Certificate

Name: Tapan kairi

Class: BCSE -II

Roll No: 30221050011

Exam No:

Institution _____

This is certified to be the bonafide work of the student in the _____ *Laboratory during the academic year 20 / 20 .*

No. of practicals certified _____ *out of* _____ *in the subject of* _____

.....

Teacher In-charge

.....

Examiner's Signature

.....

Principal

Date: .....

Institution Rubber Stamp

(N.B: The candidate is expected to retain his/her journal till he/she passes in the subject.)

Index

Date

Expt. No. _____ Page No. 1

Q.1 Load the contents of memory location 2200H and 2201H into register. Add these registers and store the result in memory location 2202H and 2203H.

Instruction	Comments	Memory Address	Hex Code
LDA 2200H	A ← [2200H]	2000	3A
		2001	00
		2002	22
MOV H, A	H ← A	2003	67
LDA 2201H	A ← [2201H]	2004	3A
		2005	01
		2006	22
ADD H	A ← A + H	2007	84
MOV L, A	L ← A	2008	6F
MVI A, 00H	A ← 00H	2009	3E
		200A	00
ADC A	A ← A + A + CF	200B	8F
MOV H, A	H ← A	200C	67
SHLD 2202H	L → [2202H], H → [2203H]	200D	22
		200E	02
		200F	22
HLT	Halt	2010	76

Teacher's Signature _____

```
LDA, 2200  : Load Accumulator from memory location 2200H
MOV H, A   : Move the content of accumulator into H register
LDA 2201   : Load Accumulator from memory location 2201H
ADD H      : add Accumulator and H register and store
             result in accumulator.
MOV L, A   : Move the content of accumulator into L register
MVI A, 00H : Move 00H into accumulator
ADC A      : add with carry
MOV H, A   : Move the content of accumulator into H register
SHLD 2202  : Store the memory location H and L direct
HLT        : Halt.
```

Date

Expt. No. _____ Page No. 2

2 Find the sum of N ~~natural~~ numbers stored in consecutive location starting from 2500H. The value of N is stored in 2200H. Store the result in location 2300H and 2301H.

⇒

Instructions	Comments	Address	Hex Code
LDA 2000H	A ← [2000H]	2000	3A 00 22
MOV C, A	C ← A	2003	4F
MVI E, 00H	E ← 00H	2004	1E 00
MVI D, 00H	D ← 00H	2006	16 00
LXI H, 2500H	HL ← 2050H	2008	21 00 25
L2: MOV A, M	A ← [M]	200B	7E
ADD E	A = A+E	200C	83
JNC	Jump	200D	D2 11 20
INR D	D = D+1	2010	14
L1: MOV E, A	E ← A	2011	5F
INX H	Increment Register pair by 1	2012	23
~~DCR~~ DCR C	C = C-1	2013	0D
JNZ 200BH	Jump	2014	C2 0D 20
MOV A, E	A ← E	2017	7B
STA 2300H	2300H ← A	2018	32 00 23
MOV A, D	A ← D	201B	7A
STA 2301H	2031H ← A	201C	32 01 23
HLT	Halt	201F	76

Teacher's Signature _____

Expt. No. _____ Date _____

Page No. 3

3. Find the sum of the least significant 4 bits and most significant 4 bits of a byte store in memory location 2500H. Store the result in 2550H.

⇒

Instructions	Comments	Address	Opcode
LXI H, 2500H	HL ← 2500H	2000	21 00 25
MVI A, 0FH	A ← 0FH	2003	3E 0F
ANA M	A ← A · M[HL]	2005	A6
MOV C, A	C ← A	2006	4F
MVI A, F0H	A ← F0H	2007	3E F0
ANA M	A ← A · M[HL]	2009	A6
RRC	Rotate the contents of the accumulator 1 bit to right.	200A	0F
RRC	"	200B	0F
RRC	"	200C	0F
RRC	"	200D	0F
ADD C	A ← A + C	200E	81
STA 2550H	2550H ← A	200F	32 50 25
HLT	Halt	2012	76

