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**SUBJECT CODE NO:- 2102**  
**FACULTY OF SCIENCE & TECHNOLOGY**  
**B.Sc. S.Y Sem-III**  
**Examination March/April-2022 (To be held in June/July-2022)**  
**Computer Science Code -CS08**  
**Data Structures**

[Time: 1:53 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N.B i) Attempt all questions.
- Q.1 a) What is data structure? Explain the different data structure. 10
- b) Write as algorithm for insertion of linear array. 10
- OR
- c) Explain the representation of linked list in memory. 10
- d) Write an algorithm to implement the binary search method. 10
- e)
- Q.2 a) What is stack? Explain the operation of POSH and POP. 10
- b) Explain the types of queues. 10
- OR
- Write short note on following (any four) 20
- a) Multidimensional arrays.
- b) Two way list.
- c) Deques.
- d) Recursion
- e) Over flow condition
- f) Data Attributes.
- Q.3 Multiple choice questions. 10
- 1) Which of the following data structure is non-linear type?
- a) strings                      b) lists                      c) stacks                      d)tree
- 2) Two dimensional arrays are also called.
- a) table arrays                      b) matrix arrays
- c) both (a) and (b)                      d) None of these

- 3) A linear collection of data elements where the linear node is given by means of pointer is called
- a) linked list
  - b) node list
  - c) primitive list
  - d) none of these
- 4) The operation of processing each element in the list is known as \_\_\_\_\_
- a) sorting
  - b) merging
  - c) inserting
  - d) Traversal
- 5) How is data in queue accessed
- a) First in first out
  - b) First in last out
  - c) Last in first out
  - d) None of these
- 6) How is data in stack accessed
- a) First in first out
  - b) First in last out
  - c) Last in first out
  - d) None of these
- 7) The term 'AVAIL' is related with
- a) arrays
  - b) linked list
  - c) stack
  - d) queue
- 8) \_\_\_\_\_ is not operation that can be performed on queue.
- a) insertion
  - b) deletion
  - c) retrieval
  - d) traversal
- 9) Which of the following is not the internal sort.
- a) Insertion sort
  - b) bubble sort
  - c) merge sort
  - d) Heap sort
- 10) The number of comparisons done by sequential search is \_\_\_\_\_
- a)  $(N/2)+1$
  - b)  $(N+1)/2$
  - c)  $(N-1)/2$
  - d)  $(N+2)/2$