Name : Kaustubh .V. Mali
Roll No : 29
Assignment -1

Q. Interface 32k byte of EPROM Memory to 8086. Use full decoding

1. 32k byte :-

2. Ending address - fffff H

   Starting address - Ending Address - Memory span.

   - Ending Address - 32k.

   - fffff H - 7fff H

   - f8000H

3. IC of 512 byte size for even and odd memory bank i.e 2 IC 27128 is required.

4. IC 27128 : 14 Address lines : A0 - A13

   8 Data lines : D0 - D7

Memory Map Table

Memory Chip
Even EPROM
ODD EPROM

Memory Chip	A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0 BHE	Address
Even EPROM	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	f8000 H
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	fffE
ODD EPROM	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	f8001
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	fffff

Physical address

8086

A1-A14

$\overline{WR}$
RD — x

D8-D15

D0-D7

$\frac{A0}{BHE}$

A10
A11
A12
A13
A14
A15
A16
A17
A18
A19

M/I0

Physical address

f8001
f8003
f8005

A0 A13

27128
ODD Bank

D0 D7

$\overline{CS}$

FFFF

Physical address

f8000
f8000
f8004

A0-A13

27128
EVEN BANK

$\overline{OE}$

D0 D7

$\overline{CS}$

FFFF

FROM CIRCUIT
(32K byte).
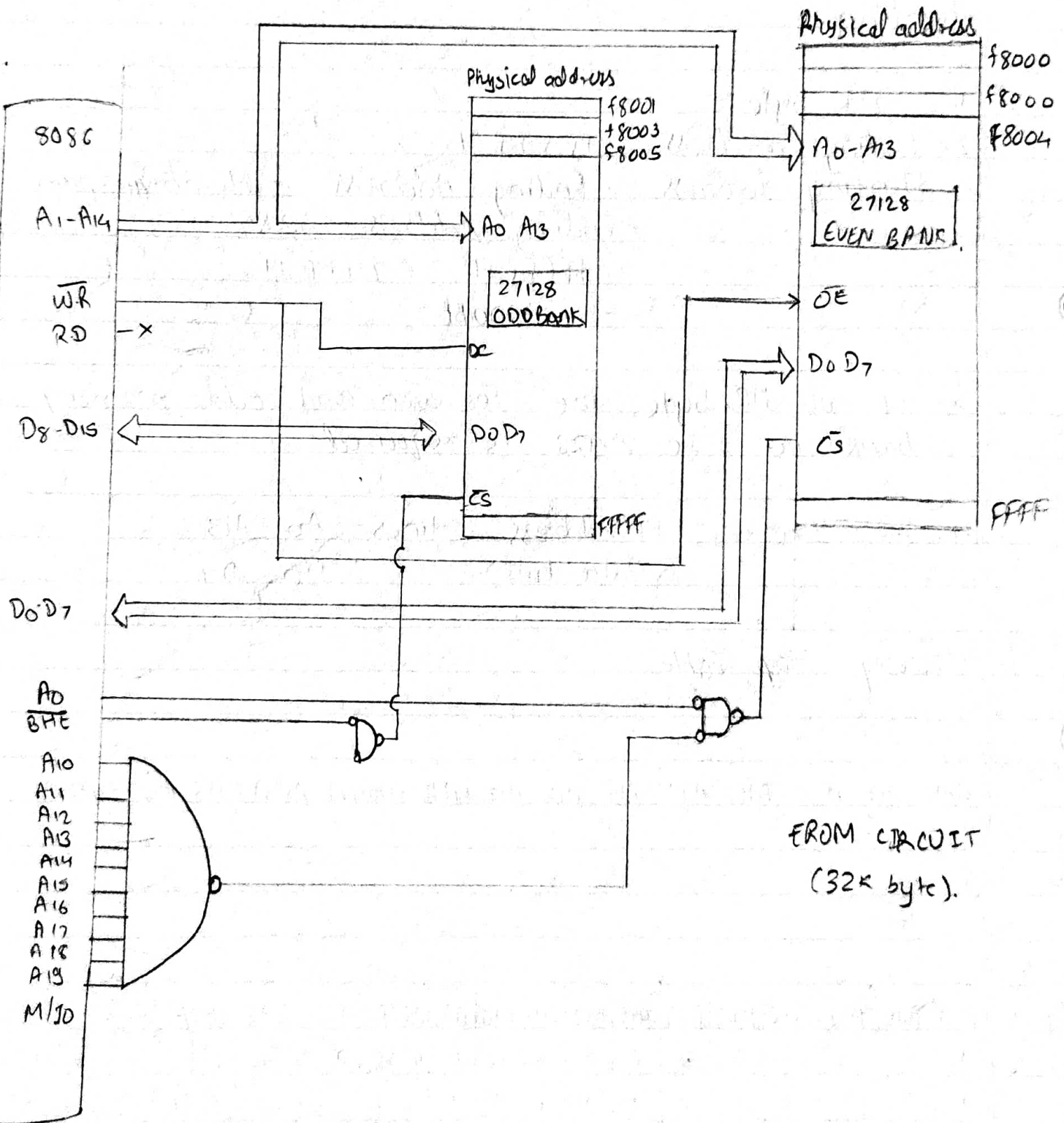
Kaustubh Mali
Roll No: 29
Assignment : 2

Q1) Interface 13 K byte of SRAM memory to 8086 with starting address 20000H. Use IC 6264. Use full decoding

1. 13K byte : $13K \times 8$

2. Starting Address : D0000 H
   Ending address : Starting address + Memory Span
   $$\text{Starting address} + 13K \times 2$$
   $$D0000H + 16k$$
   $$D0000H + 3FFF$$
   $$: D3FFFH$$

3. 2 IC of $13K \times 8$ for 2 even and odd memory bank i.e 2 IC of 6264

4. IC 6264 : 13 address line - $A_0 - A_{12}$
   - 8 data lines - $D_0 - D_7$

Memory Map Table.

Memory Chip	A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0	BHE	Address
6264 EVEN RAM.	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	D0000
	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	D3FFE
6264 EVEN RAM	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	D0001
	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	D3FFF

8086

11

RD   TOR

MIO   MRD
       MWR

WR   IOW

MLDA

D8-D15

D0-D7

A0
BHE
A14
A15
A16
A17
A18
A9
N/10

CS
A0-A2
OE   ODD
WR
D0-D7

D0001
D0003

D5FFF

CS
A0-A2
OE   EVEN
WR
D0-D7

D0000
D0002

D3FFF

VCC
B
A
C   74LS138
41

CS000

CSEVEN
CSODD

E