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BSC/Part-II/COS(G)-III(Prac)(Set-2)

2019

Part – II

COMPUTER SCIENCE

(General)

Paper – III

(Practical)

(Set – 2)

Full Marks – 100

Time : 3 Hours

*The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in
their own words as far as practicable.*

Answer **any** three questions taking **one** from each
group (On lottery basis).

GROUP – A

(Digital Electronics : 25 marks)

1. Design and implement an AND gate using NOR gates only. Verify its truth table.
2. *Design and implement* an XOR gate and verify its truth table.

P.T.O.

3. Design a full adder using NAND gates only and verify its truth table.
4. design a half subtractor using NAND gates and verify its truth table.
5. Set up a combinational circuit to implement the following Boolean function : $f(x, y, z) = xy' + yz'$. Verify the corresponding truth table.
6. Design and implement a 4 bit adder using flip-flop.
7. Design and implement a 8×3 encoder.

GROUP – B

(Programming in C and Data Structure : 35 marks)

1. Write a C program to find the roots of a quadratic equation.
2. Write a program to search an element in an array using linear search technique.
3. Write a program to find the transpose of a matrix.
4. Write a program in C to determine the GCD of two given numbers.
5. Write a program to sort some integers using any sorting algorithm.
6. Write a program to search an item using linear search.

7. Write a program to calculate GCD of two numbers using recursion.

GROUP – C

(MS word, Excel And Power Point : 20 Marks)

1. Consider the following data about the quarterly sales of items of 'XYZ Co. Ltd.'

Item	Quarterly Sales (In Lakh Rupees)			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Mouse	45	56	32	28
Keyboard	67	72	78	80
Monitor	88	69	90	73
Speaker	23	20	18	15

Create the above table using MS-Excel and construct the line and column charts to analyze the sales performance of each item.

2. Draw a flowchart to find the sum of two numbers using drawing toolbars in MS-Word.
3. Use MS-Word and create your professional resume. Use tables, formatted texts etc. wherever necessary.

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4. Create a power point presentation with at least five slides to demonstrate any program organized by your department. Use images, animations etc. wherever necessary.
5. The following table contains the temperature records of a patient in certain time interval.

Time	8 am	10 am	12 pm	2 pm	4pm	6 pm	8 pm
Temperature(°F)	98	99	101	100	99	100	98

Create the table in MS-Excel. Use conditional formatting to set the background color of cells where the temperature $\geq 100^{\circ}\text{F}$ as red or else yellow.

Viva-voce : 10 Marks

Practical Note Book : 10 Marks