Date

Expt. No. Page No. 4

4. Write a program to count the 1's and 0's of a byte store in 2500H. Store the result in 2610H and 2511H. respetively.

⇒

Instruction	Comments	Address	Opcode
LXI H, 2500H	HL ← 2500H	2000	21 00 25
MVI C, 08H	C ← 08	2003	0E 08
MOV A, M	A ← M[HL]	2005	7E
MVI B, 00H	B ← 00	2006	06 00
Loop1 RLC	Rotate	2008	07
JC Loop2		2009	DA 0D 20
INR B	B = B+1	200C	04
Loop2: DCR C	C = C-1	200D	0D
JNZ Loop1		200E	C2 08 20
MOV A, B	A ← B	2011	78
STA 2511H	2511H ← A	2012	32 11 25
MVI A, 08H	A ← 08	2015	3E 08
SUB B	A = A-B	2017	90
STA 2610H	2610H ← A	2018	32 10 26
HLT	Halt	201B	76

Teacher's Signature

Date

Expt. No. _____ Page No. 5

5. Write a program to sum two 16-bit binary numbers

→

Instruction	Comments	address	Opcode
MVI C, 00H	Move immediate data 00 into C. Copy the content	2000	0E 00
LHLD 2500H		2002	2A 00 25
XCHG		2005	EB
LHLD 2502H		2006	2A 02 25
DAD D		2009	19
JNC 200E		200A	D2 0E 20
INR C		200D	0C
SHLD 2550H		200E	22 50 25
MOV A, C		2011	79
STA 2552H		2012	32 52 25
HLT		2015	76

	Comments
MVI C, 00H	Move immediate data 00 into C Reg.
LHLD 2500H	Copy the content of M/m location 2500H into L=2500, H=2501
XCHG	Exchange content of HL Reg pair with DE register pair
LHLD 2500H	Copy the content from m/m location 2500H into Reg L and Reg H.
DAD D	Content of HL Reg pair will get added to DE and result store in HL.
JNC 200E	Jump if not zero
INR C	increment C by 1
SHLD 2550H	Store content of HL Reg pair into given m/m location
MOV A, C	Move c data into A.
STA 2552H	Store accumulator content into given m/m location
HLT	Halt the program

Teacher's Signature _____

Date

Expt. No. _____ Page No. 6

Q.1 Two numbers MN and KL are stored in 2050H and 2051H respectively. WAP to assemble them as MKH and LMH store them in 2052H and 2053H.

⇒ ~~Address~~

	Instruction	Comments	Address	Hexcode
	LDA 2050H	Load M[2050H] into A.	2000	3A 50 20
	MVI C,04H	Move immediate data 04 into C.	2003	0E 04
	MVI D,0FH	Move immediate data 04 into D.	2005	16 0F
	MVI E, 0FH	Move immediate data 0F into E.	2007	1E 0F
L1	RLC	Rotate left A. by 1	2009	07
	DCR C	Decrement C by 1	200A	0D
	JNZ L1	Jump if not zero	200B	C2
	ANA D	AND operation A and D Reg.	200C	A2
	MOV H, A	Move A into H Reg	200D	67
	MVI C, 04H	Move immediate data 04 into C.	200E	0E 04
	LDA 2050H	Load M[2050H] into A.	2010	3A 50 20
L2	RLC	Rotate left A. by 1	2013	07
	DCR C	Decrement C by 1	2014	0D
	JNZ	Jump if not zero.	2015	C2
	ANA E	AND operate A and E Reg.	2016	A3
	ADD H	Add A and E result store in A.	2017	84
	STA 2052	Store data of m/m location 2052H into A.	2018	32 52 20
	LDA 2051	Load M[2051H] into A.	201B	3A 51 20
	MVI C, 04H	move immediate data 04 into C.	201F	0E, 04
L3	RLC	Rotate left A by 1	2021	07
	DCR C	Decrement C by 1	2022	0D
	JNZ L3	Jump if not zero	2023	C2
	ANA D	AND operation A and D.	2024	A2
	MOV L, A	Move data of A reg into L reg	2025	6F
	MVI C, 04H	Move immediate data 04 into C	2026	0E 04

