

**BCA (Honours) 1st Semester Examination, 2020**  
**Subject: Computer Fundamental and PC Software**  
**Paper: BCA-101**

Time: 3 Hours

Full Marks: 80

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**1. Answer any FIVE questions:**

**10x5=50**

- a) Simplify following function and design the circuit using gates:
  - i.  $F(w, x, y, z) = \sum(0, 2, 6, 11, 13, 14)$
- b) Write the steps for mail merge.
- c) How do you implement animation in Power Point?
- d) Define Boolean Algebra. Prove that  $(A'B + AB')' = (AB + A'B')$ .
- e) Perform the subtraction using 2's complement arithmetic  $(1110)_2 - (101)_2$ . Find the complement of  $F = (xy\bar{z} + x\bar{y}z + xy\bar{z})$
- f) Simplify following to minimum number of literals:  $f = zx + z\bar{x}y$ . Implement XOR gate using NAND gates only.
- g) Briefly discuss different generations of Computer.

**2. Answer any Six questions:**

**5x6=30**

- a) Simplify following using K-map:  $f = \sum(0, 1, 3, 5, 7, 9, 11)$
- b) State De Morgan's theorems. Compare between SOP and POS form.
- c) Write a short note on computer virus.
- d) Write the use of following function in Excel with example AVERAGE (), SUM(), COUNT(), IF(), FLOOR().
- e) Discuss various charts in Excel.
- f) Why NAND Gate and NOR Gate are called Universal gate?
- g) Write short note on Web Browser.
- h) Briefly discuss different features of Internet.