

2011000104010001
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
INFORMATION SYSTEMS

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a) Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**
- b) Name of the Subject : **INFORMATION SYSTEMS**
- c) Subject Code No : **2011000104010001**

- 2. Sketch neat and labelled diagram wherever necessary.
- 3. Figures to the right indicate full marks of the question.
- 4. All questions are compulsory.
- 5. Write to the point
- 6. Provide examples and diagrams wherever appropriate / necessary

Seat No:

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Student's Signature

Q.1 Answer the following in short. (Any Seven)

14

- 1. Define Information & Knowledge.
- 2. Define adaptive and non-adaptive system.
- 3. Explain strategic planning.
- 4. Define OLTP?
- 5. Define programmed decision and non-programmed decision.
- 6. Define batch processing system.
- 7. Define open & closed system.
- 8. Define Transaction.
- 9. Differentiate between Probabilistic and deterministic system.
- 10. Give Difference between DSS and ESS.

Q.2 Answer the Following. (Any Two)

14

- 1. What is information feedback explain in detail?
- 2. What is manufacturing MIS? What are its subsystems and outputs?
- 3. Differentiate between MIS and DSS.

Q.3 Answer the Following. (Any Two)

14

1. Explain in detail role of DSS in any business. Also mention basic components of DSS.
2. Write a note on financial MIS.
3. Define TRANSACTION in context of TPS. Explain different activities for TPS in detail.

Q.4 Answer the following. (Any Two)

14

1. ESS and Its Characteristics
2. Order Processing System.
3. Purchase System
4. Role of TPS for MIS and DSS

Q.5 Do as Directed (Any One)

14

1. Give brief description of subsystem of a College management. Explain how IS will help you to make decisions at various levels. Also mention MIS reports which can be generated.
2. Give brief description showing subsystems of a Bank. Explain how information system will help you to make decision at various levels. Mentions which are the MIS reports that can be generated from this subsystem.

2011000104030001
EXAMINATION APRIL 2024
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
JAVA PROGRAMMING LANGUAGE

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

- 1. Fill up strictly the following details on your answer book**
 - a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**
 - b. Name of the Subject: **JAVA PROGRAMMING LANGUAGE**
 - c. Subject Code No: **2011000104030001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Choose the correct option. (Any 10)

10

- 1) Which statement is true about Java?
A. secure B. robust C. platform Independent D. all of these
- 2) Which of the following is not a component of JDK?
A. compiler B. browser C. debugger D. interpreter
- 3) Which of the following C++ feature is not supported by Java?
A. class B. constructor C. destructor D. object
- 4) What is the range of short data type in Java?
A. -128 to 127 B. -32768 to 32767
C. -2147483648 to 2147483647 D. None of these
- 5) Which of these operators is used to allocate memory to array variable in Java?
A. malloc B. alloc C. new D. calloc
- 6) Which of the following type of static is not supported in Java?
A. class B. object C. method D. variable

- 7) Which of the following is the correct way of implementing an interface Shape by class Circle?
 A. class Circle extends Shape { } B. class Circle implements Shape { }
 C. class Circle imports Shape { } D. None of these
- 8) Which of these method of class String is used to convert a String object to byte array?
 A. convertBytes() B. getBytes()
 C. fetchBytes() D. getByteArray()
- 9) Which of the following keywords is used for throwing exception manually?
 A. finally B. try C. throw D. catch
- 10) What is value of MAX PRIORITY for a thread?
 A. 10 B. 15 C. 20 D. 100
- 11) Which of the following is a valid method in applet?
 A. init() B. start() C. paint() D. All of these

Q.2 Answer the following. (Any 2)

14

- 1) Differentiate between features of Java and C++.
- 2) Explain type conversion in Java.
- 3) Explain bitwise operators.

Q.3 Answer the following with example. (Any 2)

14

- 1) Explain final keyword.
- 2) Explain super keyword.
- 3) What is an interface? Why we need it? Explain differences of interface with abstract class.

Q.4 Answer the following. (Any 2)

14

- 1) Give difference between String and String Buffer. Explain any 3 methods of String Buffer.
- 2) Explain try, catch and finally blocks with example.
- 3) What is multithreading? Explain thread states with diagram.

- 1) Explain package creation and importing with example.
- 2) What is use of paint () method? Explain any 3 methods of Graphics class with example.
- 3) What is a linked list? Give its advantages. Give differences between singly and singly circular linked lists.
- 4) What is inheritance? Which type of inheritance is not supported in Java? Explain constructors in inheritance.

