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B.C.A. 3rd Semester Full and Reappear

Examination, November-2023

INTRODUCTION TO OPERATING SYSTEM

Paper-BCA-201

Time allowed : 3 hours]

[Maximum marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt **five** questions in all, selecting **one** question from each unit. **Question No. 1 is compulsory.**

1. (a) Real Time Operating System 4×4=16
- (b) Define Shortest Job First.
- (c) Explain Thrashing and how to overcome.
- (d) Define Disk Structure.

Unit-I

2. (a) Define operating system with its components. 8
- (b) What do you mean by operation on Process ? 8
3. Explain Inter-Process communication in detail. 16

Unit-II

4. (a) Define Deadlocks Preventions with example. 8
(b) Explain Deadlocks Detection and Recovery. 8
5. Explain Scheduling. Also explain various scheduling algorithms. 16

Unit-III

6. (a) Write various contiguous memory allocation techniques. 8
(b) Explain Demand Paging. 8
7. Differentiate :
- (a) Internal and External fragmentation. 8
(b) Logical and Physical Address. 8

Unit-IV

8. Explain Disk Scheduling Algorithms in detail. 16
9. What do you understand by Free Space Management? 16

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**BCA 3rd Semester Full and Reappear
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DATASTRUCTURE-1

Paper-BCA-202

Time allowed : 3 hours]

[Maximum marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt **five** questions in all selecting **one** question from each unit. **Question No. 1 is compulsory.**

1. (a) What is Algorithm? 8×2=16
- (b) Write the algorithm and code for inserting an element in an array.
- (c) Define array.
- (d) What do you mean by Stack overflow?
- (e) Explain Recursion.
- (f) Explain properties of binary tree.
- (g) How do you Push and Pop elements in a stack?
- (h) Define Graph.

Unit-I

2. (a) Define Data structure with its various types. 8
- (b) What is string? Define different operation of string. 8
3. What do you mean by pattern matching algorithm? 16

Unit-II

4. (a) What is doubly linked list? 8
(b) Define array as data structure & its operations. 8
5. (a) Compare Linked list with array in respect of both advantages and disadvantages. 8
(b) Define Priority queues 8

Unit-III

6. Explain doubly linked list with its operations : 16
(a) Create
(b) Insert
(c) Delete
7. (a) What is Queue? Discuss its various applications. 8
(b) Describe a method to convert an infix expression into a post fix expression with the help of a suitable example. 8

Unit-IV

8. (a) Explain Binary tree with the help of example. Discuss the properties of binary tree that need to be considered. 8
(b) Explain various methods of representing graphs to memory by giving suitable example. 8
9. What is meant by traversal of a graph? Discuss the breadth first and Depth first traversal techniques with the help of example. 16

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B.C.A. 3rd Semester (Full and Re-appear)

Examination, November-2023

INTRODUCTION TO DATABASE SYSTEM

Paper-BCA-203

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions in all, selecting one question from each unit. Q. No. 1 is compulsory.

1. Write short note on following : 16

- (i) Database system
- (ii) Physical Data Independence
- (iii) Abstraction and Integration
- (iv) Concurrency

Unit-I

2. Explain the following : 16

- (i) Components of Database System
- (ii) DBMS Languages

3. Explain the following : 16

- (i) Database Designers
- (ii) Application Developers

Unit-II

4. Describe the following : 16

- (i) Schemas
- (ii) Centralized DBMS
- (iii) Instances

5. Give a complete description about Data Models. 16

Unit-III

6. Explain the following : 16

- (i) Entity Set
- (ii) ER diagrams

7. Give a complete description about Network Data Models. 16

Unit-IV

8. Describe the following : 16

- (i) BCNF
- (ii) Closure of a Set of FD

9. What do you understand by SQL ? Explain in detail. 16

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B.C.A. 3rd Semester (Full & Re-appear) Examination,

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COMMUNICATION SKILL (ENGLISH)

Paper-BCA-204

Time allowed : 3 hours]

[Maximum marks : 80

Note : Attempt five questions in all, selecting one question from each unit. Q. No. 1 is compulsory.

1. (a) Write a note on the functions of communication ?

8×2=16

(b) What is encoding and decoding ?

(c) Explain the features of verbal communication ?

(d) How soft skills can be developed ?

(e) Make words, using the following prefixes :

(i) dis _____ (ii) im _____

(f) Make words, using the following suffixes :

(i) _____ tly (ii) _____ age

(g) What is public speaking ?

(h) What are the objectives of interview ?

(2)

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Unit-I

2. (a) What is importance of communication in our day to day life ? 8+8
- (b) What are the objectives of communication and the limitations ?
3. (a) What is communication process ? Explain the theories of communication. 8+8
- (b) What are the causes of communication barriers ? How does it affect the communication process ?

Unit-II

4. (a) What is verbal communication ? Explain the features of effective verbal communication. 8
- (b) Describe the media of non-verbal communication.
5. (a) What is listening ? Distinguish between hearing and listening. 8+8
- (b) Explain the techniques to develop soft skills.

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(3)

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Unit-III

6. (a) Give one word substitute of any *five* of the following : 5
- (i) A thing that is fit to be eaten.
- (ii) Having opposing feelings
- (iii) A letter, poem, etc. whose author is unknown.
- (iv) One who does not believe in God.
- (v) The life history of a man written by himself
- (vi) Government by the officials.
- (vii) One who looks at the bright side of things.
- (viii) A person who easily believes others.
- (b) Form the words, using the following prefixes : 6
- (i) Un_____ (ii) Dis_____ (iii) En_____
- (iv) Co_____ (v) Ex_____ (vi) Th_____
- (c) Fill in the blanks, appropriate prepositions : 5
- (i) He is junior _____ me.

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[P.T.O.]

(ii) He is afraid _____ darkness.

(iii) Sunil is fond _____ sweets.

Fill in the blanks, appropriate articles :

(iv) My father is _____ advocate.

(v) Yesterday I saw _____ European Movie.

7. (a) What are the various steps to improve vocabulary? 8+8
- (b) Language games help us to develop the fluency. Elaborate.

Unit-IV

8. (a) Explain the essential activities in brief for developing public speaking skills. 8+8
- (b) State the guidelines for effective public speaking.
9. (a) Discuss the various ways which help to prepare for professional interviews. 8+8
- (b) What are the characteristics of a good presentation?