

Date: \_\_\_\_\_

Name:- M - Daniyal

ID NO:- 17011

Program:- BS (CS)

Subject:- Digital logic  
design

Instructor:- M - Amin

Final - Term  
Assignment

Date: \_\_\_\_\_

1

## Question no 2

Solution:-

a)  $S_0 = 1$  ,  $S_1 = 0$

$S_0$	1
$S_1$	0
$D_0$	0
$D_1$	1
$D_2$	0
$D_3$	1

$D_0 = 1$

$S_0 \cdot S_1 = 1 \cdot 0 = D_0$

b)  $S_0 = 0$  ,  $S_1 = 1$

$S_0$	0
$S_1$	1
$D_0$	0
$D_1$	1
$D_2$	0
$D_3$	1

$D_1$

$S_0 \cdot S_1 = D_1$   
 $0 \cdot 1$

Q



Date: \_\_\_\_\_

2

C)  $S_0 = 1$      $S_1 = 1$

$S_0 = 1$	
$S_1 = 1$	
$D_0$	$D_3$
$D_1$	$\times S_0, S_1 = D_2$
$D_2$	
$D_3$	1.0

D)  $S_0 = 0$  ,  $S_1 = 0$

$S_0 = 0$	
$S_1 = 0$	
$D_0 = 0$	$D_4$
$D_1 = 1$	$\times$
$D_2 = 0$	$S_0, S_1 = D_3$
$D_3 = 1$	1.1

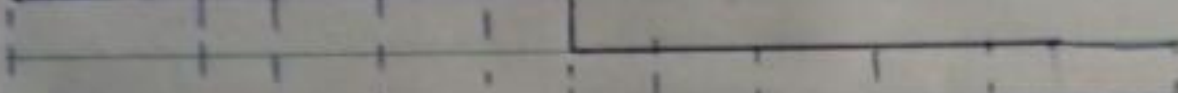
3

### "Question no 3"

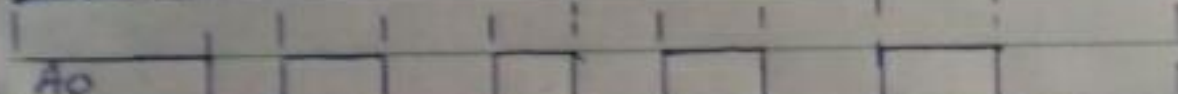
Timing diagram in figure 01 shows input to a 9-bit parity checker. Draw the  $\Sigma$  even and  $\Sigma$  odd output for the even parity checker.

Solution:

