(2)

Total No. of Questions – [4] Total No. of Printed Pages: 01

G.R. No.	

Paper Code - U218-124 (T2)

OCTOBER 2018/IN-SEM (T2)

S. Y. B. TECH. (COMPUTER ENGINEERING) (SEMESTER - I)

COURSE NAME: FUNDAMENTALS OF DATA STRUCTURE

COURSE CODE: CSUA21174

(PATTERN 2017)

Time: [**1Hour**] [Max. Marks: **30**]

Instructions to candidates:

1) **Answer Q.1 OR Q.2 and Q.3 OR Q.4.**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data whereever required**

Q.1) a) Compare linked list with arrays with reference to the following aspects: [6]

- Accessing any element randomly
- Insertion and deletion of an element
- Utilization of computer memory.

b) Write pseudo code to add a node in singly circular link list with integer data. [6]

c) Explain unrolled list and skip list. [4]

OR

Q.2) a) Write pseudo code to delete a node from DLL. [6]

b) Create and display student database with appropriate data structure by considering efficient memory utilization technique. [6]

c) Compare SLL and DLL? [4]

Q.3) a) Convert the following expression into postfix form. Show all the steps and stack contents: [6]

i. 4^2*3-3+8/4*(1+1) 6

ii. (A+B)*C-D*F+C

b) Write PUSH and DISPLAY functions for STACK using LINKED LIST and also write node structure. [4]

c) Evaluate postfix expression: ABC*+CBA-+*. Assume A=10,B=2,C=13 [4]

OR

Q.4) a) Write a pseudo code for postfix evaluation and demonstrate with suitable example. [6]

b) Write applications of stack. [4]

c) How will you reverse a string using stack? Explain with suitable example. [4]