Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University) Coimbatore-641 043

Bachelor's Degree Examination – April/May 2019

Semester II

Class : I UG **Time: 3 hours**
Major : Computer Applications **Max. Marks: 100**

18BCAC05 Data Structures and Algorithms

Part-A **10 x 1=10**
Choose the correct answer

1. What operator is used in pointers to dereferencing?

a. & b. * c. address d. ptr

2. Processing each element in the list is_____.

a. Traversal b. Sorting c. Search d. find

3. The operation of adding an item onto a stack is called_____.

a. Add b. Pop c. Push d. Insert

4. A procedure does calls itself is _____.

a. Looping b. Recursion c. Calling d. Linked Procedure

5. A _____ is a finite set of one or more nodes.

a. chart b. array c. graph d. tree

6. A graph with weighted edges is called _____.

a. network b. diagraph c. multigraph d. list

7. What refers to the operation of arranging data in some given order.

a. searching b. sorting c. formatting d. rearranging

8. Searching is used to find the _____ of a given item in a collection of items.

a. value b. path c. address d. location

9. What are the two types of hashing?

a. Static & Dynamic b. Linear & Nonlinear
c. internal & external d. implicit & explicit

10. _____ are simply values or sets of values.

a. Attributes b. Records c. Data d. Entities

Part B **5 X 6=30**

Answer the following

Answer should not exceed 400 words or two pages

11. a. Illustrate about primitive data structures.

(or)

11. b. Describe about Omega notation.

12. a. Explain about stack and its operations.

(or)

12. b. Write short notes on string processing.

13. a. Write the algorithm for traversing the binary tree.

(or)

13. b. Explain about the graph representation.

14. a. Explain about bubble sort with example.

(or)

14. b. What is search? Explain binary search with example.

15. a. Explain about sequential file organization.

(or)

15. b. Describe about hash functions.

Part C **5 x 12=60**

Answer the following

Answer should not exceed 800 words or four pages

16. a. Explain about time and space comparisons.

(or)

16. b. Discuss about representation and operations of arrays.

17. a. Elucidate queue with algorithm.

(or)

17. b. How to convert postfix expression into infix expression? Explain with example.

18. a. Explain about graph traversals.

(or)

18. b Elaborate the applications of graph.

19. a. Analyse about quick sort with example.

(or)

19. b. Explain about heap sort algorithm.

20. a. Discuss indexed sequential file in detail.

(or)

20. b. Summarize the file access methods with example.

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