**DIGITAL ELECTRONIC SYSTEM**

**Exercise: Logic Gates**

1. If given the following waveform using below gate, sketch the output waveform of Y.

i)

A

B

Y

A

B

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A

B

C

ii)

Y

A

B

C

C

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iii).

X

A

B

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Y

A

B

iv).

A

B

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1. If given the input waveform of A and B as below, sketch the output waveform of B:

i)

A

B

Y

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| Y |  |  |  |  |  |  |  |  |  |
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A

ii)

A

B

Y

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A

Y

**Exercise: Combinational of Logic Circuit**

1. Write down the Boolean expression for the following combinational logic circuit:

i)

A

B

C

Y

ii)

A

B

C

Y

C

D

iii)

A

B

C

D

Y

A

B

C

D

iv)

X

v)

A

B

C

Z

1. Build a truth table for the following logic circuit:-

a)

A

B

C

X

A

B

C

b)

Y

1. Draw a logic circuit for the following Boolean expression:
2. M = ( AB ) + ( C + D )

ii) P = ( AC + BC ) ( A + C )

iii) R = BC + D + AD

iv) S = B ( A + C ) + AC + D

1. Write down Boolean expression and build truth table for the following logic circuit:

Y