2011000104040001
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
.NET PROGRAMMING

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book
 - a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**
 - b. Name of the Subject: **.NET PROGRAMMING**
 - c. Subject Code No: **2011000104040001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Answer the following questions: (Any 7)

14

1. What is MSIL?
2. What is Namespace?
3. What is Boxing?
4. Explain CType() function?
5. Explain sizemode property of pictureBox control?
6. List out the properties of ProgressBar.
7. Explain MyBase keyword.
8. Differentiate between DataReader and DataAdapter.

Q.2 Answer the following questions: (Any 2)

14

1. Explain .NET framework in detail
2. Describe the role of CLR in .NET framework.
3. Explain Type conversion function using example.

Q.3 Answer the following questions: (Any 2)

14

1. Write a note on looping statements.
2. Write a note on option statements.
3. Explain listbox and combobox in detail.

Q.4 Answer the following questions: (Any 2)

14

1. What do you mean by Exception? Explain structured exception handling in detail?
2. Explain constructors and destructors in VB. NET?
3. What is Inheritance? Explain types of inheritance in VB. NET?

Q.5 Answer the following questions: (Any 2)

14

1. What is use of command object? Explain its methods in detail.
2. Explain ADO.NET disconnected data model in brief.
3. Explain Database connectivity using DataReader.

2111000104020002
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
INTERNET OF THINGS (IOT)

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**

b. Name of the Subject: **INTERNET OF THINGS (IOT)**

c. Subject Code No: **2111000104020002**

2. Sketch neat and labelled diagram wherever necessary.

3. Figures to the right indicate full marks of the question.

4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Attempt All questions.

14

- 1) What does SaaS stands for?
A. System as a service
B. Software as a Services
C. Science as a Service
D. Server as a Software
- 2) _____ Protocol is meant for constrained environment with constrained devices and constrained network.
A. MQTT B. Web Socket C. COAP D. AMQP
- 3) The smallest change which a sensor can detect is termed as
A. Accuracy B. Precision C. Resolution D. Scale
- 4) Full form of AMQP protocol is
A. Alternate Message Queuing Protocol
B. Advance Message Queuing Protocol
C. Alternate Minimum Queuing Protocol
D. Alternate maximum Queuing Protocol
- 5) The process of identifying a person before giving an access?
A. Authentication B. Encryption
C. Auditing D. Access control

- Q.3 Answer the following (Any two). 14**
- 1) What is M2M? Explain difference between IoT and M2M.
 - 2) List out types of Big data analytics. Explain Diagnostics and predictive analytics.
 - 3) Explain components of Arduinouno.
- Q.4 Answer the following (Any two). 14**
- 1) What is Sensor? Explain any 3 types of Sensors.
 - 2) Explain AAA in detail.
 - 3) Explain characteristics of an Embedded System.
- Q.5 Do as directed (Any one) 10**
- 1) Write a case study on Smart parking Application.
 - 2) Write a case study on any one of Smart Home Application.

2111000104050002
EXAMINATION APRIL 2024
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
WEB DESIGNING-II

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**
- b. Name of the Subject : **WEB DESIGNING-II**
- c. Subject Code No : **2111000104050002**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1

A. Answer the following.

10

1. What is the correct syntax of writing JSON name/value pair, where the value is of string type?
 - a) "name": "value"
 - b) "name" : value
 - c) "name" : 'value'
 - d) 'name': 'value'
2. XML stands for-----
 - a) eXtensible Markup Language
 - b) Xtensible Markup Language
 - c) eXtensible Markup Language
 - d) Xtensible Margin Language
3. What is the difference between remove () and empty () methods?
 - a) remove () removes the selected element and its child elements while empty () removes the child elements of the selected element
 - b) remove () removes the child elements of the selected element while empty () removes the selected elements and its child elements

- c) remove() removes the child elements while empty() removes the content of the selected element
 - d) remove() removes the child elements while empty() removes the content of the selected element and its child elements
4. Ajax stands for
- a) Asynchronous JavaScript and XML
 - b) Asynchronous JSON and XML
 - c) Asynchronous Java and XML
 - d) Asynchronous JavaScript and XMLHttpRequest
5. What is Callback?
- a) The callback is a technique in which a method calls back the caller method.
 - b) The callback is an asynchronous equivalent for a function.
 - c) Both of the above.
 - d) None of the above.
6. Which of the following method does not provides sliding effect?
- a) slideUp()
 - b) fadeIn()
 - c) slideDown()
 - d) slideToggle()
7. In the JSON syntax, array is written within in-----
- a) Square brackets
 - b) Curley braces
 - c) Paratheses
 - d) None of the above
8. AJAX is based on
- a) JavaScript and XML
 - b) Java and JavaScript
 - c) Java and XML
 - d) JavaScript and HTTP requests
9. In XML, DTD stands for-----
- a) Document Type Declaration
 - b) Data Type Definition
 - c) Document Type Definition
 - d) Document To Declaration

10. Which of the following statements are true?
- Node.js is a server-side language.
 - Node.js is a client-side language.
 - Node.js is both a server and client-side language.
 - None of the above.

