Has two input and two outputs. The outputs one difference and borrow. The difference can be applied wing X-OR hete, borrow output com be implemented wing on sovo harter and ero regic diagram o subsactor 9-DIFFERMER 0

7 Full Subtractor 3-The full subtractoris a combinational of xook, AND, DR, ANOT haters. In a Full subtructor the lugic circuit should have three inputs and two outputs the two half subtractor put togethery gwpi a full subtractes. The first half subtractors will be a comel AB.

Date: P. No:

Truth Tuble: -

		25			
	Α-	В	1 0	CARRY	sum.
	U	6	6	. 0	6
	0	O	T .	0	
	٥	1	0	٥	T
	٥			j	O
T.	1	b	0	0	1
7	77	6	1 - 1		0
	1	1	0	1	0
+	1	7	7 7		1
_L	2 ===				

Experiment + 4

oppound.

-) Appagatus required: -

micro processed

trained Kit, Keyboard

= broken 3

Addetion of two 8- 51+ operands.

y True of Allenda

0.00				
	Adolypss	op code	MNEMUNIC	comments
	2000H	F8	CLC	chean comy fley
	20011-1	B0 10	MOV AL , 104)	wad AL WILL
S 184			ــــــــــــــــــــــــــــــــــــــ	g bit derty.
	2003 H	B320	mov BL, 20H	Loud BL with
		lise bu		8 bit daty
	2005 H	0008	ADD AL BL	Add Contunts
				of AL and BL
				reignstons.
	2007 H	· cc	I.INT 3	Introduct Type3
	The same			
0/1	5×9	100h	Just 2 mg	
	mov	al, 11h		
1	2.2.247	es water		

mov 61, 114 add 91, b1

mov [2000h], 9)

Expoolment-5

Objective ? - was to add two It bit oposcond. program I -MNEMONICS commonts Address memory A 4 2050 LDA 2050 2000 MOV BIA 2003 A+2052 2001 LDA 2052 A + A +B 200 ADD B A -> 3050 2008 STA 3050 A+ 205/ LDA 2051 2003 MOV BIA 200 E A 4 2053 LDA 2053 200F A K A+B+ly 2012 ADI B A-> 3051 STA 3051 2013 2016 Stop procedin HLT Explanation 3-

LDA 2050 -> Stoops the value at

2050 in A Caccimulates)

2 30	
	The ac
	Dinte P: No
24	mov B, A -7 Storps the value of A
3>	LDA 2052 -> Storps the value at 2052
-1	STUSPS the value at 2012
4>	157 A.
1	ADOB - add the contents of B and A
	core ctore in 2
57	STA 3050 -> 5-torps the value at 2051
Y.	10 4
_6>	mov B,A -> storps the value of A into
	rigistros.
\mathcal{Z}	LDA 3053 3 Storps, the value of 2053 Inf
	The United of 2003 Inf
(8)	ADC B -> model Cl
	ADC B -> edded the content of B, A and
	comy from the lowers WF
60	adell-40st and store in A.
_ (10)	STA 3051 -> store the result in
	memosy rocuties 3051
	HLT -s stop production

Date: P. No: Expresiment 3-6 -y objective: - wap to postorms
Assithmetic opposition: Subjection. Apparatus Regussed3-MICRO PROCESSOS toward Kit, Keyboard. subtraction of two 8-bit opporands. Adeliers Op code & MNEMONE Comments. Clear Carry flag CLC 20004 Local AL with MOV AL 8 bit deta Load BL with 2003 H B3 10 MOV BL, g bit derty subtract content 2005 H 29 08 SUB ALI of AL and BL Lugistors. Interrupt 2007 H Type 3

		- e, 4	- NEW TOWN	P. No.
7	Suppose	Hoss of +	tuo 16- bit	
		oh milit albu		aper 'min'il
5	Address	op code	MNEMONIC	Comments
		J)	\
	2000 H	(F8) cle	Clear corry
	76 A B)	Fley
	2001 H	B80020	MOU AX.	Local AX with
	2001	1	2004	16 bit daily.
	2004 14	BB 00 10 }	MOV 8x, 1000	luciel BX with
1)	}	H	16 bit detay
	27.14	2908	sub AX, BX	subtruit
	200714		<i></i>	content of AX &
1			<i>\(\)</i>	By registors.
-	* *0.11	cc li	NF3	Introsup Pipes.
-	200914			
10. 1				
V IX	Condu	8/20) 3 -		
		071	the propose	my and

Con clusions - All the projections and weithers and ofp one vorted.

#

Expeniment +7

Date: P. No:

Jan o	nes ity		S - 25 - R	
	objective;	- NA-P	to porfo	m · Hedination
24-51-1	Ant	thronest c	opposettos	my Hoptication
10.0	Apparatu	s Regu	red 3-	
, in .—1			Mioro	P80 Cex 806
Y 1 X 3	trunely	Kit, 12	ey sound.	
the state		W. or	0	
a W	muttiplia	estion of	two g-b	it oppounds.
-21, j	V	, , ,		
	address	opcide	NAMONIC	Comments
se se to Y	~~~			
32 (1)	2000H	Fg) ac	cleve cury
fred r				lough BL
	2001 H	BO 20	MOV BL,	
		/	2014	with & bit duty
	2002H	BO 10	mov AL, IOH	Lough AL WHY
<u> </u>		···		8 bit date
	2005 H	00 08	ADD ALIBL	multi content
			}	of AL and BL
est of the second				rigistros.
4/5:"	2007 H	c C	nosc)	Echt Aduserplei

1-1-0	Taraxis
	Date: P. No:
de	my look
	mov 91, [2000h]
	may 61, [200/h]
	my 61
1	mov [2000h], «x.
	Experiment 3-8
	Objective :- was to postoom Anthonetic
	eposertion: pivision.
	Apparatus required:
	miero procesos
	trainer kit, key board.
	ary och
	mov [2000h], 02h;
	mov [2001 h], 08h;
	mov [2002 h], of h;
	mov al, [rod h]
	mov bl, [2002 h];
	mov CI, [2001h];
	mor dl, [rooph];

	Poll no → 0105C52e3DD3
	Experiment ?- 9 P. No.
	objective & WAP to perform AND appropries.
	Apparentes required: - micro procesos tomes kit, keyboard.
	propan: -
	mov bx, wooh;
	mov 51,05 mov cx,105
	mov GY, L 6x*si]
	mov ax
2.,	mov [bx+s], ax;
	dec cx; Inz li

. . .

VI.	Experiment -10 Date: P. No:
	objective :- NAP to perform of
	objective :- NAP to perform of operands.
-	
20	

Expusiment 3- 14

A mar

=	ENPROJETITE JE	L-4	
-	the bear to the second		
_	Objective: - wap to	store	16 B1+
_	porta infoss	northen	at 2000h
_	and incrementing	Value	01 01
7		13	
-	APPARATUS REQUIEED	3- MICT	o promouses
_			Kit, Keyboard.
_	exogram?	4.4	0
_	org 100h		St. Text
_			
_	MOV AL, [20004]		5 4/130
_	MOV CL, GBH		
_	LIS		8.1.9
_	ROL ALI	7 14	Zury
	JAC LZ	==	
	DEC CL		
	JN2 U		
	JMP 13:		
_			
_	12:		
_	MOV [2001H]	06H	
	RET		
	L3 :		

mov [2001H], OOFFH

RET

RO11-00. 010505203003 Exponent:-12 Objective 3- was to perfesso more them one opposition in one APPARTUS Required: - Micro processos. toines Kit, keybowld. [2000 h], bod al ADD 91,205 mov [2010 h], bd Thomk you!