Department of Education,Sabaragamuwa/weekly school

Subject-Information and Communication Technology

week- March - 2

Grade-13

Prepared by – Zonal Education Office,Rathnapura.

1. A half – adder obtains two inputs A and B and gives outputs Sum and Carry.

   1.) Give truth table for the half-adder.
   2.) Draw the logic circuit for the half - adder with the outputs Sum and Carry in the same logic circuit.

2. A system controls the flow of vehicles through a barrier based on three lights A,B and C.When a light is red,the signal is 0.When a light is green,the signal is 1.The barrier will open when the output X is 1.

   The barrier opens if either,

   - Light A is red and lights B and C are both green.
     Or
   - Light A is green and Lights B and C are both red.

   (i) Construct truth table for this system.
   (ii) Derive a Boolean expression in SOP (Sum of Product) form.
   (iii) Draw a logic circuit for the Boolean expression obtained in (ii) above.