Third Semester B.C.A Degree Examinations

JANUARY/FEBRUARY 2024

(CBCS NEP Scheme)

NBC 0210 PAPER: DATABASE MANAGEMENT SYSTEMS (DBMS)

Time: 2 hrs] *[Max. Marks: 60*

Instructions to Students:

1. ***The students should legibly write Section number along with question numbers.***
2. ***The answer without Section number and question numbers will not be valued.***
3. ***The question numbers should be legibly written with in margin only.***

SECTION – I

I. Select the most appropriate answer from the options provided: $10 \times 1 = 10$

I - 1) How many types of dbms architectures are there

a) 1 b) 2
c) 3 d) 4

I - 2) Request and responses are transformed using _____ between different database layers.

a) Deflection b) Taping
c) Reflection d) Mapping

I - 3) An _____ is a set of entities of the same type that share the same properties or attributes.

a) Entity set b) Attribute set
c) Relational set d) Entity model

I - 4) The attribute 'AGE' is calculated from date of birth the attributes 'age' is called _____

a) Single valued b) Multi valued
c) Composite d) Derived

I - 5) Tables with rows and columns can be viewed as

a) Analytical model b) Relational model
c) Composite model d) Database model

Contd..... 2

I - 6) _____ should be there in each attribute.

a) key b) schema
c) instance d) domain

I - 7) By normalizing relations or set of relations one minimizes_____

a) Data b) Field
c) Redundancy d) Databse

I - 8) Can Boolean data type be used in function that are called from SQL statements

a) Yes b) No
c) Depends upon d) Invalid option

I - 9) Which of the following is not a PL/SQL unit

a) Type b) Trigger
c) Table d) Package

I - 10) What is the initial value of index for a reverse for loop

a) Upper bound b) Lower bound
c) 1 d) (Upper bound - Lower bound)/2

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) What is Schema? Explain its types.

II - 2) Explain the purpose of database approach.

II - 3) Explain the cardinality ratio of relationship.

II - 4) What do you mean by strong entity set? Give example.

II - 5) Explain any three aggregate function with syntax with an example.

II - 6) Explain structure of PL/SQL program and give example.

II - 7) Explain while loop and for loop with an example.

II - 8) Explain set operations on relations.

Contd.....3

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Explain the applications of dbms.

III - 2) What is an attributes? Explain the different types of an attributes.

III - 3) Explain the Join operations with an example.

III - 4) Explain BCNF.

III - 5) List out features and advantages of PL/SQL.

SECTION – IV

IV. Answer the following: 2 × 10 = 20

VI - 1) a) Explain the classification of DBMS, and write a note on Database users. (10)

OR

b) i) Explain the DML languages with its commands and examples.

ii) With syntax explain function and procedure in PL/SQL with an example. (5 + 5)

VI - 2) a) i) What are constraints? Explain any two of them.

ii) Write a note on relational model concepts. (5 + 5)

OR

b) i) Write an ER diagram for an employee database.

ii) Explain different notation used in ER diagram. (5 + 5)

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Third Semester B.C.A Degree Examinations

JANUARY/FEBRUARY 2024

(CBCS NEP Scheme)

NBC 0220 PAPER: C# AND DOT NET FRAMEWORK

Time: 2 hrs] *[Max. Marks: 60*

Instructions to Students:

1. ***The students should legibly write Section number along with question numbers.***
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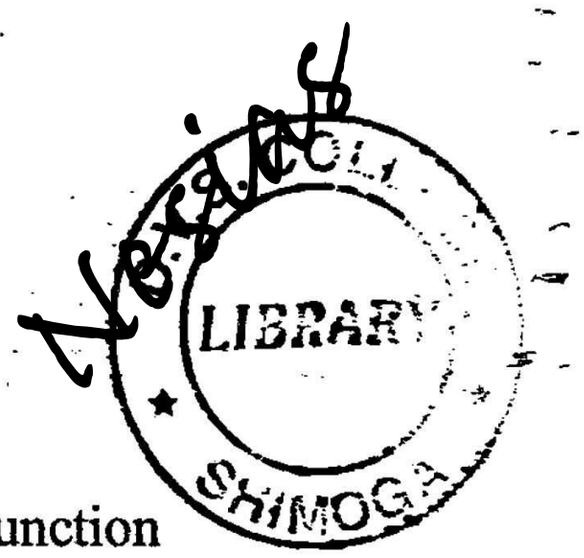
SECTION – I

I. Select the most appropriate answer from the options provided: 10 ×1 = 10

I - 1) What is CTS?

a) Common Type Specification b) Common Type Safe
c) Compiler Type Structure d) Common Type System



I - 2) Si option in command line debugger Specifies

a) Step into the next line b) Step out of the current Junction
c) Step over of the next line d) Set current breakpoints

I - 3) Number of constructor a class can define is?

a) 1 b) 2
c) Any number d) None of the mentioned

I - 4) The capability of an object in C# to take number of different forms and hence display behavior as according is known as _____

a) Encapsulation b) Polymorphism
c) Abstraction d) Inheritance

I - 5) Which of these exceptions will occur if we try to access the index of an array beyond its length?