Teacher's Signature _____

Instructions	Comments	address	Hexcode
LDA 2050H	Load M[2050] into A Reg	202C	3A 50 20
DCR C	Decrement C by 1	202F	0D
JNZ L-4	Jump if not zero	2030	C2
ANA E	Perform and operation with E.	2031	A3
ADD C	ADD C and A.	2032	81
STA 2053H	Store content of M[2053H] into A.	2033	32 53 20
HLT	Halt the program.	2036	76

Expt. No. _____ Date _____

Page No. 7

0.2 Two numbers A and B are stored in 2050H and 2051H respectively. WAP to assemble & perform A×B and store the result in 2052 and 2053H.

Instructions	Comments	Address	Hexcode
LDA 2050H	~~Store~~ load content of M[2050] into A.	2000	3A 50 20
MOV B, A	move content of A into B.	2003	47
LDA 2051H	load content of M[2051] into A	2004	3A 51 20
MOV E, A	move content of A into E Reg.	2007	5F
MVI C, 00H	Move immediate data 00H into C.	2008	0E 00
MVI A, 00H	Move immediate data 00H into A.	200A	3E 00
ADD E	Add A and E Reg.	200C	83
JNC	Jump if not zero	200D	D2 11 20
INR C	increment C by 1	200E	0C
DCR B	decrement B by 1	200F	05
JNZ L:1	Jump if not zero	2010	C2 0C 20
STA 2052H	Store content of M[2052] into A.	2012	32 52 20
MOV A, C	move data of C into A.	2015	79
STA 2053H	Store content of M[2053] into A	2016	32 53 20
HLT	Halt the program	2019	76

Teacher's Signature _____

Date

Expt. No. _____ Page No. 8

Q.3 N numbers are stored in consecutive m/m location starting from 2050H. The value of N is stored in 304FH.

① find the maximum ~~the N~~ among the N numbers.

	Instructions	Comments	Address	Hexcode
	LDA 204FH	Load the content of M[204F] into A.	2000	3A 4F 20
	MOV C,A	Move content of A into C.	2003	4F
	LXI 2050H	Load to the Reg pair HL 2050H.	2004	21 50 20
	MOV A,M	move content of M[HL] into A.	2007	7E
L1	DCR C	Decrement C by 1	2008	0D
	INR H	Increment HL by 1	2009	23
	CMP M	Compair Acc. and Memory content	200A	BE
	JNC	Jump if not zero	200B	D2 0F 20
	MOV A,M	move content of M[HL] into A.	200E	7E
	DCR C	Decrement C by 1	200F	0D
	JNZ L1	Jump if not zero	2010	C2 08 20
	STA 3000H	Store content of M[3000H] into A.	2013	32 00 30
	HLT	Halt the program	2016	76

Teacher's Signature _____

Expt. No. _____ Date _____

Page No. 9

(ii) Find the minimum among the N numbers.

~~Opcode~~

	Instructions	Comments	Address	Hexcode
	LDA 204FH	load content of M[204F] into Accumulator	2000	3A 4F 20
	MOV C, A	Move Acc. content into C. Reg.	2003	4F
	LXI H, 2050H	Load to the Reg. pair HL, 2050H	2004	21 50 20
	MOV A, M	Move content of m/m M[HL] into A.	2007	7E
	DCR C	Decrement C by 1	2008	0D
L:1	INX H	Increment HL by 1.	2009	23
	CMP M	Compare accumulator and m/m data	200A	BE
	JC	Jump with carry	200B	DA 0F 20
	MOV A, M	Move memory M[HL] content into A	200E	7E
	DCR M	Decrement memory by 1	200F	0D
	JNZ L:1	Jump if not zero	2010	C2 09 20
	STA 3000H	Store content of M[3000H] into A.	2013	32 00 30
	HLT	Halt the program	2016	76

Teacher's Signature _____

Date

Expt. No. Page No. 10

III) Sort the N numbers in ascending order.

