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BP—24—2016

FACULTY OF COMPUTER STUDIES

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

OCTOBER/NOVEMBER, 2016

SOFTWARE ENGINEERING

(Data Structure Using C)

(Friday, 25-11-2016)

Time : 10.00 a.m. to 1.00 p.m.

Time— Three Hours

Maximum Marks—80

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

(iii) Assume suitable data, if necessary.

1. Attempt the following : 20

(a) Write basic terminology.

(b) Write Algorithm for Traversing Linked List.

(c) Circular Queue.

(d) Record : Record Structure.

2. (a) What is Linear Array ? Explain memory representation of an array. 15

(b) What is stack ? Explain stack operations with algorithm.

Or

(c) What is queue ? Explain operations on queue with algorithm.

(d) Write an algorithm to insert the element into linear array.

3. (a) Explain binary search method with an example. 15

(b) What is binary tree ? Explain traversal methods of binary tree.

Or

(c) Write selection sort algorithm.

(d) What is Tree ? Explain the types of tree.

P.T.O.

4. (a) What is graph ? Explain traversal scheme. 15
- (b) Write an algorithm to insert the item at the beginning of a linked list.
- Or*
- (c) Convert the following infix expression into prefix and postfix expression :
- (i) $(A + (B \uparrow D)) / (E - F) + G$
- (ii) $((A + B) * D) \uparrow (C - F)$
- (d) What is linked list ? Explain memory representation of linked list.
5. Write short notes on (any *three*) : 15
- (a) Basic data structure operations
- (b) Overflow and underflow
- (c) Polish notation
- (d) Quick sort
- (e) Graph.