GIRLS' HIGH SCHOOL AND COLLEGE

2020-2021

CLASS 12 B

COMPUTER SCIENCE

WORKSHEET -01

CHAPTER- BOOLEAN ALGEBRA

<u>Note</u>: Parents please ensure that your ward refers to a computer science book/internet for two days to read the topic Boolean Algebra.

<u>Reference Book</u>: Computer Science with Java for class 12 by Sumita Arora

<u>Website</u>: geeksforgeeks.org

<u>Introduction</u>: A proposition is an elementary atomic sentence that may either be true or false but may take no other value.

Answer the following questions:

1. Differentiate between a proposition and wff.

2. Construct the inverse, converse and contrapositive of conditional given below:

   $\sim p \Rightarrow q$

3. Using the truth table, state whether the following proposition is a tautology, contingency or a contradiction: $\sim (A \wedge B) \vee (\sim A \Rightarrow B)$

4. State De Morgan's law and verify it using a truth table.

5. Write the truth table for a 2-input conjunction and disjunction in a proposition.

6. Find the complement of XY'Z + XY + YZ'

7. If X = A'BC + AB'C + ABC + A'BC'   :

   then find the value of X when A=1; B=0; C=1.

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