'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

BCA Honours 5th Semester Examination, 2022

DSE-P1-BACHELOR OF COMPUTER APPLICATION (53L) (PRACTICAL)

Time Allotted: 2 Hours | Full Marks: 20

All questions are of equal marks.
The figures in the margin indicate full marks.

The question paper contains DSE53L:E1L and DSE53L:E2L and DSE53L:E3L.
The candidates are required to answer any *one* from *three* courses.
Candidates should mention it clearly on the Answer Book.

DSE53L:E1L (BCADSE1)

MICROPROCESSOR LAB

Answer any *one* question on lottery basis.

1. Write an assembly language program to find the square root of a number.

2. Write an assembly language program to add two 16-bit numbers.

3. Write an assembly language program to find the largest among 10 integers stored in memory locations starting from 2050H.

4. Write an assembly language program implementing the truth table of XOR gates.

5. Write an assembly language program to create an even parity generator.

6. Write an assembly language program to perform right rotation of a 32-bit number.

7. Write an assembly language program to display the truth table for an XNOR gate.

8. Write an assembly language program to check whether a binary number is palindrome or not.

9. Write an assembly language program to convert decimal to binary.

10. Write an assembly language program to create an Odd parity generator.

DSE53L:E2L (BCADSE2)

INFORMATION SECURITY LAB

Answer any *one* question on lottery basis.

1. Demonstrate the use of Network tools: ping, ipconfig, tracert, arp, netstat.

2. Perform encryption and decryption of Caesar cipher using any suitable language. Further, write a script for performing these operations.

3. Use nmap/zenmap to analyse a remote machine.

4. Use Burp proxy to capture and modify the message using any suitable language.

5. Write a computer program in any suitable language for sending of a protected word document.

6. Demonstrate use of steganography tools.

7. Use of Password cracking tools: John the Ripper, Ophcrack. Verify the strength of passwords using these tools.

8. Perform encryption and decryption of a Rail fence cipher using any suitable language. Further, write a script for performing these operations.

9. Write a computer program in any suitable language for sending of a digitally signed document.

10. Write a computer program in any suitable language for sending of a protected worksheet.

DSE53L:E3L (BCADSE3)

MODELLING AND SIMULATION LAB

Answer any *one* question on lottery basis.

1. Design an autopilot simulation model using suitable programming language.

2. Simulate a control a conveyor belt system model using suitable programming language.

3. Simulate a Single Server Queuing System using suitable programming language.

4. Test Random Number Generators using suitable programming language.

5. Implement any two procedures to generate Random Numbers in computers suitable programming language.

6. Implement Monte-Carlo Simulation using suitable programming language.

7. Simulate a Two-Server Queuing System using suitable programming language.

8. Simulate a Auto-Motorcycle simulation model using suitable programming language.

9. Simulate a moving car using a suitable programming language.

10. Simulate the control of a truck using a suitable programming language.

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