University of Asia Pacific

Admit Card

Mid-Term Examination of Fall, 2020

Financial Clearance	PAID

Registration No : 19101020

Student Name : Shawan Das

Program : Bachelor of Science in Computer Science and Engineering

SI.NO.	COURSE CODE	COURSE TITLE	CR.HR.	EXAM. SCHEDULE
1	CSE 207	Algorithms	3.00	
2	CSE 210	Digital Logic & System Design Lab	1.50	
3	MTH 205	Math IV: Differential Equations and Fourier and Laplace Transformations	3.00	
4	CSE 208	Algorithms Lab	1.50	
5	CSE 209	Digital Logic & System Design	4.00	
6	CSE 211	Database Systems	3.00	
7	CSE 212	Database Systems Lab	1.50	
8	ECN 201	Economics	2.00	

Total Credit: 19.50

1. Examinees are not allowed to enter the examination hall after 30 minutes of commencement of examination for mid semester examinations and 60 minutes for semester final examinations.

2. No examinees shall be allowed to submit their answer scripts before 50% of the allocated time of examination has elapsed.

3. No examinees would be allowed to go to washroom within the first 60 minutes of final examinations.

4. No student will be allowed to carry any books, bags, extra paper or cellular phone or objectionable items/incriminating paper in the examination hall.
Violators will be subjects to disciplinary action.

This is a system generated Admit Card. No signature is required.

MID-TERM, Fall- 2020

Name:- SHAWAN DAS

ID : 19101020

Dept. : C.S.E.

year: 2nd semester: 2nd

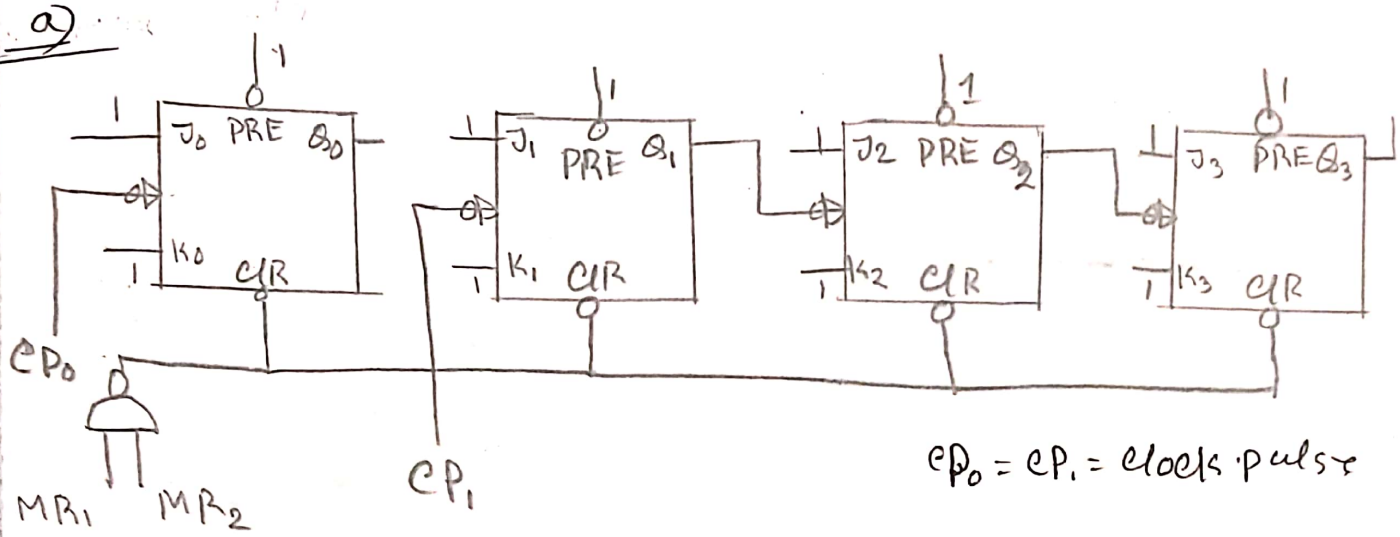
Course Title:- Digital Logic & System Design.

