PUBV(S-I) —
BCA (CC – 1)

2022

Time : 3 hours

Full Marks : 50

Pass Marks : $22\frac{1}{2}$

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

The figures in the margin indicate full marks.

Answer from all the Sections as directed.

Section – A

(Objective Type Questions)

(Compulsory)

1. Choose the correct answer from the given options : $1 \times 5 = 5$

(a) Who is the Father of Computers ?

(i) James Gosling

(ii) Charles Babbage

(iii) Dennis Ritchie

(iv) Bjarne Stroustrup

(b) Which of the following Computer Language is written in Binary Codes only ?

(i) Pascal

(ii) Machine language

(iii) C

(iv) C #

(c) Which of the following is a Brain of the Computer ?

(i) CPU (ii) Memory

(iii) ALU (iv) None of these

(d) Which of the following is the smallest unit of the data in a Computer ?

(i) Bit (ii) KB

(iii) Nibble (iv) Byte

(e) Which of the following is 1's complement of $(1010)_2$?

(i) 0101 (ii) 1001

(iii) 0100 (iv) None of these

2. Fill in the blank of the following : 1×5 = 5

(a) MICR stands for _____.

(b) NAND and NOR Gate is also known as _____ Gate.

(c) Base of the octal number is _____.

(d) BIOS stands for _____.

(e) 8 Bit equal to _____ Byte.

Section – B

(Short-answer Type Questions)

3. Answer any **four** questions of the following : $3 \times 4 = 12$

(a) Differentiate among Data, Processing and Information with suitable example.

(b) Describe the components of computer with diagram.

(c) Differentiate between RAM and ROM with example.

(d) Differentiate between Impact Printer and Non-Impact Printer with example.

(e) What is Gate ? Explain the AND Gate with truth table.

(f) Solve the following :

(i) $(25)_{10} = (?)_2$

(ii) Subtract 3 from 5 using 2's complements

(iii) $(1010)_2 + (1011)_2 = (?)_2$

Section – C

(Long-answer Type Questions)

4. Answer any **four** questions of the following : $7 \times 4 = 28$

(a) What is Operating System ? Explain the functions of operating system.

(b) Explain the types of Topology with diagram.

(c) Differentiate between Real time Processing and Online Processing.

(d) What is XNOR Gate ?

Prove that $Y = AB + \overline{A}\,\overline{B}$ using De Morgan's law of NAND and NOR Gate.

(e) Solve the following :

(i) $(4B8)_{16} = (?)_{10}$

(ii) $(354)_8 = (?)_{10}$

(iii) $(1010.101)_2 = (?)_{10}$

(iv) $(12.625)_{10} = (?)_2$

(e) Explain any **three** of the following :

(i) Microprocessor (ii) Buses

(iii) Plotter (iv) Internet