UG-390 **BCA-01**

B.C.A. DEGREE EXAMINATION – JUNE 2019.

First Year

COMPUTER FUNDAMENTALS AND PC SOFTWARE

Time : 3 hours Maximum marks : 75

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Briefly describe the structure of a computer.

2. Briefly explain various types of software.

3. Explain various types of transmission with examples.

4. Briefly describe the role of cryptography.

5. Explain the role of dialog boxes in Windows.

6. Briefly explain various ways for communicating through network.

7. Briefly describe any five features of MS Word.

SECTION B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain the parallel processing and pipelining with appropriate examples.

9. Explain various types of operating systems with examples.

10. Explain various elements of communication hardware.

11. Discuss in detail about different types of networks.

12. Explain in detail about managing system in Windows operating system.

13. Describe in detail about various types of multimedia and tools used for generating them.

14. Explain various page formatting features of MS Word.

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UG-391 **BCA-02**

B.C.A. DEGREE EXAMINATION – JUNE 2019.

First Year

C PROGRAMMING AND DATA STRUCTURE

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the structure of C program with an example.

2. What are looping control statements in C? Give example each.

3. Write a C program to find the factorial of a given number.

4. Write note on application of stacks.

5. Discuss briefly on BFS and DFS.

6. What are tree traversals in binary trees?

7. Explain briefly on buffering.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Give discussion on types of operators in C.

9. Explain the following :

   (a) Storage classes in C

   (b) Types of arrays in C

10. What are file manipulation to handle files in C? Give an example program.

11. Discuss the pointer implementation of circular linked list.

12. Discuss the following :

   (a) Minimal spanning tree

   (b) Graph representations

13. Explain the different file organizations with suitable example.

14. Discuss about the quick sort and heap sort with suitable example.

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UG – 392 **BCA–03**

B.C.A DEGREE EXAMINATION – JUNE 2019.

First Year

INTRODUCTION TO SYSTEM SOFTWARE

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain about the MACRO in detail.

2. Write the usefulness of program development tools.

3. Explain about the process states.

4. What is a semaphore? Elaborate its advantages.

5. Describe the different File types.

6. Write a shell script to test whether a provided number is prime or not.

7. What is LINT? Explain.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. (a) What is the difference ranging from 3rd generation and 4th generation Language?

   (b) Explain the important functioning of a macro processor.

9. Discuss about the computer generations.

10. Explain paging and segmentation in detail.

11. Discuss about the contiguous and linked allocation.

12. What is a file? Explain the file operations.

13. Discuss about the Text manipulator in UNIX.

14. Write the history and design principles of UNIX.

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UG-393 **BCA04**

B.C.A. DEGREE EXAMINATION – JUNE 2019.

First Year

INTRODUCTION TO COMPUTER ORGANIZATION

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Simplify the following function using Karnaugh map and draw the circuit using AND, OR and NOT gates.

   $F(A,B,C,)=\Sigma(1,3,4,6,7)$

2. Explain the following program control instructions with the help of suitable illustrations:

   (a) BRANCH and JUMP

   (b) CALL and RETN

3. Explain the working of an ALU with the help of a diagram.

4. How is a ripple counter different from a synchronous counter? Draw the logic diagram of a 3-bit ripple counter and explain its function.

5. What is a Multiplexer? Explain how an 8 ×1 multiplexer can be designed using two 4 × 1 multiplexer.

6. Compare the characteristics of unencoded micro-instructions to that of highly encoded micro-instructions.

7. Explain the following:
   (a) Seek Time
   (b) Latency Time
   (c) Access Time

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Perform the following operation.
   (a) Convert Hex F15C to binary.
   (b) Find the 2's complement representation of 1010101.
   (c) Using 10's complement, subtract 72532-3250.
   (d) Convert decimal 65.75 to binary representation.
   (e) Find the 1's complement of 10110 in 8 bit representation.

9. How are the problems in S-R flip flop removed in J-K flip flop? Explain the working of JK flip flop with the help of logic diagram and characteristics table. Also make the excitation table for the same.

10. What are the different categories of micro-operations that may be carried out by CPU? Explain each category of micro-operations with example for each.

11. Explain any five addressing modes with examples.

12. Explain the following memory schemes:

    (a) Cache Memory

    (b) Interleaved Memory

    (c) Associative Memory

13. Explain the concept of DMA with the help of a diagram.

14. Write a program in assembly language to search an element from a list of 5 numbers using binary search method.

UG-394 **BCA-05**

B.C.A DEGREE EXAMINATION – JUNE 2019.

First Year

ELEMENTS OF SYSTEM ANALYSIS AND DESIGN

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are the elements of System analysis?

2. Discuss the notation used in drawing DFD.

3. What is the objective of output design? Explain Forms design and its classification.

4. Write about modularization.

5. Discuss the criteria to be considered when you opt for software selection.

6. Discuss the need for documentation.

7. Write short note on ergonomics.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Describe System Development Life Cycle.

9. Define Feasibility Study and discuss its types.

10. List different file organization method. Explain any one in detail.

11. Discuss about the Database design.

12. What is quality assurance? Discuss its levels.

13. Write about the difference between DSS and knowledge based system.

14. Discuss the attributes which a good analyst should posses.

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UG–395 **BCA–06**

B.C.A. DEGREE EXAMINATION — JUNE, 2019.

First Year

INTRODUCTION TO DATABASE MANAGEMENT SYSTEM

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. List the difference between a file processing System and a DBMS.
2. List and explain the Elements of DBMS.
3. Define:

   (a) Primary Key (b) Candidate Key

   (c) Super Key
4. Define functional dependency with example.
5. Explain any two data manipulation statements.
6. Discuss the pitfalls of RDBMS.
7. Write about client/server database.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Describe Physical and Logical independence.

9. Construct an ER diagram for a Retail shop.

10. Discuss any one file organization method.

11. Write about:

    (a) 1NF (b) 2NF

    (c) 3NF

12. Describe the design of Distributed database.

13. Compare RDBMS with OODBMS.

14. Write about knowledge base Management Systems.

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