BCA (Sem. III)

BCA Third Semester Examination, March – 2021
FIRST PAPER
Data Base Management System
Paper Code: 42301

Time Allowed: Two 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.

PART I

1. Attempt any 5 questions out of the following. Each question carries 2 marks.   **5x2=10**
   (Words limit up to 20 words each)
   a. What is DML?
   b. What is DBA?
   c. What is Schema?
   d. What is Super – Key?
   e. What is Entity?
   f. What is Relational Algebra?
   g. What is Functional Dependency?
   h. What is loss – less decomposition?
   i. What is Join in SQL?
   j. What are Aggregate Functions?
   k. What is SQL?
   l. What is Normalization?

2. Attempt any 3 questions out of the following. Each question carries 6 marks.   **3X6=18**
   (Words limit up to 50 words each)
   a. Explain various types of data base models.
   b. What is E-R diagram? Explain its various components.
   c. What is Transaction? Explain in detail.
   d. Explain the various types of SQL Commands.

Part-II

3x14=42

Attempt any 3 questions.

3. Explain the architecture of DBMS with a suitable diagram.   **14**

4. How does DBMS provide data abstraction? Explain the concept of data independence.   **14**

P.T.O.

5. Write short note on:
   (a) Generalization
   (b) Specialization
   (c) Aggregation

   5+5+4

6. Write short note on:
   (a) Mapping Constraints
   (b) Primary Key and Secondary Key

   5+5+4

7. Draw transaction state diagram and describe each state that a transaction goes through during its execution.

   14

8. What is Normal Form? Explain various normal forms up to 3NF.

   14

9. Explain the following SQL commands with examples.
   (a) CREATE
   (b) SELECT
   (c) ALTER
   (d) TRUNCATE

   14

10. Write short note on:
    (a) View and indexes
    (b) Group By and HAVING clause

    14

*****

B.C.A. (Sem. III)

BCA Third Semester Examination, March – 2021
SECOND PAPER
Advanced Java Programming
Paper Code:- 42302

Time Allowed: Two 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

PART- I

1. Attempt any 5 questions out of the following. Each question carries 2 marks.   **5x2=10**
   (Words limit up to 20 words each)
   a) What is JVM?
   b) What is Interface in Java?
   c) Discuss data types in Java.
   d) What is Static keyword in Java?
   e) What is use of packages?
   f) Discuss AWT classes.
   g) What is thread in Java?
   h) What is Applet?
   i) Discuss JDBC.
   j) What is try, catch and throw in Java?

2. Attempt any 3 questions. Each question carries 6 marks.   **3x6=18**

   (Words limit up to 50 words each)
   a) Explain architectural Neural in Java.
   b) What is Interface? Explain use of interface.
   c) Explain Event Driven mechanism by giving suitable example.
   d) Explain the use of java.io package.

Part-II

Attempt any 3 questions.   **3x14=42**
3. Explain constructor overloading using suitable example.   **14**

4. Describe Inheritance .Explain all types of inheritance in java.   **14**

5. Explain Exception Handling in Java using suitable example.   **14**

P.T.O.

6. Explain Multi – Threading java code with thread classes.   14

7. Describe Life Cycle of Applets using suitable example.   14

8. Describe Graphics Primitives and GUI components.   14

9. Explain JDBC Drivers using suitable example.   14

10. Discuss Two Tier and Three Tier Client Server Model.   14

*****

BCA Third Semester Examination, March – 2021
THIRD PAPER
Operating System Fundamentals
Paper Code:- 42303

Time Allowed: 1½ 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

PART- I

1. **Attempt any 5 questions out of the following. Each question carries 2 marks.**   5x2=10

   a) What is PCB?

   b) What is Belady's Anomaly?

   c) Explain different services of Operating Systems.

   d) What is PMT?

   e) What is Demand Paging?

   f) Explain Direct Memory Access.

   g) Distinguish between Logical Address and Physical Address?

   h) Define Resource.

   i) Describe Context Switching.

   j) What is Semaphore?

   k) Distinguish between File and Directory.

   l) Explain Inter Process Communication.

2. **Attempt any 2 questions out of the following. Each question carries 10 marks.**   2x10=20

   a) Explain swapping in detail with diagram.

   b) Explain various states of a process in detail with diagram.

   c) Explain the various file types and file operation.

   d) Explain various Disk Scheduling Algorithms.

Part-II

Attempt any 2 questions in all .   2X20=40

3. Explain the following: 20
   a. Time sharing OS   b. Multi Programming OS   c. Real Time OS

4. Write difference between: 20
   a. FCFS   b. Round Robin Scheduling   C. SJF

5. Explain various types of Memory Management strategies.   20

6. Write short note on: 7+7+6
   a. Shared Memory Multiprocessor
   b. b. Dynamic Address Relocation
   c. c. Page fault

7. What is Deadlock? What are the necessary conditions for deadlock?   20

8. Write short note on: 7+7+6
   a. Indexed Sequential Files
   b. b. Directory Implementation
   c. c. Free Space Management

9. Explain various authentication and protection mechanisms of user files.   20

10. Explain Disk Structure and Disk Management.   20

*****

B.C.A. (Sem. III)

SAD

BCA Third Semester Examination, March – 2021
Fourth Paper
System Analysis & Design
Paper Code:- 42304

Time Allowed: 1½ 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

PART- I

1. **Attempt any 5 questions out of the following. Each question carries 2 marks.**   5x2=10

   a) Differentiate between Open and Closed System?

   b) Why we need a system?

   c) What is DSS?

   d) What is Feasibility Study?

   e) What do you understand by system requirements?

   f) What is Fact Analysis?

   g) What is Structured English?

   h) What are information gathering tools?

   i) What are the advantages of conducting an interview?

   j) Which are the activities that come under system implementation?

   k) What is the importance of documentation?

   l) What do you mean by security of a system?

2. **Attempt any 2 questions out of the following. Each question carries 10 marks.**   2x10=20

   a) What are the steps involved in SDLC?

   b) What do you understand by System Planning?

   c) What is the difference between Unstructured System Analysis and Structured System Analysis?

   d) What is the need to test a system? Explain.

Part-II

Attempt any 2 questions.   2x20=40

2. Explain in brief different types of computer based information systems.   20

3. What is a System? Explain the characteristics and elements of a system.   20

P. T. O.

4. Discuss various steps involved in Feasibility Analysis. Also discuss different types of feasibility.
20

5. Explain the role of a System Analyst in development of all the phases of a new system.
20

6. Explain the different information gathering tools with advantages of one over another.
20

7. Write short notes on the following:
   (a) Dataflow diagram (DFD)
   (b) Data Dictionary
10+10

8. What do you understand by System Testing? Explain different types of system testing.
20

9. What do you understand by Input/ Output form design? What is the need of form design? Discuss some of the important form design criteria.
20

*****