	Instructions	Comments	Address	Hexcode
	LXI H 204F	Load to the HL 204F	2000	21 4F 20
	MOV C,M	move Memory M[HL] content into C.	2003	4E
	DCR C	Decrement C by 1	2004	0D
L1	MOV D,C	Move data of C reg into D reg	2005	51
	LXI H, 2050H	Load 2050 into Reg pair HL	2006	21 50 20
L2	MOV A, M	Move M[HL] into Accumulator.	2009	7E
	INX H	Increment HL by 1.	200A	23
	CMP M	Compair Accumulator and Memory Content.	200B	BE
	JC L3	Jump with carry	200C	DA 14 20
	MOV B, M	Move M[H,L] into B Reg.	200F	46
	MOV M, A	Move accumulator content in m/m	2010	77
	DCX H	Decrement HL by 1.	2011	2B
	MOV M, B	move Reg. B content into m/m (M[HL])	2012	70
	INX H	Increment HL by 1.	2013	23
L3	DCR D	Decrement D by 1	2014	15
	JNZ 2009	Jump if not zero.	2015	C2 09 20
	DCR C	Decrement C by 1.	2018	0D
	JNZ 2005 L1	Jump if not zero.	2019	C2 05 20
	HLT	Halt the program	201C	76

Teacher's Signature

Date

Expt. No. _____ Page No. 11

iv) Sort the N numbers in decending order

	Instructions	Comments	Address	Hex Code
	LXI H, 204F	load the 204F into Reg. Pair HL	2000	21 4F 20
	MOV C, M	Move memory contains which point HL into C.	2003	4E
	DCR C	Decrement C by 1.	2004	0D
L1	MOV D, C	Move C contains into D Reg.	2005	51
	LXI H, 2050H	Load 2050 into HL Reg. Pair.	2006	21 50 20
L2	MOV A, M	Mov memory contains into A.	2009	7E
	INX H	Increment HL by 1	200A	23
	CMP M	Compair A and memory Contains	200B	BE
	JNC 2014	Jump if not zero	200C	D2 14 20
	MOV B, M	Move m/m contains into B Reg.	200F	48
	DCX H	Decrement HL by 1	2010	77
	MOV M, B	Move contains of B into M/m.	2011	2B
	INX H	Increment HL by 1.	2012	70
L3	DCR	Decrement dt	2013	23
	JNZ 2003 L2	Jump if not zero	2014	15
	DCR C	Derement C by 1	2017	C2 03 20
	JNZ 2003 L1	Jump if not zero	2018	0D
	HLT	Halt the program	201B	C2 05 20
			201C	76

Teacher's Signature _____

Expt. No. _____ Date _____

Page No. 1

4. N numbers are stored in consecutive m/m location starting from 3050 H. The value N is stored in 204F. WAP to copy the even and odd numbers starting from 2100 H and 2200H Store the total of number of even and odd numbers in 2300H and 2201 H respectively.

Instructions	Comments	Address	Opcode
MVI B, 00H	Move Reg B, 00H	2000	06 00
LDA 204FH	Load to the M[204FH] into Acc.	2001	3A 0F 20
MOV C, A	Move accumulator data into C	2004	4F
MVI D, 21H	Move immediate data 21 into D reg.	2005	16 21
MVI E, 00H	Move immediate data 00H into E.	2007	FE 00
LXI H, 2050H	Load 2050H into HL Reg Pair.	2009	21 50 20
MOV A, M	Move memory content into Acc.	200C	7E
RRC	Rotate right accumulator.	200D	0F
JNC SKIP	Jump if not zero	200E	D2 14 20
RLC	Rotate left Accumulator. 1bit position	200F	07
STAX D	Store the accumulator content in Reg Pair	2010	12
INX D	Increment D register by 1.	DE 2011	13
INX B	Increment B register by 1	2012	04
SKIP: INX H	Increment HL Register pair by 1	2013	23
DCR C	Decrement C by 1	2014	0D
JNZ 00D	Jump if not zero	2015	C2 0D 20
LDA 204FH	Load m/m content of 204F into A	2017	3A 4E 20
MOV C, A	Move content of A into C Reg.	201A	4F
MVI D, 12H	Move 12H into D Reg p.	201B	16 22
MVI E, 00H	Move immediate data 00H into E	201D	1E 00
LXI H, 2050H	Load to the register pair HL, 2050H Address	20FF	21 50 20
LL: MOV A, M	Move memory content into Accumulator.	2022	7E
RRC	Rotate left Accumulator by 1 bit position	2023	0F
JC	Jump with carry	2024	DA 2E 20

