

P30/P32/CMP215/EE/20170607

Time : 3 Hours

Marks : 80

Instructions :

1. All Questions are Compulsory.
 2. Each Sub-question carry 5 marks.
 3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
 4. Question paper of 80 Marks, it will be converted in to your programme structure marks.
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1. Solve any **four** sub-questions.
 - a) What is Sorting? Enlist different method. 5
 - b) Sort following numbers using Selection Sort. 16, 23, 13, 9, 7, 5. 5
 - c) What are the advantages and disadvantages of Merge sort? 5
 - d) Find the position of element 29 using Binary Search Method in array 'A' given below:
A = { 11, 5, 21, 3, 29, 17, 2, 43 } 5
 - e) Explain the concept of Hashing.(7-82) 5
2. Solve any **four** sub-questions.
 - a) Explain Open Hashing Technique in detail. 5
 - b) Explain any two methods used to evaluate Hash Function. 5
 - c) What are the types of Link-list. 5
 - d) Explain deletion (first item) operation in linked list with example. 5
 - e) Explain array and lined list representation of Priority Queue. 5

3. Solve any **four** sub-questions.

- a) Describe Insertion of node in Binary Search Operation. 5
- b) Write an algorithm for Concatenation of two linked list. 5
- c) Define Stack. What are the basic operations performed on it? 5
- d) Evaluate following Postfix expression: $5\ 4\ 6\ +\ *\ 4\ 9\ 3\ /\ +\ *$ 5
- e) Write an algorithm for conversion of an Expression from Infix to Postfix. 5

4. Solve any **four** sub-questions.

- a) Distinguish between Stack and Queue. 5
- b) Describe DEQUEUE in detail. 5
- c) Explain the concept of Circular Queue with example. 5
- d) Explain following terms with example: 5
 - i) Sibling
 - ii) Leaf Node
- e) Evaluate the following Post-fix expression and show stack every step in tabular form.

Given $A = 5, B = 6, C = 2, D = 12, E = 4$

$ABC + *DE/-$ 5