Course Code:- C.S.E.-209

Date:- 23-02-2021

Part of 01 (OR part)

a)

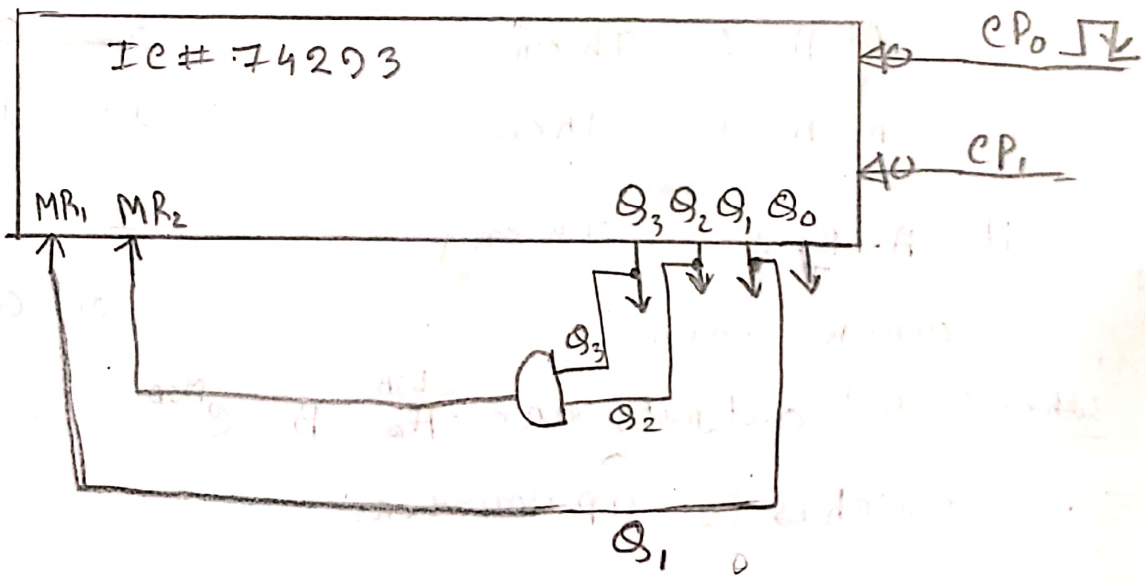


$CP_0 = CP_1 =$ clock pulse

b) 13 → 1101

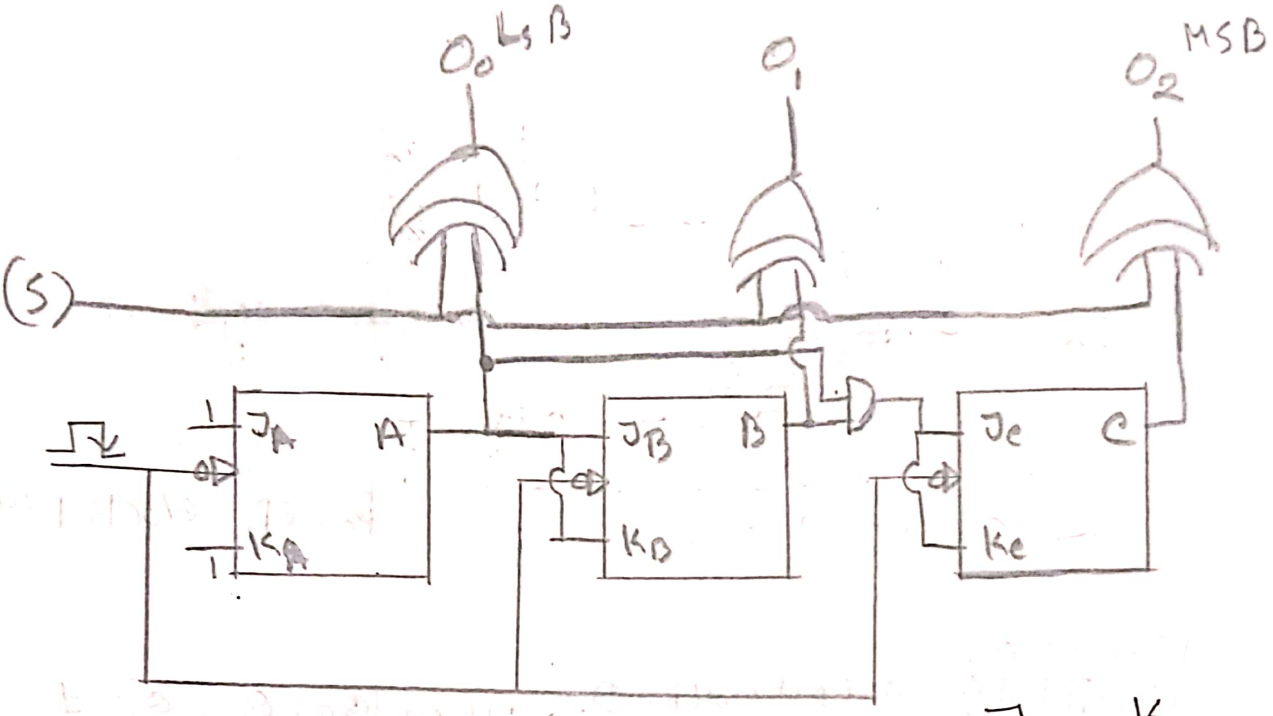
14 → 1110 → output will be 0. when $Q_3 = Q_2 = Q_1 = 1$ → $CLR = 0$.

