

This question paper contains 3 printed pages]

VI—15—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER APPLICATION

Paper-BCA-604-B

(Digital Image Processing)

(Saturday, 30-11-2024)

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 necessary.

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

(a) Explain imadjust ().

(b) Explain digital image representation in detail.

(c) Explain image types in DIP.

(d) How to create and initialize variable in MATLAB ?

(e) Explain something spatial filter.

P.T.O.

- (f) What is DFT ?
- (g) Explain data classes in image processing.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain advantages and disadvantages of MATLAB.
- (b) Explain writing and displaying image.
- (c) Explain multi-dimensional array.
- (d) Explain Scalar and Array operation.
- (e) Explain computation visualization of 2D-DFT in MATLAB.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain different elements of DIP.
- (b) Explain in detail 1D-DFT in MATLAB.
- (c) What is M-function programming ?
- (d) Explain scratch pad in detail.
- (e) Explain reading image in detail.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain image types in DIP.
- (b) Explain filtering in frequency domain.
- (c) Define Basics of color image processing.

- (d) Explain linear spatial filter with Gaussian and disk filter.
- (e) Explain non-linear spatial filter with median filter.

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

15

- (a) Explain histogram processing and function plotting.
- (b) Explain color image representation in detail.
- (c) Explain any *two* MATLAB environments in detail.
- (d) Explain in detail 2D-DFT in MATLAB.
- (e) Explain intensity transformation function using $\log()$.

This question paper contains 3 printed pages]

VI—08—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.C.A. (Third Year) (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER APPLICATION

Paper-BCA-602

(Python)

(Thursday, 28-11-2024)

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 necessary.

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

(a) Features of Python

(b) Variables

(c) String operator

(d) Check button

(e) Math module

P.T.O.

- (f) Input function
- (g) Python interpreter

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

- (a) Explain data types in Python.
- (b) Explain looping statement in Python.
- (c) Explain input and output statements.
- (d) Explain decision making statement in Python.
- (e) Explain operators in detail.

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

- (a) Explain date time module.
- (b) Explain classes in detail.
- (c) Explain polymorphism in detail.
- (d) Explain inheritance in detail.
- (e) Explain packages in detail.

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

- (a) Explain sets in detail.
- (b) Explain list in detail.

- (c) What is Exceptions in Python ?
- (d) Explain dictionaries in detail.
- (e) Explain exception handling with an example.

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

15

- (a) How to import MySQL for Python ?
- (b) Explain tkinter module.
- (c) How to passing query in MySQL in detail.
- (d) Write down steps for connecting with databases.
- (e) Write a program in Python to check the number is Even or Odd.

This question paper contains 3 printed pages]

VI—02—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(Revised/CBCS Pattern)

COMPUTER APPLICATION

Paper-BCA-601

(Software Engineering)

(Tuesday, 26-11-2024)

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.

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

15

(a) What is Unit Testing ?

(b) Explain Element of DD.

(c) What are the characteristics of software ?

(d) Discuss Activities of SDLC.

P.T.O.

- (e) Explain practitioner's myths
 - (f) Explain the Evolving Role of Software.
 - (g) Define software testing.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain different types of Myths in software developing with Facts.
 - (b) Explain Verification testing in detail
 - (c) Explain Software Evolution in detail.
 - (d) Explain Concurrent Model.
 - (e) Explain the Incremental Process Model.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain waterfall model
 - (b) Explain software crisis and horizon
 - (c) Explain Decision Table in detail.
 - (d) Explain data flow diagrams.
 - (e) Explain validation testing.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain white box testing.
 - (b) Explain software applications.

- (c) Explain Black Box Testing.
 - (d) Explain input output design.
 - (e) Explain data dictionary in detail.
5. Write short notes on any *three* of the following (5 marks each) : 15
- (a) Explain Pseudo Code in detail.
 - (b) Discuss Advantage of DD.
 - (c) Explain Software Application.
 - (d) Explain A Generic Process Model.
 - (e) Explain Prototyping Model.

This question paper contains 3 printed pages]

VI—14—2024

FACULTY OF SCIENCE AND TECHNOLOGY

BCA (Third Year) (Sixth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(CBCS/Revised Pattern)

COMPUTER SCIENCE

BCA-604-A

(Windows Programming)

(Saturday, 30-11-2024)

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.

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

(a) Explain the CLR.

(b) Explain the .Net Architecture.

(c) Explain the Array.

(d) Explain the advantages of ADO.NET.

(e) Explain the .Net Technology.

P.T.O.

- (f) Explain the TextBox and Label Control.
 - (g) Explain the Project Types.
2. Attempt any *three* of the following (5 marks each) : 15
- (a) Differentiate between Java Vs. C#.
 - (b) Explain in detail Customizing Windows Form.
 - (c) Explain in detail Radio Button with example.
 - (d) Explain in detail combobox control with example.
 - (e) Explain in detail Dialog boxes.
3. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail Array list class methods.
 - (b) Explain in detail checkbox with example.
 - (c) Explain in detail call by value with example.
 - (d) Explain in detail multicast delegates with example.
 - (e) Write a android application to demonstrate on TextBox and Button Control.
4. Attempt any *three* of the following (5 marks each) : 15
- (a) Explain in detail call by reference with example.
 - (b) Explain in detail out parameter with example.

- (c) Explain in detail Indexers with example.
- (d) Explain in detail Delegates with example.
- (e) Explain in detail properties with example.

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

15

- (a) Explain in detail jagged array with example.
- (b) Explain in detail string class methods.
- (c) Explain in detail important classes used in Windows Application.
- (d) Explain in detail Customs events with example.
- (e) Developing a simple ADO.NET based application.