Teacher's Signature _____

Instructions	Comments	Address	Hexcode
RLC	Rotate left accumulator 1 bit position	2027	07
STAX D	Store data which point DE Reg. into A.	2028	12
INX D	Increment DE by 1	2029	13
Skip INX H	Increment HL by 1	202A	23
DCR C	Decrement C by 1	202B	0D
JNZ	Jump if not zero	202C	C2 26 20
MOV A,B	move content of B into A	202F	78
STA 204FH	Store M[204F] into Accumulator.	2030	32 01 23
SUB B	Sub A and B	2033	3A 0F 20
STA 2300H	Store M[2300H] into Accumulator	2034	32 00 23
HLT	Halt the program	2037	76

Date

Expt. No. Page No. 13

5 N numbers are stored in consecutive m/m location starting from 2050H. The value of N is stored in 204FH. WAP to test whether a number stored in 204FH is present in the list. If present, store its position in the list at 204D otherwise FFH.

Instructions

	Instructions	Comments	Opcode	address
	LDA 204EH	load content of M[204E] into Accumulator.	3A 4E 20	2000
	MOV D, A	Move content of A to D reg	57	2003
	MVI B, 01	Move 01 into B reg.	06 01	2004
	LDA 204F	Load content of M[204F] into Accumulator.	3A 4F 20	2006
	MOV C, A	Move A into C Reg.	4F	2009
	LXI H, 2050	Loade 2050 into Register pair HL	21 50 20	200A
L1	MOV A, M	Move content of M[HL] into Accumulator	7E	200D
	CMP D	Compair Accumulator and D reg.	BA	200E
	JNZ 2017 L1	Jump if not zero	C2 17 20	200F
	MOV A, B	Move B into A	78	2012
	STA 204D	Store content of Acc. into m/m location 204DH.	32 4D 20	2013
	HLT	Hlt the program	76	2016
L2	INR B	Increment B by 1	04	2017
	DCR C	Decrement C by 1	0D	2018
	INX H	Increment the Register pair HL by 1	23	2019
	JNZ 200D L1	Jump if not zero	C2 0D 20	201A
	MVI A, FF	Move immediate data into A.	3E FF	201D
	STA 204D	Store content of Accumulator into m/m location 204DH	32 4D 20	201F
	HLT	Halt the program	76	2022

Teacher's Signature

Expt. No. Problem Sheet#3 Date

Page No. 14

Q.1 A set of N data bytes is stored in m/m location starting from 2501H. The value of N is stored in 2500H. WAP to store these data bytes from m/m location 2600H if D_0 and D_4 is 1 otherwise reject the data byte.

	Instructions	Comments	address	Hexcode
	LXI H, 2500H	load Reg. Pair HL immediat address 2500.	2000	21 00 25
	MOV C,M	Move M[HL] into C Reg.	2003	4E
	LXI D, 2600H	load Reg pair DE immdiate address 2600H.	2004	11 00 26
	INX H	Increement HL by 1	2007	23
L	MOV A,M	Move M[HL] into Accumulator	2008	7E
	RAR	Rotate Accumulator Right	2009	1F
	JNC 2013H L:1	Jump if not zero	200A	D2 13 20
	MOV A,M	Move M[HL] into Accumulator	200D	7E
	STAX D	store Accumulator contaiint in DE.	200E	12
	INX D	Increment DE by 1	200F	13
	Jump 2013 H L:2	Jump	2010	C3 1B 20
L.1	MOV A,M	Move M[HL] into Acc.	2013	7E
	RAL	Rotate Accumulator Right.	2014	17
	JNC 201BH L:L	Jump if not zero	2015	D2 1B 20
	MOV A,M	Move M[HL] into A.	2018	7E
	STAX D	Store Accumulator contaiint into DE	2019	12
	INX D	INcrement DE by 1	201A	13
L:2	DCR C	Decrement C by 1	201B	0D
	INX H	Increment HL by 1	201C	23
	JNZ 2008 H	Jump if not zero	201D	C2 08 20
	HLT	Hal the program	2020	76