~~15 → 1111 → All will be output will be 0.~~



counts 0 to 13 (MOD-14)

(c)



J	K	
1	1	
0	0	
1	1	$[J_A = \overline{J}_B = A$
1	1	
0	0	

~~when S=0~~ A is always toggle so

At A = 0 Then

At A = 1 Then

if A = B = 1 Then

other then

when S = 0 outputs are $\cdot A_{LSB} \cdot B \; C_{MSB}$

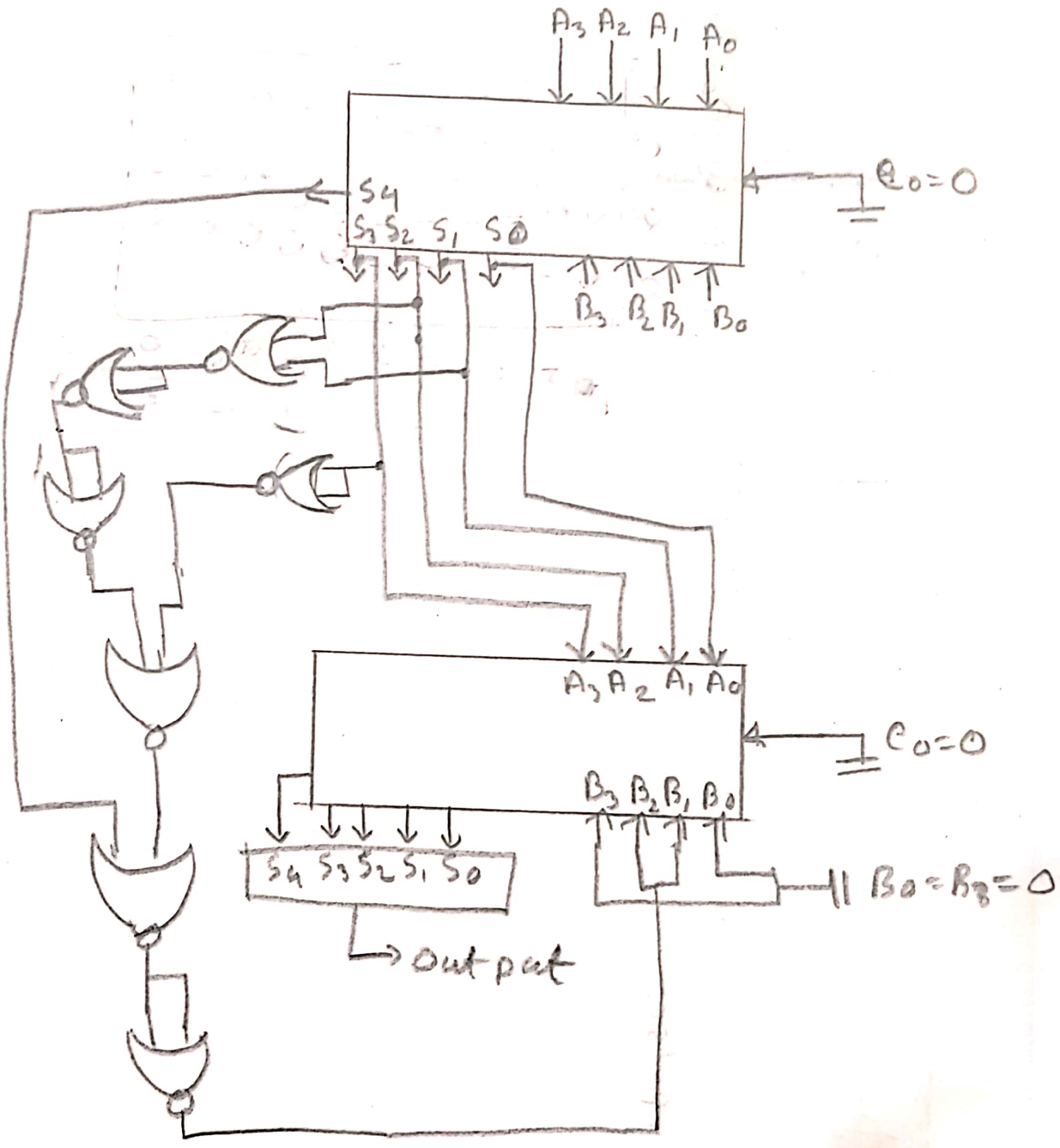
which ~~is~~ is up counter.

when S = 1 outputs are $\cdot \overline{A}_{LSB} \; \overline{B} \; \overline{C}_{MSB}$

which is down counter.

