

**Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore - 641043.**

**Master's Degree Examination – NOVEMBER 2017  
First Semester**

**Class : I PG  
Major : Bioinformatics**

**Time: 3 hours  
Max. Marks: 60**

**17MBIC03 Basics in Computer and Algorithms in Bioinformatics**

**Part A**

**Choose the Correct Answer**

**10X1/2=5**

1. A technique used by codes to convert an analog signal into a digital bit stream is known as
  - a. Pulse code modulation
  - b. Pulse stretcher
  - c. Query processing
  - d. Query management
2. A hybrid computer uses a \_\_\_\_\_ to convert digital signals from a computer into analog signals.
  - a. Modulator
  - b. Demodulator
  - c. Modem
  - d. Decoder
3. In a relational schema, each tuples is divided into fields called
  - a. Relations
  - b. Domains
  - c. Query
  - d. All the above
4. \_\_\_\_\_ command can be used to modify a column in a table
  - a. alter
  - b. update
  - c. set
  - d. create
5. Which of the following case does not exist in complexity theory
  - a. Best case
  - b. Worst case
  - c. Average case
  - d. Null case
6. The operation of processing each element in the list is known as
  - a. Sorting
  - b. Merging
  - c. Inserting
  - d. Traversal
7. A directed graph is \_\_\_\_\_ if there is a path from each vertex to every other vertex in the digraph.
  - a. Weakly connected
  - b. Strongly connected
  - c. Tightly connected
  - d. Linearly connected
8. A graph is said to be \_\_\_\_\_ if the vertices can be split into two sets V1 and V2 such there are no edges between two vertices of V1 or two vertices of V2.
  - a. Partite
  - b. Bipartite
  - c. Rooted
  - d. Bisects
9. Binary search algorithm cannot be applied to
  - a. sorted linked list
  - b. sorted binary trees
  - c. sorted linear array
  - d. pointer array
10. A data structure where elements can be added or removed at either end but not in the middle
  - a. Linked lists
  - b. Stacks
  - c. Queues
  - d. Dequeue

**PART B**

**Answer all questions 5X4=20**

**Each answer should not exceed 200 words or one page**

11) a. Write out the differences between LAN and WAN?

Or

b. Write short notes on modem?

12) a. How to reduce the ER diagrams to tables?

Or

b. Write short notes on Hierarchical model?

13) a. Explain about Dynamic Programming?

Or

b. Write short notes on complexity of the algorithms?

14) a. Explain about Eulerian Path problem?

Or

b. Explain about traversals in Graphs?

15) a. Explain about conditional structures in data structures?

Or

b. Explain about basic operations in data structures?

**PART C**

**Answer all questions**

**5X7=35**

**Each answer should not exceed 600 words or three page**

16 a. Explain and detail about types of modern computing?

Or

b. Explain and detail about Memory and storage devices?

17 a. Write about network data model in detail?

Or

b. Write about Database system applications and security?

18 a. Write about greedy and divide and conquer approach ?

Or

b. Explain in detail about analysis of the best algorithm?

19 a. Explain in detail about graph concepts ?

Or

b. Write about Benzer's experiment in detail?

20 a. Explain and detail about array and string data structures?

Or

b. Write about Basic programming concepts?