Teacher's Signature

Date

Expt. No. _____ Page No. 15

Q.2 There are N data bytes stored from m/m location 2200H. The value of N is stored in 21FFH. WAP to find the sum of integers whose LSB and MSB are 1. Store the result in 2500H and 2501H.

	Instruction	Comments	Address	Hexcode
	LXI H, 21FFH	Load the address into reg. pair HL.	2000	21 FF 21
	MOV C, M	Move M[HL] into C reg.	2003	4E
	INX H	Increment HL by 1.	2004	23
	MVI D, 00H	Move immediate data 00 into D reg.	2005	16 00
	MVI B, 00H	Move immediate data 00 into B reg.	2007	06 00
L:	MOV A, M	Move M[HL] into Accumulator.	2009	7E
	RAR	Rotate Accumulator Right. 1 bit	200A	1F
	JNC 200BH L1	Jump if not zero.	200B	D2 1D 20
	MOV A, M	Move M[HL] into Accumulator.	200F	7E
	RAL	Rote Accumulator Left by 1 bit.	200F	17
	JNC 2010H L1	Jump if not zero	2010	D2 1D 20
	MOV A, M	Move M[HL] into Accumulator	2013	7E
	ADD B	Add B and A and result store in A.	2014	80
	MOV B, A	Move Accumulator content into B	2015	47
	JC 201CH	Jump if carry	2016	DA 1C 20
	JMP 201D	Jump	2019	C3 1D 20
	INR D	Increment D reg.	201C	14
	INX H	Increment HL register pair	201D	23
	DCR C	Decrement C. by 1.	201E	0D
	JNZ 2000	Jump if not zero	201F	C2 09 20
	MOV A, B	Move B content into A.	2022	78
	STA 2500H	Store Accumulator contain in 2500H.	2023	32 00 25
	MOV A, D	Move D content to Accumulator.	2026	7A
	STA 2501H	Store Accumulator content in 2501H	2027	32 01 25
	HLT	Halt the program	202A	76

Teacher's Signature _____

Date

Expt. No. _____ Page No. 16

Q.3 Write an 8085 program to generate Nth fibonacci number using function and store it in 2050H. The value of N is stored in memory 2060 H.

	Instruction	comments	Address	Opcode
	LXI H, 2060H	load address 2060 into HL Reg. Pair	2000	21 50 20
	MOV A, M	Move M[HL] into A.	2003	7E
	MVI B, 01H	Move immediate data 01 into B reg.	2004	06 01
	CMP B	Compair A and B reg.	2006	B8
	JZ 2027	Jump if zero	2007	CA 27 20
	MOV A, M	Move M[HL] into Accumulator	200A	7E
	MVI D, 02	Move data 02 into D reg.	200B	16, 02,
	CMP D	Compair A and D reg.	200D	BA
	JZ 202D	Jump if zero	200E	CA, 2D, 20.
	MOV A, M	Move M[HL] into Accumulator	2011	7E
	MVI C, 02	Move 02 into C reg.	2012	0E, 02
	SUB C	Substract A and C result stored in A	2014	91
	MOV C, A	Move Accumulator content into C.	2015	4F
	MVI B, 00H	Move 00 into B	2016	06, 00
	MVI D, 01H	Move 00 into D	2018	16, 01
C.	MOV A, B	Move B reg. data into A.	201A	78
	ADD D	Add A and D	201B	82
	MOV B, D	Move D reg data into B	201C	42
	MOV D, A.		201D	57
	DCR C	Decrement C	201E	0D
	JNZ	Jump if not zero	201F	C2 1A 20
	MOV A, D	Move D reg. data into Accumulator.	2022	7A
	STA 2050H	Store content of A. into 2050H.	2023	32 50 20
	HLT	Halt the program.	2026	76
	MVI A, 00H	Move 00 into Accumulator.	2027	3E 00
	STA 2050H	Store Accumulator content into 2050H.	2029	32 50 20