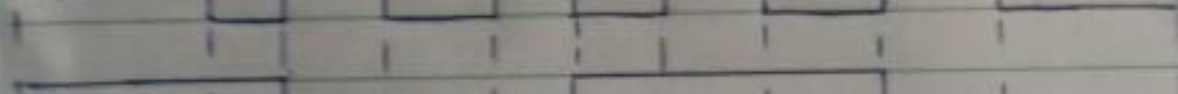
Even



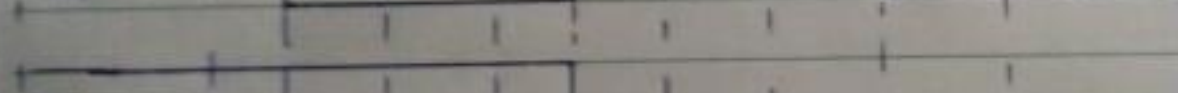
odd



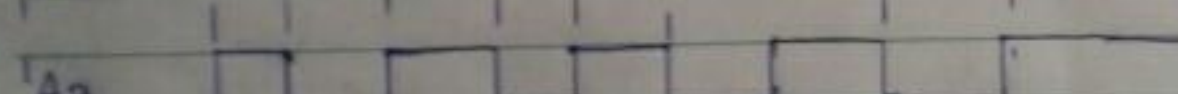
A<sub>0</sub>



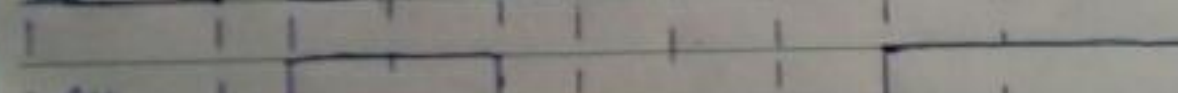
A<sub>1</sub>



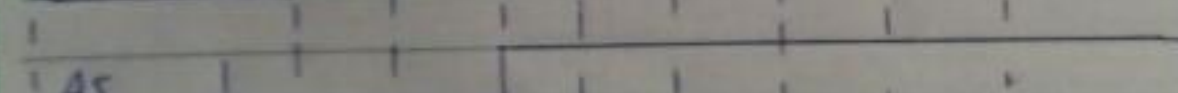
A<sub>2</sub>



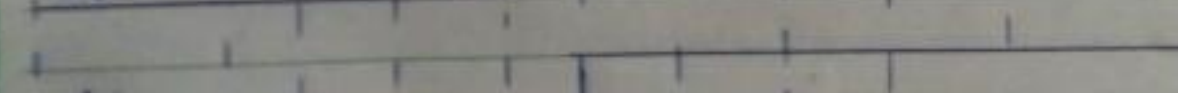
A<sub>3</sub>



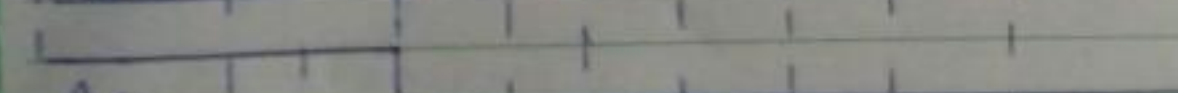
A<sub>4</sub>



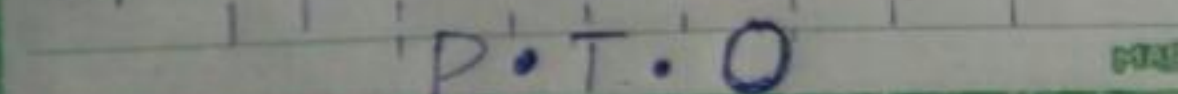
A<sub>5</sub>



A<sub>6</sub>



A<sub>7</sub>

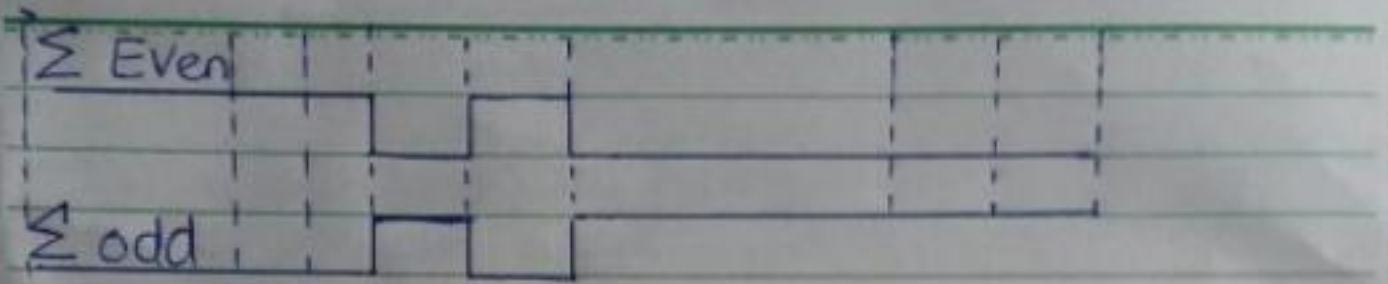


P.T.O



Date: \_\_\_\_\_

4



output.

