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Information & Communication Technology

Grade - 10

Name and school: G.R.S.U.D.D. Gamlath  
Kg/Dehi Sri Seelananda Maha Vidyalaya

## ICT Unit 4

**Competency 4** : By using Boolean Expressions, building up “Logic Gates” successfully.

**Competency 4.1** : Identifying basic “Logic Gates” and constructing “Truth Tables” to explain their operations

**Study page number 115 to 126 of your text book.**

(01). Explain “Logical Circuits”

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.....

(02). Correctly draw the symbols associated with the following basic logic gates and compact logic gates, write Boolean expressions, and complete the given verification tables.

( Consider “A”, “B” as inputs and “Q” as output )

Basic Logic Gates :

(i). **AND** Gate

(ii). **OR** Gate

Symbol :

Symbol :

.....

.....

Boolean Expression:

Boolean Expression :

.....

.....

Truth Table :

Truth Table :

A	B	Q
0	0	
0	1	
1	0	
1	1	

A	B	Q
0	0	
0	1	
1	0	
1	1	

(iii). "NOT" Gate

Symbol

.....

Boolean Expression :

.....

Truth Table

A	Q
0	
1	

Combinational Logic Gates :

(i). "NAND" Gate

Symbol

.....

Boolean Expression :

.....

Truth Table

A	B	Q
0	0	
0	1	
1	0	
1	1	

(ii). "NOR" Gate

Symbol

.....

Boolean Expression :

.....

A	B	Q
0	0	
0	1	
1	0	
1	1	