

**Half-Yearly Examination—2013****Class XI****(English Version)****Subject : ICT (Theory)****Time : 3 Hours****Full Marks – 75****Section-A****(Answer any four of the following question) 4×10=40**

1. What is global village? Explain the global village with perspective of education, medical and employment.
2. What is nanotechnology? Describe the fields of uses of nanotechnology.
3. What is ICT? Discuss the impact of ICT on society.
4. Convert  $(১২৩.১২৫)_{১০}$  into binary,  $(602.52)_8$  into hexadecimal, and  $(A9C.6B)_{16}$  into decimal.
5. What is logic gate? Describe the logic diagram of basic logic gates with truth table.
6. a) Prove that  $\overline{B \oplus C} = BC + \overline{BC}$   
b) Simplify : i)  $\overline{X \cdot Y} (Z + \overline{X})$  ii)  $\overline{A}BC + A\overline{B}C + AB\overline{C} + ABC$

**Section-B****(Answer any seven of the following question) 7×5=35**

1. What are advantages may have in the treatment using cryosurgery? Describe.
2. What is space exploration? Describe the uses of ICT in space exploration.
3. What is biometrics? Write the some Examples of behavioral biometrics and physical biometrics.
4. What is bioinformatics? Where and how bioinformatics are used in Bangladesh?
5. Implement the EX-OR gate using basic gates.
6. Write the De'Morgan Theorems for three variables and prove it.
7. What is universal gate? Prove the universality of NAND gates.
8. What is signed number? Subtract +8 from +12 using 2's complement.
9. Describe briefly about artificial intelligence and robotics.
10. Write the full form: NASA, GPS, GMO, EBCDIC, ASCII