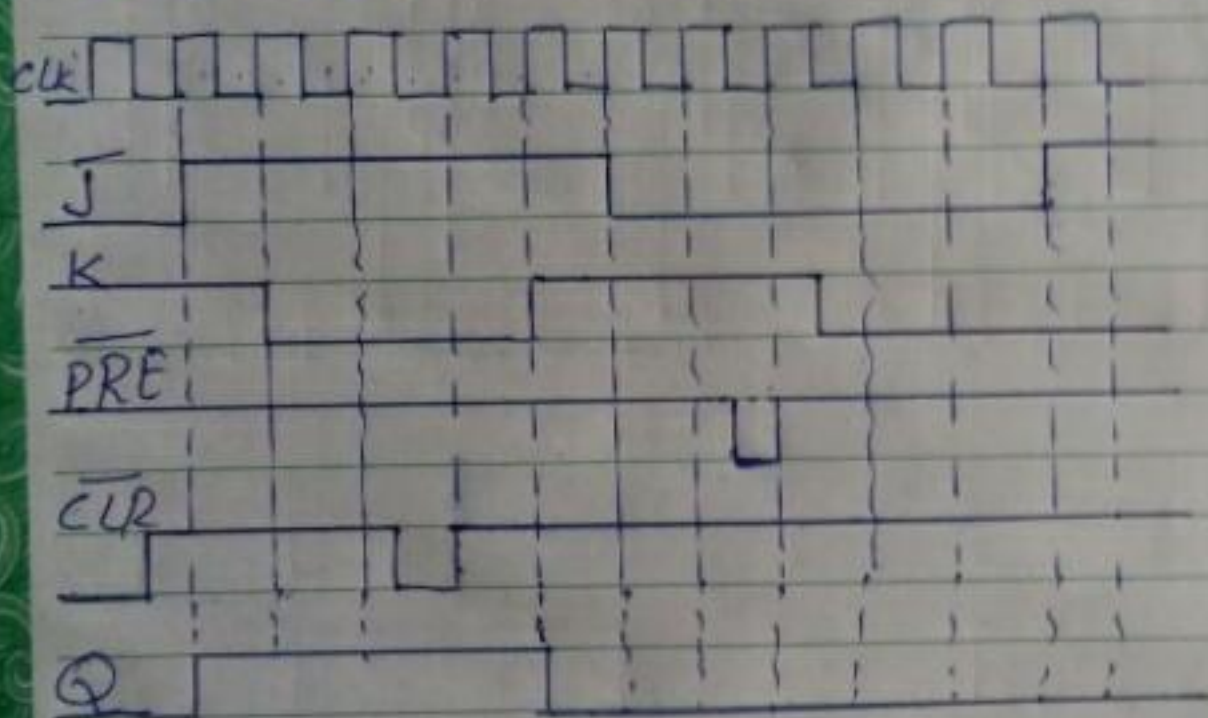
Date: \_\_\_\_\_

5

### "Question no 4"

The wave form in figure 032 to draw the timing diagram for J, K, CLK, PRE, CLR inputs.

Solution:-





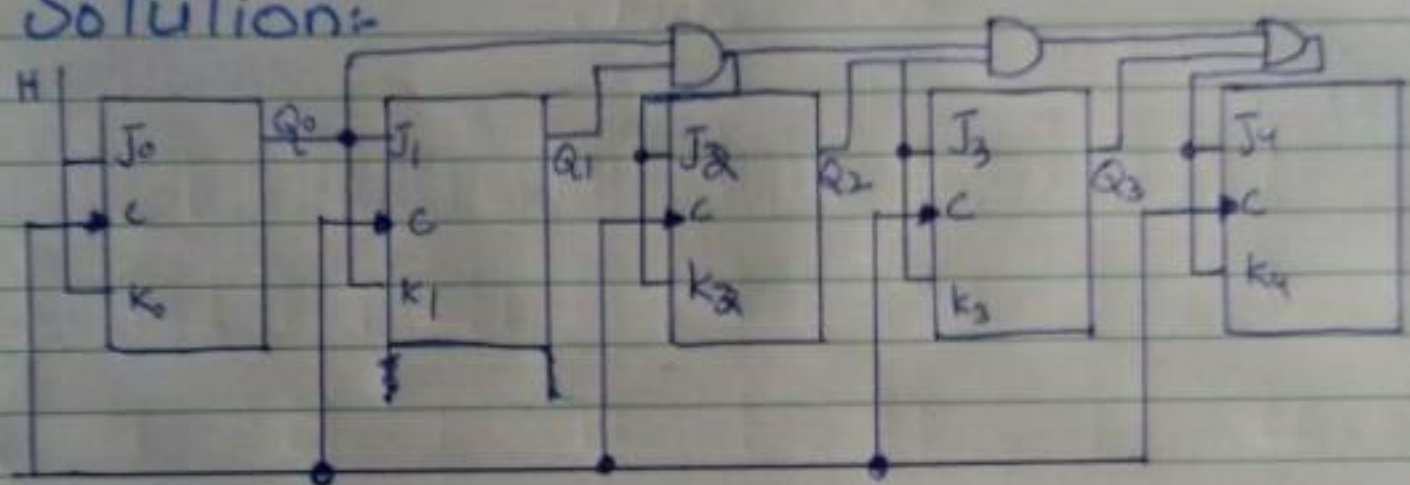
Date: \_\_\_\_\_

6

## "Question no 5"

Use the waveforms in Fig 03 to draw the timing diagram for the parallel outputs

Solution:-





Date: \_\_\_\_\_

7

## "Question no 6"

Draw the logic diagram and timing diagram for the 4-Stage Synchronous binary Counter.

Solution:

Check pulses

