

Oct-23-02-1351
B.C.A. Sem. -III (New Course) Examination
Oct. -2023

Data Structure BCA-301

Total Marks : 70

Time : 2½ Hours

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| Que. 1 | (A) | Do as direct. | 06 |
| | | 1. List out types of sorting. | |
| | | 2. What is collision? | |
| | | 3. What is Searching? | |
| Que. 1 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. Explain collision resolution technique. | |
| | | 2. Explain Selection sort and Heap sort. | |
| | | 3. Write an algorithm to sort data using shell sort. | |
| Que. 2 | (A) | Do as Directed. | 05 |
| | | 1. What is Priority queue? | |
| | | 2. List out types of Linear data structure? | |
| Que. 2 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. List out types of queues and explain anyone in detail. | |
| | | 2. Write an algorithm to delete element from circular queue. | |
| | | 3. Explain Polish Expression in detail. | |
| Que. 3 | (A) | Do as direct. | 06 |
| | | 1. What is Linked-list? | |
| | | 2. Define: Doubly linked linear list. | |
| | | 3. Define: Circularly linked list. | |
| Que. 3 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. Explain Stack with example. | |
| | | 2. Write an algorithm for sorting the singly linked list. | |
| | | 3. Explain Polynomial manipulation. | |
| Que. 4 | (A) | Do as direct. | 05 |
| | | 1. Define: Index file. | |
| | | 2. Define: Graph. | |
| Que. 4 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. Explain Traversal Algorithm. | |
| | | 2. Explain BFS with algorithm. | |
| | | 3. Explain minimal spanning tree. | |

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B.C.A. Sem. -III (New Course) Examination
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Advance Database Management System

BCA-302

Total Marks : 70

Time : 2½ Hours

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| Que. 1 | (A) | Attempt the following. | 06 |
| | | 1. Discuss : ACID PROPERTIES. | |
| | | 2. Explain : ROLLBACK, COMMIT Command. | |
| | | 3. Explain in brief: Deadlock. | |
| Que. 1 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. What is locking? Explain in detail. | |
| | | 2. What is Recovery? Explain Media Recovery. | |
| | | 3. What is Concurrency? Explain concurrency problem. | |
| Que. 2 | (A) | Attempt the following. | 05 |
| | | 1. What is DDL? | |
| | | 2. What is DML? | |
| | | 3. What is DCL? | |
| | | 4. Explain TCL. | |
| | | 5. List out Set Operators. | |
| Que. 2 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. Discuss : String Function with example. | |
| | | 2. Explain JOIN in SQL. | |
| | | 3. What is Constraint? Explain with Example. | |
| Que. 3 | (A) | Attempt the following. | 06 |
| | | 1. Difference between SQL and PL/SQL. | |
| | | 2. Explain CURSOR in brief. | |
| Que. 3 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. Explain PL/SQL BLOCK in detail. | |
| | | 2. Discuss: Data Types. | |
| | | 3. Explain ERROR handling in detail. | |
| Que. 4 | (A) | Attempt the following. | 05 |
| | | 1. Discuss: View? | |
| | | 2. What is difference between Procedure and Function? | |
| Que. 4 | (B) | Attempt the following. (Any Two) | 12 |
| | | 1. What is Procedure? Explain in detail. | |
| | | 2. Discuss: SEQUENCE with example. | |
| | | 3. Explain TRIGGER with example. | |

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Operating System BCA-303

Total Marks : 70

Time : 2½ Hours

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|--------|-----|---|----|
| Que. 1 | (A) | Attempt Any Two. | 06 |
| | | 1. Define: List Components of OS. | |
| | | 2. Define: Multitasking Multithreading. | |
| | | 3. Define: Soft Real time v/s Hard real time system. | |
| Que. 1 | (B) | Attempt Any Two. | 12 |
| | | 1. Explain Services of Operating System. | |
| | | 2. Explain Multiprogramming OS with Example. | |
| | | 3. Explain Spooling and Buffering in brief. | |
| Que. 2 | (A) | Attempt Any Two. | 05 |
| | | 1. Define: Job Scheduler, CPU scheduler. | |
| | | 2. Define: Throughput Time, Context switch. | |
| | | 3. Define: Deadlock. | |
| Que. 2 | (B) | Attempt Any Two. | 12 |
| | | 1. Explain various states of process in brief. | |
| | | 2. Explain Pre-emptive SJF Scheduling with Example. | |
| | | 3. Discuss FCFS and SJF with Advantages. | |
| Que. 3 | (A) | Attempt Any Two. | 06 |
| | | 1. Define: Steps for handling page fault. | |
| | | 2. Define: MMU, Swapping. | |
| | | 3. Why page replacement is required and explains how to replace it. | |
| Que. 3 | (B) | Attempt Any Two. | 12 |
| | | 1. What is Paging? Explain Demand Paging. | |
| | | 2. Explain dynamic Partitioning in brief. | |
| | | 3. Explain Internal and External fragmentation with example. | |
| Que. 4 | (A) | Attempt Any Two. | 05 |
| | | 1. Define: mkdir and cp commands. | |
| | | 2. Define: File Users and File Permissions. | |
| | | 3. Define : how to create and read File in UNIX? | |
| Que. 4 | (B) | Attempt Any Two. | 12 |
| | | 1. Explain chmod Command with Example. | |
| | | 2. Explain Directory structure of UNIX. | |
| | | 3. Explain features of UNIX in brief. | |

Oct-23-02-1354
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Computer Network BCA-304

Total Marks : 70

Time : 2½ Hours

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| Que. 1 | (A) | Define the following.
1. Computer Network.
2. LAN and MAN.
3. Topology.
4. Demultiplexing.
5. Star topology.
6. Digital Signal. | 06 |
| Que. 1 | (B) | Attempt Any Two.
1. Explain Advantages and disadvantages of computer network.
2. Explain TCP/IP model.
3. What is switching? Explain in Detail. | 12 |
| Que. 2 | (A) | Define the following.
1. Define: guided media and unguided media.
2. Define: Electromagnetic media. | 05 |
| Que. 2 | (B) | Attempt Any Two.
1. Explain fibre optics.
2. Explain Radio transmission and infrared.
3. Explain Co-axial cable with figure in detail. | 12 |
| Que. 3 | (A) | Define the following.
1. Repeaters.
2. HUB.
3. Subnetting.
4. Half Duplex.
5. Gateways.
6. Bit stuffing. | 06 |
| Que. 3 | (B) | Attempt Any Two.
1. Explain Bridges in detail.
2. Explain HDLC frames.
3. Explain class of IP addresses in detail. | 12 |
| Que. 4 | (A) | Define the following.
1. Full name of : CDMA, GPRS, UDP.
2. What are advantages of mobile computing? | 05 |
| Que. 4 | (B) | Attempt Any Two.
1. Explain UDP in detail.
2. What is IP address? Explain IP address classes.
3. Explain ICMP in detail. | 12 |