Any 06 02

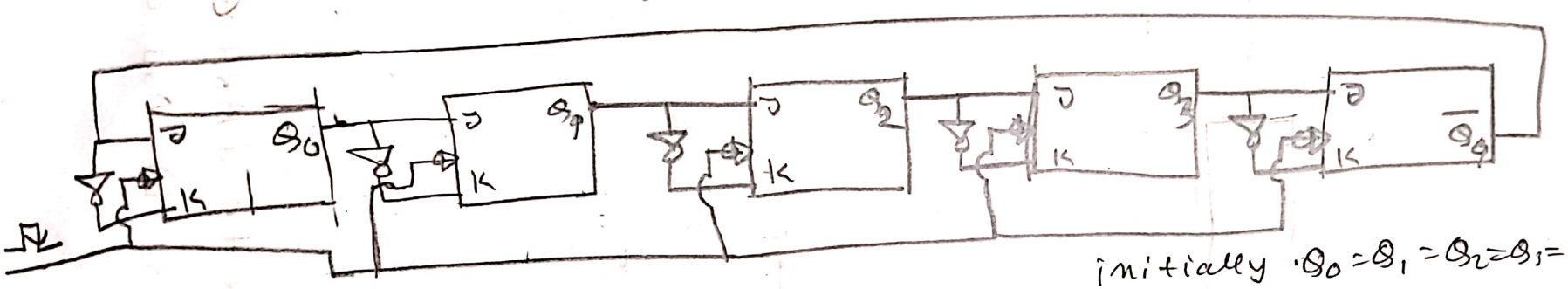
a)



in BCD ADDER if sum > 9 we have to Add 6.

so if $S_4 = 1$ OR $S_3 = 1$ AND ($S_1 = 1$ OR $S_2 = 1$) Add 0110

(b)



initially $Q_0 = Q_1 = Q_2 = Q_3 = 0$

After giving pulse:

$Q_0 = \overline{Q_4}$

$Q_1 = Q_0$

$Q_2 = Q_1$

$Q_3 = Q_2$

$Q_4 = Q_3$

	Q_4	Q_3	Q_2	Q_1	Q_0
0	0	0	0	0	0
1	1	0	0	0	0
2	1	1	0	0	0
3	1	1	1	0	0
4	1	1	1	1	0
5	1	1	1	1	1
6	0	1	1	1	1
7	0	0	1	1	1
8	0	0	0	1	1
9	0	0	0	0	1
10	0	0	0	0	0

Ans of 03 (a)

(i) Number of Flip Flop = 8

∵ MOD number = $2^8 = 256$

(ii) input frequency = 16 MHz
= 16000 KHz

output frequency = $\frac{16000\text{KHz}}{256}$ = 62.5 KHz.

(iii) Range: 0 to 255

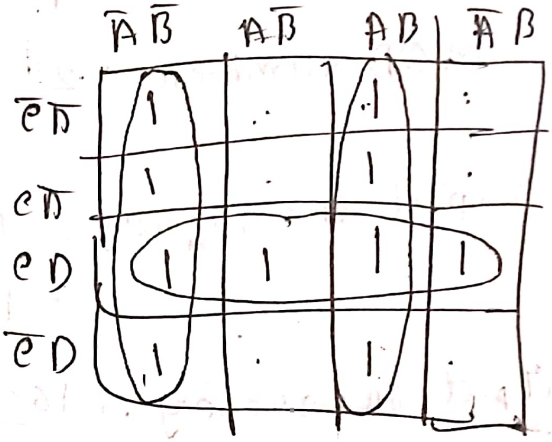
(iv) 10101000

(b) (i) It happend because the 7 bit counter can count from 0 to 127. after 127 it will start counting from 0.

(ii) We can use upto 8 bit counter. such as if we us 10 bit counter it will count from 0 to 1023.

⑤ (1)

C	D	B	A	X
0	0	0	0	1
0	0	0	1	0
0	0	1	0	0
0	0	1	1	1
0	1	0	0	1
0	1	0	1	0
0	1	1	0	0
0	1	1	1	1
1	0	0	0	1
1	0	0	1	0
1	0	1	0	0
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1



$X = CD + \bar{A}\bar{B} + AB$

$= CD + \overline{A \oplus B}$