

BCA Third Semester Examination, Dec - 2019**FIRST PAPER****Data Base Management System**

Paper Code:42301

Time Allowed: Three Hours**Maximum Marks: 70**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(Attempt all six questions.)**Part I (Question No. 1 & 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.****PART I**

- 1.** Attempt any 10 questions out of the following. Each question carries 1 mark. **10x1=10**
(Words limit up to 20 words each)
- What is DBMS?
 - What is DDL?
 - What is DBA?
 - What is E – R Model?
 - What is Key?
 - What is Attribute?
 - What is Functional Dependency?
 - What is Transaction?
 - What are Views?
 - What are Sub – Queries?
- 2.** Attempt all questions. Each question carries 5 marks. **4X5=20**
(Words limit up to 50 words each)
- What is the difference between Database System and File System?
 - What is the difference between Generalization and Specialization?
 - Explain various types of Functional Dependency.
 - Explain various types of Aggregate Functions.

Part-II**Unit- I**

- 3.** What do you mean by Data Abstraction? Explain the difference between Physical Level, Conceptual Level and View Level of data abstraction. **10**

ORWhat is Database Model? Explain various types of data models in detail. **10****P.T.O.**

Unit- II

4. Explain various notations for E – R diagram.

10

OR

Write short note on :-

10

- a) Primary Key
- b) Alternate Key
- c) Secondary Key
- d) Aggregation
- e) Foreign Key

Unit- III

5. What is the importance of Normalization? Explain different normal forms up to 3 - NF.

10

OR

Write short note on:-

10

- a) Loss – Less decomposition and lossy decomposition
- b) ACID properties and transaction states.

Unit- IV

6. What are the advantages of SQL? Explain various data types available in SQL.

10

OR

Write short note on:-

10

- a) Various types of SQL commands
- b) Different types of Joins.

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SECOND PAPER

Advanced Java Programming

Paper Code:- 42302

Time Allowed: Three Hours

Maximum Marks.70

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2) All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions.)

Part I (Question No. 1 & 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

Part-I

1. Answer any 10 questions. Each question carries 1 mark.

10x1= 10

(Words limit up to 20 words each)

- a) What is the role of Java Virtual Machine? Explain.
- b) Why is Java architectural neutral?
- c) Which type of inheritance is not possible in Java? State why?
- d) Discuss the basic use of interfaces.
- e) List the ways in which threads can be created.
- f) Illustrate how final keyword can be used.
- g) What are Listeners and Adapters?
- h) Write the syntax of how you change the background and text colour of an applet.
- i) Enumerate the packages used in AWT and their usage.
- j) What is the two tier and three tier client server model?
- k) How do JDBC drivers work?
- l) List some of the methods of Java. io package.

2. Answer all the questions. Each question carries 5 marks.

4x5 = 20

(Words limit up to 50 words each)

- a) Explain Object Oriented concepts in Java.
- b) With the help of an example explain how exceptions are handled in Java. List any five exceptions and their uses.
- c) Describe different Layout Managers in applets.
- d) Explain the use of Java. lang and Java. util packages.

P.T.O.

Part-II

Unit-I

3. Write Java code to demonstrate Function Overloading. How is it different from Function Overriding? **10**

OR

Explain different types of inheritance in Java. **10**

Unit-II

4. How do you create and use package? Explain with the help of example. **10**

OR

Discuss how string functions are used in Java. **10**

Unit-III

5. Write Java code to create a form using applets. The form should have basic controls like Text Box, Button etc. **10**

OR

How are events handled in applets? Explain. **10**

Unit-IV

6. Write code to set up a connection with database. Also show how data can be accessed. **10**

OR

How is Result set and Result Set Meta Data Object useful in database connectivity. Give example. **10**

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THIRD PAPER

Operating System Fundamentals

Paper Code:- 42303

Time Allowed: Three Hours

Maximum Marks.70

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2) All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions.)

Part I (Question No. 1 & 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

Part-I

1. Answer any 10 questions. Each question carries 1 mark.

10x1= 10

(Words limit up to 20 words each)

- a) What is Operating System?
- b) What is File System?
- c) What is System?
- d) Define Scheduling.
- e) What is System Call?
- f) Define Logical Space.
- g) What is Swapping?
- h) What is Segmentation?
- i) Define Recovery.
- j) What is Disk Management?
- k) How many types of File Access methods are there?
- l) What do you mean by Domain?

2. Answer all the questions. Each question carries 5 marks.

4x5 = 20

(Words limit up to 50 words each)

- a) Explain types of Operating System with suitable example.
- b) What is Swapping? Explain with example.
- c) Define File Protection with example.
- d) Explain Disk Scheduling.

Part-II

Unit-I

3. What is Operating System? Explain characteristics and function of Operating System with example. **10**

OR

Explain Pre – emptive and Non – emptive scheduling Technique with example. **10**

Unit-II

4. What is Virtual Memory Management? Explain with suitable example. **10**

OR

Describe Logical and Physical Address Space with example. **10**

Unit-III

5. Describe various technique of Deadlock with prevention of Deadlock problem? **10**

OR

What is File System Structure? Explain File Allocation Methods with example. **10**

Unit-IV

6. What is Disk Management? Explain Swap – Space Management with example. **10**

OR

What is Access Matrix? Explain implementation of access matrix. **10**

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FOURTH PAPER

System Analysis & Design

Paper Code:- 42304

Time Allowed: Three Hours

Maximum Marks.70

(1) No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

(2) All the parts of one question should be answered at one place in the answer book.

(Attempt all six questions.)

Part I (Question No. 1 & 2) is compulsory & Part II (Question No. 3, 4, 5 & 6) has internal choice.

Part-I

1. Answer any 10 questions. Each question carries 1 mark.

10x1= 10

(Words limit up to 20 words each)

- a) What are the elements of System?
- b) Define Decision Support System.
- c) What do you understand by Closed System?
- d) What do you understand by Testing?
- e) What do you understand by Feasibility?
- f) What is the need of information gathering?
- g) What is Efficiency Analysis?
- h) What are different levels of DFD?
- i) What are Test Cases?
- j) Explain Decision Tree.
- k) What is Unit Testing?
- l) What are the different types of documentation?

2. Answer all the questions. Each question carries 5 marks.

4x5 = 20

(Words limit up to 50 words each)

- a) List various phases of SDLC.
- b) Write the steps of Feasibility Analysis.
- c) Difference between Logical DFD and Physical DFD.
- d) Difference between Verification and Validation.

P. T. O.

Part-II

Unit-I

3. What is MIS? Define the characteristics of MIS. **10**

OR

What do you mean by System? Discuss different types of system. **10**

Unit-II

4. Discuss the role and responsibility of a System Analyst. **10**

OR

Write short note on: **5+5**

(a) Onsite observation

(b) questionnaires

Unit-III

5. What is Structured English? Discuss the differences between structured English and pseudo-code. **10**

OR

Write short note on: **5+5**

(a) Data Dictionary

(b) Structured Chart

Unit-IV

6. Explain the objectives of input and output design. **10**

OR

Explain Black Box and White Box testing in detail. **10**
