21COAC301 Reg No : .....

CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME

BCA THIRD SEMESTER DEGREE EXAMINATION | OCTOBER 2025

COMPUTER APPLICATIONS

Database Management Systems

Duration:2 Hours **Max Marks:60**

PART A

Answer any FIVE questions: **(5×2= 10)**

1) List the advantages of Network Model.
2) What is a weak entity type? Give example.
3) Define 3NF relation.
4) List the different iterative controls in PL/SQL.
5) What is the use of MAX function in oracle? Write the syntax.
6) What is a CARTESIAN PRODUCT? Explain with example.

PART B

Answer any FIVE questions : **(5×6= 30)**

7) Explain the characteristics of database approach.
8) Explain the constraints on relationship type.
9) Explain Key constraint and entity integrity constraint.
10) Explain with syntax procedures in PL/SQL.
11) Explain Normalization concept with an example.
12) What is data independence? Differentiate logical and physical data independence.

PART C

Answer any TWO questions : **(2×10= 20)**

13) Explain the interfaces in DBMS.
14) a) What are the possible reasons for a transaction to fail?
    b) What are the various Transaction states? Explain.
15) Explain EQUI JOIN, Theta Join, INNER JOIN with example.

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6029

21COAC302 Reg No : .....

CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME

B.C.A. THIRD SEMESTER DEGREE EXAMINATION OCTOBER 2025

COMPUTER APPLICATIONS

C# and .Net Framework

Duration:2 Hours **Max Marks:60**

PART A

Answer any FIVE questions: **(5×2= 10)**

1) List any four mathematical functions in C#.
2) How do you create two dimensional array in C#? Give an example.
3) What is an object? How do you create an object?
4) List any four overloadable operators.
5) List any four properties of CheckBoxList server control.
6) List any four Data Source controls.

PART B

Answer any FIVE questions : **(5×6= 30)**

7) Explain the activities of CLR with a flowchart.
8) Explain else-if ladder and foreach loop in C# with an example each.
9) How do you assign specific values in enumeration? Explain with a help of an example.
10) How do you derive multiple base classes in C#? Explain with an example.
11) How do you throw your own exceptions? Explain with a help of an example.
12) Differentiate
    a) ImageButton server control and LinkButton server control
    b) Label server control and Literal server control

PART C

Answer any TWO questions : **(2×10= 20)**

13) Explain
    a) Arithmetic operators
    b) Assignment operators in C# with an example each.
14) Explain any five public properties of i) DetailsView control ii) Repeater control
15) What is MDI? How do you create an MDI form? Explain with a help of an example.

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21COAC303 Reg No : .....

CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME

BCA THIRD SEMESTER DEGREE EXAMINATION OCTOBER 2025

COMPUTER APPLICATIONS

Computers Communication and Networks

Duration:2 Hours **Max Marks:60**

PART A

Answer any FIVE questions: **(5×2= 10)**

1) What is OSI Reference Model?
2) What is Single Parity Check?
3) What is a protocol? Give an example.
4) Write the two types of email. Give an example.
5) List any four advantages of client/server network.
6) Write the use of checksum.

PART B

Answer any FIVE questions : **(5×6= 30)**

7) Write the advantages and disadvantages of WAN.
8) Explain the functioning of Checksum.
9) Explain Flooding in detail.
10) Write a note on Protocols.
11) Write the history of the World Wide Web.
12) Explain unguided media.

PART C

Answer any TWO questions : **(2×10= 20)**

13) Why is Switching concept required?
14) Use the Hamming technique to detect an error, given data is 1101.
15) Explain State Routing Algorithm with an example.

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24COAC301 Reg No : .....

