UG-496 **BCA–01**

B.C.A DEGREE EXAMINATION – DECEMBER, 2018.

First Year

COMPUTER FUNDAMENTALS AND PC SOFTWARE

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the advantages of peripheral devices.
2. Explain the purpose of assembly language.
3. Briefly describe various elements of communication hardware.
4. Differentiate synchronous and asynchronous data communication.
5. Explain various classifications of computer viruses.
6. Briefly describe any two types of multimedia.
7. Briefly describe the steps involved in creating a powerpoint presentation.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain various types of computer memory with appropriate examples.

9. Explain various types of operating system with examples.

10. Explain in detail about various modes of communication with respective communication diagrams.

11. Describe in detail about the simplified model of symmetric encryption scheme with neat diagram.

12. Define SMTP. Explain the basic operations of mail system with SMTP mail flow architecture.

13. Explain how a computer memory can be managed by Windows operating system.

14. Explain how to

    (a) Work with tables (5)

    (b) Protect a document (5)

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UG-497 **BCA–02**

B.C.A. DEGREE EXAMINATION – DECEMBER, 2018.

First year

C PROGRAMMING AND DATA STRUCTURE

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Write note scanf and printf of statement with suitable example.

2. Find the values of e, f, and g in the following program

```
int a = 20;
int b = 10;
int c = 15;
int d = 5;
int e,f,g;
e = (a+b)* c/d;
f = ((a+b)*c)/d;
g = a+(b*c)/d;
```

3. Explain switch statement with suitable example.

4. Write the short note about unions in C.

5. Explain briefly about queues.

6. Explain sequential file organizations with its advantages and disadvantages.

7. Write a program to perform a linear search.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. (a) Write a C program to find the maximum number in single dimensional array using pointer. (5)

   (b) Write a program to swap two numbers using functions. (5)

9. Give elaborate discussion on arrays.

10. Discuss about file input output operations with an example.

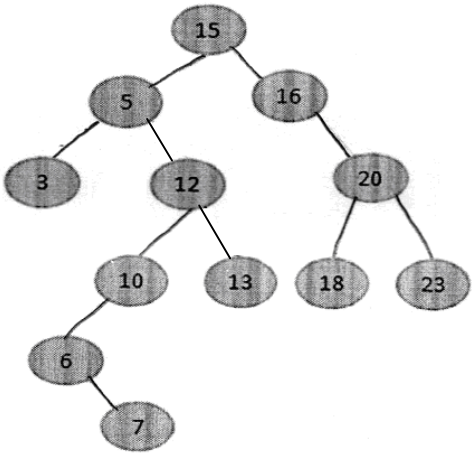
11. What is Circular linked list? Explain the operations of circular linked list with algorithms.

12. Explain the following:

   (a) DFS (5)

   (b) BFS. (5)

13. (a) Find the inorder, preorder and postorder binary tree traversal for the following graph. (5)



(b) Construct the AVL tree for the following values 20,15,19,25,23,24. (5)

14. Explain the following.

(a) 2 way merge sort. (5)

(b) Heap sort. (5)

UG-498 **BCA–03**

B.C.A DEGREE EXAMINATION – DECEMBER, 2018.

First Year

INTRODUCTION TO SYSTEM SOFTWARE

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the various categories of language in detail.
2. What are various types of file permissions? Explain.
3. What is meant by swapping? Explain briefly.
4. What is shell programming? Explain with example.
5. Write the short notes on interpreters.
6. Explain in detail about preemptive and non-preemptive scheduling.
7. What is an Assembler? Explain its functions in detail.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. What are the phases of complier? Explain.

9. What is meant by paging? Explain how used for memory management.

10. Explain UNIX Basic commands for working with directories.

11. Write note on Backups and Restoration of Unix in detail.

12. Discuss the demand paging and its importance.

13. Explain Round-Robin scheduling algorithm of process management.

14. Explain the Disk, FCFs and Scan scheduling.

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UG-499 **BCA–04**

B.C.A. DEGREE EXAMINATION – DECEMBER, 2018.

First Year

INTRODUCTION TO COMPUTER ORGANIZATION

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Write short notes on floating point representation with examples.
2. Briefly explain the error detection code with its circuit diagram.
3. Explain any five addressing modes with examples.
4. Give the definitions for the following terminologies:
   (a) CAR
   (b) Control memory
   (c) CDR
   (d) Control word
   (e) Address sequencer
5. Write short notes on Boolean algebra.

6. Explain with the block diagram of DMA controller.

7. Briefly describe the purpose of assembly language.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Explain in detail about the various data representations with examples.

9. Discuss in detail about Cache memory.

10. Explain in detail about general register organization with block diagram.

11. Describe the Combinational circuits with suitable circuit diagram.

12. Explain the various kinds of interconnected structures with block diagram.

13. Discuss in detail about Control memory with suitable diagram.

14. Explain the working principle of interrupts with examples.

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UG-500 **BCA–05**

B.C.A. DEGREE EXAMINATION – DECEMBER, 2018.

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. Discuss the elements of systems Analysis.

2. Write short note on Decision Tables.

3. Describe Prototype Design.

4. Discuss types of codes.

5. What do you mean by quality Assurance? Explain.

6. List the components of Multimedia.

7. Discuss the types of documentation.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions

8. Define Feasibility Study and its types.

9. Discuss the characteristics of system.

10. Write about Database design.

11. Describe input design and Control.

12. Discuss the issues involved in Maintenance of system.

13. Write about DSS.

14. Describe human problems in automated office.

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UG–501 **BCA–06**

B.C.A. DEGREE EXAMINATION – DECEMBER, 2018.

First Year

INTRODUCTION TO DATABASE MANAGEMENT SYSTEM

Time : 3 hours Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. What are the elements of DBMS?
2. Explain the difference between a weak and Strong Entity Set.
3. What are the different methods of file organization?
4. Explain the structure of Distributed database.
5. Describe about the 3NF.
6. Discuss the evolution of Client/Server Computing.
7. Discuss the role of knowledge in Database Applications with example.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

8. Describe the relation model of database Management System with example.

9. Explain the ER model with your own example.

10. List the duties which an administrator has to do.

11. Discuss the properties of Normalization.

12. What are the types of Join operation and explain each.

13. Describe object oriented DBMS.

14. Discuss the key difference of KBMS and DBMS.

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