a) Arithmetic Exception b) Array Exception
c) Array Argument Exception d) Index out of Range Exception

Contd..... 2

I - 6) Choose the namespace in which the interface Ienumerable is declared?

a) System- Collections
b) System Collections Generic
c) Both System-collections & System. collection Generic
d) All of the mentioned

I - 7) Which control is commonly used for triggering actions in a windows forms application?

a) Text Box b) Radio Button
c) Check Box d) Button

I - 8) Which control is commonly used for handling user input in a windows Forms application?

a) Text Box b) Radio Button
c) Check Box d) Progress Box

I - 9) Which class is responsible for establishing is a connection to the database in ADO.NET?

a) Data Adaptor b) SQL Command
c) SQL Connection d) Data set

I - 10) What does ADO.NET Stands for?

a) Active Data Objects Network b) Advanced Data Operations .NET
c) ActiveX Data Objects Network d) Asynchronous Data operations .NET

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) Explains any three output options available for building C# application.

II - 2) Explain the Role of CIL in the .Net Framework.

II - 3) Differentiate between Read-only and write-only properties. Provide an example of each.

II - 4) Write a C# program to demonstrate exception handling

II - 5) Briefly explain how interfaces are implemented in C# and provide concise example to illustrate the implementation of an interfaces in a class.

II - 6) Explain scroll bar control in C#.

Contd..... 3

II - 7) Explain the role of system.windows.Forms namespace in a Windows Forms Application.

II - 8) Write a note on two faces of ADO.NET.

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Explain the building blocks of .NET platform.

III - 2) Explain any Five string methods with example.

III - 3) Explain the properties of Exception class.

III - 4) Explain the Tooltip Members.

III - 5) Write a note on ADO.NET.

SECTION – IV

IV. Answer the following: 2 × 10 = 20

VI - 1) a) Write a brief note on:
i) CLR
ii) Base class library

b) Write a note on C# preprocessor directives. (5 + 5)

OR

c) Explain constructor overloading with an example.

d) Write a note on Delegation. (5 + 5)

VI - 2) a) Explain the concept of object generation with a diagram.

b) Define an interface. Briefly explain interface members at object level. (5 + 5)

OR

c) Explain anatomy of FORM.

d) Write a note on connection object and connection string in ADO.NET (5 + 5)

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Third Semester B.C.A Degree Examinations

JANUARY/FEBRUARY 2024

(CBCS NEP Scheme)

PAPER: COMPUTER COMMUNICATION AND NETWORKS

Time: 2 hrs] *[Max. Marks: 60*

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SECTION – I

I. Select the most appropriate answer from the options provided: $10 \times 1 = 10$

I - 1) Identify the layer which provides service to the user

a) Session layer
b) Application layer
c) Presentation layer
d) Physical layer

I - 2) The Set of Rules define by

a) SMTP
b) FTP
c) IMAP
d) Protocol

I - 3) Identity the incorrect network topology

a) BUS
b) Star
c) P2P
d) Ring

I - 4) The coaxial cables are used in _____

a) Cable Television
b) LANS
c) Telephone
d) All of the above

I - 5) _____ is used for multicast communication.

a) Radio waves
b) Microwaves
c) Infrared
d) None of the above

I - 6) Humming Code in an example for

a) Connection release
b) Connection oriented
c) Error detection
d) None of the above

Contd..... 2

I - 7) Data link layor protocol is

a) IP b) UDP

c) TCP d) Stop and wait

I - 8) Two broad categories of congestion control are

a) Open Control & Closed Control b) Open loop and closed loop

c) active loop and passive loop d) None of the above

I - 9) CRC Stands for

a) Cyclic Revision circle b) Cyclic Redundancy Check

c) Cute Rare cycle d) None of the above

I - 10) Expansion of DNS is

a) Domain Name System b) Doom Name System

c) Digital Name System d) None of the above

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) Define Ring topology Mention any two advantages and disadvantages of Ring topology.

II - 2) With a neat diagram explain twisted pair.

II - 3) Explain data link layer design issues.

II - 4) Define distance vector routing.

II - 5) Describe Electronid Mailing

II - 6) Explain TCP/IP reference model.

II - 7) Define Coaxial cable.

II - 8) Explain Tree Topology.

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Explain OSI reference model.

III - 2) How radio transmission takes place? Explain.

III - 3) Explain Sliding window protocol.

III - 4) Define and Explain distance vector routing

III - 5) Explain the elements of Transport service.

Contd..... 3

SECTION – IV

IV. Answer the following: $2 \times 10 = 20$

VI - 1) a) i) compare and contrast MAN and WAN.

ii) Explain Message Switching (5 + 5)

OR

b) i) Explain Error detection – single parity checking.

ii) Explain leaky bucket algorithm (5 + 5)

VI - 2) a) i) Explain microwaves transmission.

ii) Compare and contrast Bus topology and Star topology. (5 + 5)

OR

b) i) Explain Hierarchical Routing.

ii) Write a short note on World Wide Web. (5 + 5)

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