CHOICE BASED CREDIT SYSTEM

B.C.A THIRD SEMESTER DEGREE EXAMINATION OCTOBER 2025

COMPUTER APPLICATIONS

Object Oriented Programming with Java

Duration:3 Hours **Max Marks:80**

I. Answer any FIVE of the following : **(5×2= 10 Marks)**

1. What does the java standard library include?
2. List the different kinds of variables in java based on the scope.
3. Differentiate between a vector and an array.
4. What is an interface?
5. Why are threads in java known as lightweight processes?
6. Write the general form of a simple if statement.

II. Answer any FIVE of the following : **(5×6= 30 Marks)**

7. Explain any one exit controlled loop with syntax and example.
8. Explain the different types of logical and assignment operators in java.
9. Explain the methods of the wrapper classes to convert numbers to strings and string objects to numeric objects.
10. How do we add a class or an interface to a package?
11. Explain hierarchical inheritance with the help of an example.
12. How to design and execute applets?

III. Answer any FOUR of the following : **(4×10= 40 Marks)**

13. Explain the following concepts of OOP:
    a) Objects and classes b) Data abstraction and Encapsulation
    c) Inheritance d) Polymorphism
14. Explain: a) General structure of a java program b) java statements
15. Explain abstract methods and abstract classes with an example.
16. Explain: a) method overloading b) static members
17. How can we throw our own exceptions? Explain with an example.

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CHOICE BASED CREDIT SYSTEM

B.C.A THIRD SEMESTER DEGREE EXAMINATION OCTOBER 2025

COMPUTER APPLICATIONS

C# and DOT NET Framework

Duration:3 Hours **Max Marks:80**

I. Answer any FIVE of the following : **(5×2= 10 Marks)**

1. What is CLS?
2. What is a constant variable? How do you declare a constant variable in C#?
3. List any four string functions in C#.
4. Define delegate. Write its syntax.
5. How is LinkButton different from ImageButton server control?
6. Differentiate DropDownList server control and ListBox server control.

II. Answer any FIVE of the following : **(5×6= 30 Marks)**

7. Explain else-if ladder and foreach loop in C# with an example each.
8. Define structure. How do you create and assign values to a structure? Explain with a help of an example.
9. How do you throw your own exceptions? Explain with a help of an example.
10. How do you implement interface in C#? Give an example.
11. Explain any two Data Source controls.
12. How do you access the data using ADO.NET? Explain.

III. Answer any FOUR of the following : **(4×10= 40 Marks)**

13. Explain a) Logical operators b) Relational operators in C# with an example each.
14. a) Explain enumeration with a help of an example.
    b) Explain variable length arrays with the help of an example.
15. a) Explain the concept of class and object in C# with an example.
    b) Explain overloaded constructors with an example.
16. Write a note on
    i) ComboBox ii) GroupBox windows control.
17. Explain any five public properties of
    i) DataList control ii) DetailsView control

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CHOICE BASED CREDIT SYSTEM

B.C.A THIRD SEMESTER DEGREE EXAMINATION OCTOBER 2025

COMPUTER APPLICATIONS

Computer Communication and Networks

Duration:3 Hours **Max Marks:80**

I. Answer any FIVE of the following : **(5×2= 10 Marks)**

1. Expand LAN and MAN
2. Write the use of checksum.
3. What is Congestion? Write the two types of Congestion Control Algorithm.
4. What is Client Stub and Server Stub?
5. What is static webpage?
6. What is Backpressure?

II. Answer any FIVE of the following : **(5×6= 30 Marks)**

7. Explain the types of network architecture with a neat diagram.
8. Explain Adaptive Routing algorithm.
9. Explain stop-wait data link protocol.
10. Explain Internet Tranport Protocol.
11. Write a note on WebPage.
12. Explain TCP service model.

III. Answer any FOUR of the following : **(4×10= 40 Marks)**

13. Explain the Classification of Switching Technique.
14. Explain the types of DNS server.
15. Explain the Guided Media.
16. Explain the solutions used in Error control and flow control in transport layer.
17. a) Explain the advantages and disadvantages of email.
    b) Explain the different types of email.

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