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PI—15—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2024

(CBCS/Revised Pattern)

COMPUTER APPLICATION

Paper-BCA-604

(Digital Image Processing)

(Saturday, 06-04-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) What is Matlab ? Explain uses of Matlab.

(*b*) Discuss Matlab environment.

(*c*) What is DIP ? Explain uses of DIP.

P.T.O.

(*d*) Discuss images types.

(*e*) Explain spatial filtering.

(*f*) Discuss basic of color image processing.

(*g*) Explain Arrays.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Discuss advantages and disadvantages of Matlab.

(*b*) Explain M-function.

(*c*) Discuss non-linear spatial filtering.

(*d*) Explain DFT.

(*e*) Discuss 1D-DFT.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) What is color image representation ? Explain.

(*b*) Discuss elements of digital image representation.

(*c*) Explain intensity transformations functions.

(*d*) What is variable ? Explain.

(*e*) Explain array operations.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Discuss Matlab Scratch Pad.

(*b*) Discuss Data Classes.

(*c*) Explain Histogram processing.

(*d*) Explain M functions for filtering in the frequency domain.

(*e*) Discuss flow control.

5. Write short notes on any *three* of the following (**5** marks each) : 15

(*a*) Image as matrices

(*b*) Code Optimization

(*c*) Matlab desktop

(*d*) Reading images

(*e*) 2D-DFT.

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PI—08—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2024

(Revised/CBCS Pattern)

COMPUTER APPLICATION

BCA-602

(Python)

(Thursday, 4-4-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) Explain python interpreter.

(*b*) Discuss tuples in Python.

(*c*) How do you define class in Python ? Explain with example.

(*d*) Explain importing MySQL for python.

P.T.O.

(*e*) Discuss creating radiobutton in python.

(*f*) What is polymorphism ? Explain.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Discuss features of python.

(*b*) What is string ? Discuss any *four* string operations in python with suitable example.

(*c*) Explain the concept of GUI in python.

(*d*) Discuss creating text and button in python.

(*e*) Write a python program to print all the odd numbers within a given range.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) What is Exception ? Discuss exception handling in python.

(*b*) Explain math module in python.

(*c*) Explain while loop with suitable programming example.

(*d*) Discuss I/O statements in python with example.

(*e*) Python program to count the number of vowels in a string.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain if-else statement in python with suitable programming example.

(*b*) Discuss the concept of dictionaries in python.

(*c*) Explain inheritance in python.

(*d*) Explain data types in python.

(*e*) Python program to Count the Number of Digits in a Number.

5. Write short notes on any *three* of the following (**5** marks each) : 15

(*a*) TKinter module.

(*b*) Getting input from user in python.

(*c*) Comments in python.

(*d*) Connecting with a database.

(*e*) Operators in python.

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PI—02—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2024

(CBCS/Revised Pattern)

COMPUTER APPLICATION

Paper BCA-601

(Software Engineering)

(Tuesday, 2-4-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

1. Write short notes on the following (any *five*) : 15

(*a*) Software Testing

(*b*) Concept of Software Engineering

(*c*) Decision Table

(*d*) The Evolving Role of Software

(*e*) Pseudo Code

(*f*) Input Design

(*g*) Data Dictionary.

P.T.O.

2. Attempt any *three* of the following : 15

(*a*) Explain White-Box Testing.

(*b*) Explain the Spiral Model.

(*c*) Explain Prototyping Model.

(*d*) Explain the various software applications in detail.

(*e*) Explain Elements of Data dictionary in detail.

3. Attempt any *three* of the following : 15

(*a*) Explain the incremental process model.

(*b*) Explain Black Box Testing.

(*c*) Explain Data Flow Diagrams (DFD).

(*d*) Explain Incremental Process Models.

(*e*) Explain advantages of Data Dictionary in detail.

4. Attempt any *three* of the following : 15

(*a*) Describe the concept of software myths and reality.

(*b*) Describe the Waterfall model with suitable diagram.

(*c*) Explain activities of SDLC in detail.

(*d*) How the Decision Tree and Decision Table are useful in design tools ?

(*e*) Explain the Generic Process Model in detail.

5. Attempt any *three* of the following : 15

(*a*) Explain the Concurrent Models and its types.

(*b*) Define software engineering. Explain the software evolution in detail.

(*c*) Explain the Software characteristics in detail.

(*d*) Explain the Verification and Validation process in testing.

(*e*) Describe the software crisis and horizon in short.

This question paper contains **3** printed pages]

PI—14—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

MARCH/APRIL, 2024

(CBCS/Revised Pattern)

COMPUTER APPLICATION

Paper-BCA-604-A

(Windows Programming)

(Saturday, 06-04-2024) **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if required.

(*iv*) Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1. Attempt any *five* of the following (**3** marks each) : 15

(*a*) What is C#.Net ? Explain.

(*b*) Explain the TextBox control with example.

(*c*) Explain jagged array.

P.T.O.

(*d*) What is Indexer ? Explain.

(*e*) What is Windows Form ? Explain.

(*f*) Describe Multicast Delegates in brief.

(*g*) What is ADO.Net ? Explain.

2. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain .Net Architecture in detail.

(*b*) Describe in brief Checkbox and Radio Button control.

(*c*) What is out parameter ? Explain.

(*d*) Describe concept of Retrieving and Updating Data from Tables.

(*e*) Explain Menus and Dialog boxes in detail.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain C# function with example.

(*b*) Describe delegates in detail.

(*c*) Explain properties in detail.

(*d*) Describe IDE components of .Net.

(*e*) Explain Listbox control with example.

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain in brief array list class with example.

(*b*) Differentiate between Java and C#.

(*c*) Explain advantages of ADO.NET.

(*d*) Explain Creating and Customizing Windows Form.

(*e*) Explain call by reference with example.

5. Write short notes on any *three* of the following (**5** marks each) : 15

(*a*) Intellisense

(*b*) CLR

(*c*) Important classes used in Windows Application

(*d*) Project Types

(*e*) .Net Framework.