B. Answer the following. [Any Five] 10

- What is XML? List out rules for XML declarations.
- What is the difference between wrap () and unwrap () method of jQuery?
- What is JSON? How will you write comments in JSON.
- What is AJAX?
- What is package.json?
- What is .class selector in jQuery?
- What is Node JS?

Q.2 Attempt the following. [Any Two] 14

- Write a note on XML document structure in detail with example.
- What are the types of selectors in jQuery? Explain each with example.
- Write a note on jQuery events.

Q.3 Attempt the following. [Any Two] 14

- Write a note on JSON array.
- Write difference between Synchronous and Asynchronous web application.
- What is JSON? Write features of JSON.

Q.4 Attempt the following. [Any Two] 14

- Discuss various components of Node JS.
- Explain how to create and include user defined modules.
- Explain Node as a Server.

Q.5 Do as directed. [Any Two]

8

1. Write an XML file which will display the Doctor Information which includes.
Doctor_Id, Doctor_Name, Doctor_ContactNo, Doctor_Specialization
2. Write a note on features of AJAX.
3. Write a note on XMLHttpRequest object.

2111000104050003
EXAMINATION APRIL 2024
BACHELOR OF COMPUTER APPLICATIONS
(FOURTH SEMESTER)
MOBILE APPLICATION DEVELOPMENT-II

[Time: Three Hours]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (FOURTH SEMESTER)**
 - b. Name of the Subject : **MOBILE APPLICATION DEVELOPMENT-II**
 - c. Subject Code No : **2111000104050003**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.
 5. Mention your options clearly.

Seat No:

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Student's Signature

Q.1 Answer the following question [any seven]

14

1. Define DVM. What is its significance?
2. What is the use of adapter in ListView?
3. What dart2js file do? Why it is important for flutter?
4. Discuss break and continue in dart.
5. Differentiate TabLayout and FrameLayout in android.
6. What is invisible widget? Write any 4 invisible widgets.
7. How we can display tooltip on button?
8. what is the significance of R.java file.

Q.2 (A) Explain features of flutter framework.

7

(B) List of components of Android Manifest file Explain any Two.

7

OR

(B) How to create dynamic radio button in android. Explain with example.

7

Q.3 Explain the following [Any 2]

14

- (A) Explain Progress bar in Flutter with example**
- (B) Differentiate stateless and stateful widget.**
- (C) How to display Alert Dialogbox in android.**

Q.4 (A) What is Toast? Explain how we can show Toast message in both Android and Flutter. **7**

OR

(A) What is Chart? Explain in detail with example. **7**

(B) Write a stateful widget that show Text and Image On screen. **7**

Q.5 Write a short note on following. [Any two] **14**

A. Dart function.

B. Autocomplete TextView and TextWatcher to TextView in android.

C. Custom List View of android.

2011000104060001-B
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(PRACTICAL) (FOURTH SEMESTER)
BCA SEM-4 (PRACTICAL - 406)

[Time: Five Hours]

[Max. Marks: 140]

Instructions:

- 1. 1. Fill up strictly the following details on your answer book**
 - a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (PRACTICAL) (FOURTH SEMESTER)**
 - b. Name of the Subject: **BCA SEM-4 (PRACTICAL -406)**
 - c. Subject Code No: **2011000104060001-B**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

- Q.1** A. Write a Java program that prompts the user to input the base and height of a triangle. Accordingly calculates and displays the area of a triangle using the formula $(\text{base} * \text{height}) / 2$, and handles any input errors such as non-numeric inputs or negative values for base or height. Additionally, include error messages for invalid input and provide the user with the option to input another set of values or exit the program. **20**
- B. Create a Java applet that allows the user to interactively change the background color by clicking on a button. The background color of the applet should change to a random color. Keep track of the number of times the button is clicked and display it on the applet. Include a "Reset" button that resets the counter and changes the background color back to the default color (e.g., white). **20**
- Q.2** Create VB.Net MDI application that has following functionalities for a Library. **40**
- Insert Books in Book Master table (Book_ID, BookName, Language (English, Hindi, Gujarati), Price, Subject)
 - Listing of all data in DataGrid View and ability to filter book data by Language.
 - Update, Delete operations for Updating Book Subject.
 - List out all Books with Price less than Rs. 500 on Button Click.

