'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

BCA Honours 4th Semester Examination, 2022

SEC1-P2-BACHELOR OF COMPUTER APPLICATION (45)

Time Allotted: 2 Hours | Full Marks: 60

The figures in the margin indicate full marks.

The question paper contains SEC45:E1 and SEC45:E2 and SEC45:E3
The candidates are required to answer any *one* from *three* courses.
Candidates should mention it clearly on the Answer Book.

SEC45:E1

ANDROID PROGRAMMING

GROUP-A

1. Answer any ***four*** questions: 3×4 = 12

   (a) What is Java Virtual Machine (JVM)? 3

   (b) Can standard Java byte code run on Android? Justify. 3

   (c) What is the difference between Inheritance and Polymorphism? 3

   (d) What is Hardware Abstraction Layer (HAL)? 3

   (e) What is Android Virtual device? 3

   (f) Explain Fragments in Android. 3

GROUP-B

2. Answer any ***four*** questions: 6×4 = 24

   (a) What are the different Layouts available in Android? Explain any two of them. 6

   (b) Write short notes on the following: 6

   (i) Toggle button (ii) Spinner (iii) Dialog.

   (c) How to Launch Activity and Sub-activity using Intent? Explain with example. 6

   (d) Explain Android Activity life cycle. 6

   (e) What is Emulator in Android development tool? Explain. 6

   (f) What are the different ways to store data in android from an application? Give example. 6

GROUP-C

3. Answer any ***two*** questions: 12×2 = 24

   (a) Write code for an Android application to print "Hello World!". How the application can be diploid on a USB-connected device? 12

(b) Write code for an Android application to take data from users and save it to the SQLite database. 12

(c) Write code for an Android application to display some content from web using Web View. How to deploy it on a device? 12

(d) How to create Services in an Android application? Give example and explain it. 12

SEC45:E2

PROGRAMMING IN MATLAB

GROUP-A

Answer any *four* questions 3×4 = 12

1. Write a Code in MATLAB to add all the elements of a matrix.
2. What is the significance of M-files in MATLAB?
3. What are variables? List the data types available in MATLAB.
4. Write a code in MATLAB to find out the transpose of a matrix.
5. What is Machine Code? How it is differ from Source Code?
6. What is MATLAB API? List atleast four MATLAB API.

GROUP-B

Answer any *four* questions 6×4 = 24

7. Explain memory management in MATLAB.
8. Explain different tools used in MATLAB: who, pi, eps, type.
9. How do you execute source code in MATLAB? Explain with example.
10. Write a program in MATLAB to calculate $2\sqrt{2}$ and assign the value to a variable A.
11. Discuss arguments and return values in MATLAB with the help of an example.
12. A supermarket conveyor belt holds an array of groceries. The price of each product (in pounds) is [0.6, 1.2, 0.5, 1.3]; while the numbers of each product are [3, 2, 1, 5]. Use MATLAB to calculate the total bill.

GROUP-C

Answer any *two* questions 12×2 = 24

13. Explain different types of built in functions available in MATLAB.
14. Write a program in MATLAB to multiply two polynomials.
15. Discuss different types of branching statements used in MATLAB with the help of examples.
16. Discuss different types of plots and graphs used in MATLAB with the help of suitable examples.

SEC45:E3

VB.NET PROGRAMMING

GROUP-A

Answer any *four* questions 3×4 = 12

1. Discuss the various features of visual basic.

2. What is IDE? Explain IDE of VB.NET.

3. Explain .NET framework in detail.

4. Explain the printpreviewdialog control in dialog boxes function.

5. What is data validation in VB.NET?

6. Explain CLR, CTS & FCL in detail.

GROUP-B

Answer any *four* questions 6×4 = 24

7. Write short notes on MDI and SDI.

8. Explain any four advantages of .NET framework.

9. Explain Array of VB.NET. How many types of arrays are used in VB.NET?

10. Explain any three Events that can be performed on a form.

11. Design GUI and write a code for following in VB.NET using Richtextbox:
– change font color of selected text.
– change font size of selected text.

12. Explain the following with properties and methods:
    (i) Label
    (ii) Button.

GROUP-C

Answer any *two* questions 12×2 = 24

13. Explain overloading in VB.NET with example.

14. Discuss error and exception handling in .NET.

15. Discuss about Visual Inheritance.

16. Explain MsgBox function with syntax and example. Explain the method of copy or select text to/from the clipboard.

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