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V—349—2017

FACULTY OF SCIENCE

B.Sc. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2017

(CGPA Pattern)

COMPUTER SCIENCE

Paper IV

(Data Structures)

(MCQ + Theory)

(Wednesday, 13-12-2017)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Attempt All questions.

(ii) Assume suitable data if necessary.

MCQ

1. Select the *correct* answers for the following : 10

(1) refers to single unit of values.

- (A) A data item (B) Value
(C) Entity (D) All of these

(2) The elements of an array are reference by a/an consisting of n consecutive numbers.

- (A) Variable (B) Indexset
(C) Pointer (D) None of these

(3) AIKJ is called

- (A) Variable (B) Pointer
(C) Value (D) Subscripted variable

(4) Stock is also called list.

- (A) FILO (B) FIFO
(C) LILO (D) None of these

P.T.O.

- (5) For list must be sorted.
- (A) Linear search (B) Radix sort
(C) Binary search (D) None of these
- (6) LB stands for
- (A) List Bond (B) Lower Bound
(C) Lost Bound (D) List Bound
- (7) If then stack is empty.
- (A) TOP = 1 (B) TOP = -1
(C) TOP = NULL (D) TOP = MAX
- (8) Queue is linear list of elements in which deletions can take at one end called
- (A) Front (B) Rear
(C) First (D) Start
- (9) array of linked list contains information part.
- (A) Link (B) Linear array
(C) Data (D) Info
- (10) A graph in which every edge is unidirected is called
- (A) Multigraph (B) Unidirected graph
(C) Simple graph (D) None of these

Theory

2. (a) Explain data structure operations. 5
(b) Write algorithm for traversing an array. 5
- Or*
- (c) Explain radix sort method. 5
(d) Write algorithm for searching linked list. 5
3. (a) Explain array representation of queue. 5
(b) Write algorithm for linear search. 5

WT

(3)

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Or

- (c) Write algorithm to delete element from a queue. 5
- (d) Explain representation of graph using adjacency matrix. 5
- 4. (a) Explain concept of Recursion. 5
- (b) Explain binary search technique. 5

Or

- (c) Explain binary trees and its representation. 5
- (d) Explain merge sort technique. 5