Teacher's Signature _____

Instruction	comments	address	Hexcode
ALT	Halt the program.	202C	76
MVI A, 01H	Move 01 into Accumulator.	202D	3E 01
STA 2050 H	Store content of Accumulator into 2050H.	202F	32 50 20
HLT	Halt the program	2032	76

Date

Expt. No. _____ Page No. 17

Q.4 WAP to transfer a block of bytes of size N from location 1 to location 2 (location 2 > location 1) when the size of overlap between the two locations is defined by M. The values of N and M are stored in 201EH and 201FH respectively.

	Instructions	Comments	Address	Hexcode
	LXI H, 201EH	Load 201E into reg. pair HL	2000	21 1E 20
	MOV A, M	Move M[HL] into Accumulator.	2003	7E
	INX H	Increment HL reg. by 1	2004	23
	MOV C, M	Move M[HL] into C reg.	2005	4E
	MOV B, A	Move Accumulator into B reg.	2006	47
	SUB C	Subtract A and C result store in A	2007	91
	ADD B	Add A and B result in A.	2008	80
	MOV C, B	Move B reg. into C.	2009	48
	DCR C	Decrement C by 1	200A	0D
	MVI B, 00H	Move 00 into B reg.	200B	06, 00
	INX H	INcrement HL by 1	200D	23
	DAD B	Add with register pair BC.	200E	09
	MOV B, C	Move C to B data B.	200F	41
	DCR C	Decrement C by 1	2010	09
	LXI D, 2020H	Load DE reg pair 2020H.	2011	4F
L.	INX D	INcrement DE	2012	0D
	DCR C	Decrement C	2013	11, 20, 20
	JNZ 3016A	Jump if not zero	2016	18
	JMP 301E	Jump	2017	0D
	MOV A, M	Move M[HL] into Accumulator.	2018	C2, 16, 30
	STAX D	Store accumulator contain in DE	201B	C3, 1E, 30
	DCX D	Decrement DE by 1	201E	7E
	DCR B	Decrement BE	201F	12
	DLX H	Decrement HC	2020	1B
	JNZ 301EH	Jump if not zero	2021	50
	HLT	Halt the program	2022	76

Teacher's Signature _____

Date

Expt. No. Page No. 18

Q.5 WAP to flash "BCSE 11" in the address and data field with a flashing rate of 0.5 second.

Instruction	Comments	Address	Hexcode
LXI SP 20FFH	SP 20FF initialized stack pointer	2000	31 FF 20
CALL CLEAR	clear the Display	2003	CD 47 30
START XRA A	A is 00 to display	2006	AF
MOV B,A	Move Accumulator to B.	2007	47
LXI H,2050	Load 2050 into HL reg pair	2008	21 50 20
CALL OUTPUT	Call output routin to display	200B	CD,D0,05
MVI A,01H	Move 01 to Accumulator	200E	3E, 01
MVI B, 00H	Move 00 to B reg.	2010	06, 00
LXI H ,2054H	Load 2054 into HL Reg pair.	2012	21, 54, 20
CALL OUTPUT	Call output routin to display.	2015	CD,120,05
LXI D, 0000H	Load M[DE] into 0000H	2018	11, 00, 00
CALL: DELAY	Display "BCSE 11"	201B	CD, BC, 03
CALL: CLEAR	clear the display	201E	CD, 47, 03
LXI D. 0000H	Load M[DE] into 0000H	2021	11, 00, 00
CALL DELAY	display BCSE 11 routin for 0.5 sec	2024	CD, BE, 03
JMP (Start)	Jump at 2006 memory Adress	2027	C3, 06, 20

Teacher's Signature