



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 4th Semester Examination, 2023

SEC1-P2-COMPUTER SCIENCE (45)

Time Allotted: 2 Hours

Full Marks: 60

*The figures in the margin indicate full marks.
All symbols are of usual significance.*

**The question paper contains SEC-45: E-1, SEC-45: E-2 and SEC-45: E-3
The candidates are required to answer any *one* from *three* courses
Candidates should mention it clearly on the Answer Book.**

SEC-45: E-1

ANDROID PROGRAMMING

GROUP-A

Answer any *four* of the following

3×4 = 12

1. What is Just in time compilation?
2. What is Android manifest?
3. What is an Activity?
4. What is fragment?
5. Explain services.
6. What is content provider?

GROUP-B

Answer any *four* of the following

6×4 = 24

7. What is abstract class and interface in java?
8. Write a short note on Intents.
9. What is android? Briefly discuss about different features of android.
10. What is web view? Create an application that uses web view to display some web content.
11. What is android SDK? Discuss about different components of android SDK.
12. What is JVM? Explain the internal architecture of JVM.

GROUP-C

Answer any *two* of the following

12×2 = 24

13. Briefly discuss about android platform architecture with appropriate diagram.

14. Discuss about the history and evolution of android versions with their key features in different versions.
15. What is inheritance in OOP? Discuss about different type of inheritance in java with appropriate coding example.
16. Explain about different UI controls of Android.

SEC-45: E-2

PROGRAMMING IN MATLAB

GROUP-A

Answer any four questions

3×4 = 12

1. Discuss machine code.
2. How do you use variables in MATLAB?
3. How do you use arguments and return values in MATLAB?
4. What are control statements?
5. What are M-files?
6. What is randomising a list?

GROUP-B

Answer any four questions

6×4 = 24

7. WAP in MATLAB to find the sum of first 'n' even natural numbers.
8. WAP in MATLAB to count the number of characters present in a string.
9. Discuss graph plotting in MATLAB.
10. Write down the steps to create a data entry form in MATLAB.
11. WAP in MATLAB to arrange some integers in ascending order using bubble sort.
12. Discuss different string handling functions available in MATLAB.

GROUP-C

Answer any two questions

12×2 = 24

13. WAP in MATLAB to multiply two matrix of order 4×4.
14. WAP in MATLAB to find the roots of the polynomial
$$p(x) = x^4 + 8x^3 + 25x^2 - 40x + 30$$
15. WAP in MATLAB to create a script file which will call two functions circle and rectangle where circle calculates the area of circle and draw the circle and rectangle calculates the area of rectangle and draw the same. The inputs are radius of circle and length and width of rectangle.
16. Discuss different types of control statements used in MATLAB with the help of examples.

SEC-45: E-3

VB.NET PROGRAMMING

GROUP-A

Answer any *four* questions

3×4 = 12

1. Discuss class library with reference to .Net framework.
2. Explain CLR, CTS and FCL in detail.
3. Explain the different features of visual basic.
4. What is data validation in VB.NET?
5. Explain the use of Val() and Str() functions.
6. Explain in detail the .NET framework.

GROUP-B

Answer any *four* questions

6×4 = 24

7. Discuss any three Events that can be performed on a form.
8. Explain MsgBox() function with suitable syntax and example.
9. Discuss the use of timer control with its different events and properties.
10. Discuss the properties and methods of Radio button and Check box.
11. Why VB is called object based language? Explain briefly.
12. Write VB codes for the following:
 - (i) To add a string in a listbox.
 - (ii) To delete a given string from a listbox.
 - (iii) To check if a given string is present in a listbox.

GROUP-C

Answer any *two* questions

12×2 = 24

13. Explain in detail the error and exception handling in .Net.
14. Discuss overloading in VB.Net with example.
15. Explain different types of conditional statements and iterative statements used in VB.Net with suitable examples.
16. Discuss the various static and dynamic array with examples. Explain the use of control array in VB.Net with appropriate example.

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