- Q.3** Design a website for online food ordering system containing multiple web pages. User should be able to search food items by category (cuisine) or Item name. On selection of item it should be displayed in new page with all details. Also design registration page for customer. Use of XML, JSON and jQuery is preferable. **40**

OR

Create a mobile application for Restaurant Management System. User can register on app. Once registered, user would be able to see all food items available with price and assign one unique table number. User would then be able to select food item and quantity and place order by clicking on button. The app would also allow users to view their bill amount. **40**

- Q.4** Viva and Journal **20**

2011000104060001-D
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(PRACTICAL) (FOURTH SEMESTER)
BCA SEM-4 (PRACTICAL -406)

[Time: Five Hours]

[Max. Marks: 140]

Instructions:

- 1. Fill up strictly the following details on your answer book**
 - a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (PRACTICAL) (FOURTH SEMESTER)**
 - b. Name of the Subject : **BCA SEM-4 (PRACTICAL -406)**
 - c. Subject Code No : **2011000104060001-D**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

- Q.1** (A) Create class EMPLOYEE in java with id, name and salary as data-members. Again create 5 different employee objects by taking input from user. Display all the information of an employee which is having maximum salary. **20**
- (B) Create an applet program which displays circle inside triangle. Circle should touch all the edges of a triangle. Write your name inside the circle as well. **20**
- Q.2** Create .Net application to manage Car Sales information using following two tables: Car_Master: (Car_no, Car_name, Car_model, Price, Qty, Remarks)
Sales: (Car_no, No_of_cars, Date)
Perform following operations: **40**
- a) Provide Insert, Update, Delete and Display facility.
 - b) Display information of maximum sold cars.
 - c) Display cars information which are out of stock.
- Q.3** Design E-commerce website with following pages: **40**
- a) Sign Up / Sign in Page
 - b) Product page that reads data of all products from JSON file using AJAX with button name as Show Details and Display in proper format.
 - c) When Click on Show Details button display detail page for each product.
 - d) Wish list Page

e) Payment Page
(Apply proper validation)

OR

Develop Mobile Application for Food Order System. **40**

Perform following operations:

- a) Registration of Customer
- b) Login of Customer
- c) List of Foods items with its image, name, price etc.
- d) Provide search facility in Food list.

Q.4 Viva and Journal **20**

2011000104060001-E
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(PRACTICAL) (FOURTH SEMESTER)
BCA SEM-4 (PRACTICAL - 406)

[Time: Five Hours]

[Max. Marks: 140]

Instructions:

1. Fill up strictly the following details on your answer book
 - a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (PRACTICAL) (FOURTH SEMESTER)**
 - b. Name of the Subject : **BCA SEM-4 (PRACTICAL - 406)**
 - c. Subject Code No : **2011000104060001-E**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

- Q.1** A. Write a Java code that handles the custom exception like when a user gives input as Floating point number then it raises exception with appropriate message. **20**
- B. Write an applet program to create "Circle with Square" figure on applet window. **20**

- Q.2** Create a table called ItemMst with following fields: **40**
ItemMst (ItemNo [PK], IName, Rate)
Create Item Master Form in .NET which accepts the above information and performs the functionalities like Add New, Save, Delete, Search & Exit records.

- Q.3** Write an Ajax code for getting data which are in Json format from web server. Also write jQuery for DOM manipulation and change runtime image at every 5 seconds. **40**

OR

- Create Mobile application for any shop that provides the facility to register and login. After successful login user will be redirected to new activity where user can order any item by clicking on corresponding checkbox. After selecting item(s) display proper message. **40**

- Q.4** Viva and Journal **20**

2011000104060001-F
EXAMINATION MARCH 2024
BACHELOR OF COMPUTER APPLICATIONS
(PRACTICAL) (FOURTH SEMESTER)
BCA SEM-4 (PRACTICAL -406)

[Time: Five Hours]

[Max. Marks: 140]

Instructions:

1. **1. Fill up strictly the following details on your answer book**
 - a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (PRACTICAL) (FOURTH SEMESTER)**
 - b. Name of the Subject : **BCA SEM-4 (PRACTICAL -406)**
 - c. Subject Code No : **2011000104060001-F**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

- Q.1** A) Write a Java program to display string with capital letters which are inputted through command line. Display those string(s) which starts with "B". **20**
- B) Write an application that creates and start three threads, each thread is instantiated from the same class. It executes a loop with 5 iterations. First thread display "BEST", second thread display "OF" and last thread display "LUCK". All threads sleep for 1000 ms. The application waits for all threads to complete and display a message. **20**
- Q.2** Create a table EmpMst with following fields: **40**
 EmpMst (EmpNo [PK], EName, City)
Create Employee Master Form to accept the above information. It must have Add New, Save, Delete, Search & Exit Buttons.
- Q.3** Write an Ajax code for getting data from web server which is in xml format. Also write jQuery code for hide/show effect on any image. **40**
- OR**
- A) Create flutter application to demonstrate Progress Bar widget. **20**
- B) Create android application to display appropriate message to the user through Alert Dialog Box. **20**
- Q.4** Viva and Journal **20**
