



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 5th Semester Examination, 2022

DSE-P1-COMPUTER SCIENCE (53L) (PRACTICAL)

Time Allotted: 2 Hours

Full Marks: 20

**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

MICROPROCESSOR LAB

Answer any *one* question on lottery basis

Program	: 10
Viva	: 05
Practical Copy	: 05

Total : 20

1. Write an assembly language program to find the number of ones and the number of zeros in an 8-bit number.

2. Write an assembly language program to multiply two 8-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 to sort 10 numbers using bubble sort.

5. Write an assembly language program to generate the first 10 fibonacci series and store the result at memory location starting from FC50H.

6. Write an assembly language program to find the sum of the series
 $12 + 22 + 32 + 42 + \dots + 102$

7. Write an assembly language program to find the perfect square of any number and if the number is not a perfect square, display FFH

8. Write an assembly language program to find the sum of the first n odd natural numbers.

9. Write an assembly language program to create an odd parity generator.

10. Write an assembly language program to convert hexadecimal to binary.

11. Write an assembly language program to convert hexadecimal to decimal.

12. Write an assembly language program to display the truth table for an AND gate.

DSE53L:E2L

INFORMATION SECURITY LAB

Answer any *one* question on lottery basis

Program	: 10
Viva	: 05
Practical Copy	: 05
<hr/>	
Total	: 20

1. Demonstrate the use of ping, ipconfig, ifconfig, tracert, arp, netstat, whois by taking examples.

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

3. Perform encryption and decryption of Caesar cipher. Write a script for performing these operations.

4. Perform encryption and decryption of a Rail fence cipher. Write a script for performing these operations.

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

6. Use Burp proxy to capture and modify the message.

7. Demonstrate sending of a protected word document.

8. Demonstrate sending of a protected worksheet.

9. Demonstrate use of steganography tools.

DSE53L:E3L

MODELLING AND SIMULATION LAB

Answer any *one* question on lottery basis

Program : 10

Viva : 05

Practical Copy : 05

Total : 20

1. Write a program to generate n pseudo random numbers and find out their standard deviation.

2. Write a program to simulate the behavior of railway reservation system based on queuing theory principles.

3. Write a program to find the transpose of a matrix.

4. Write a program to implement banking queues.

5. Write a program which will generate pseudo random number with binomial distribution.

6. Write a program which will generate pseudo random number with rectangular distribution.

—x—