

R18

Code No: 152AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech I Year II Semester Examinations, January/February - 2024

PROGRAMMING FOR PROBLEM SOLVING

(Common to EEE, CSE, IT, CSIT, ITE, CE(SE), CSE(CS), CSE(DS), CSE(N), CSD)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- | | | |
|------|--|-----|
| 1.a) | What is the role of compiler? | [2] |
| b) | What are bitwise operators? | [3] |
| c) | Declare and define a 3D array. | [2] |
| d) | What are self referential structures? | [3] |
| e) | What is text file? | [2] |
| f) | Explain about ifdef preprocessor. | [3] |
| g) | What are limitations of recursive functions? | [2] |
| h) | How do you pass pointers to function? | [3] |
| i) | Write an algorithm to find greatest of tree numbers. | [2] |
| j) | What is the basic idea of selection sort? | [3] |

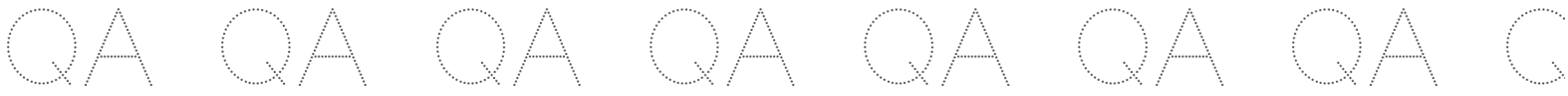
PART - B

(50 Marks)

- | | | |
|-----------|--|-------|
| 2.a) | Distinguish between syntax errors and logical errors. | |
| b) | What are command line arguments? Write a c program to illustrate them. | [3+7] |
| OR | | |
| 3.a) | Explain following terms:
i) stdin
ii) stdout
iii) stderr | |
| b) | Explain various conditional statements used in C. | [3+7] |
| 4.a) | Write a program to find whether a given string is palindrome or not. | |
| b) | Explain about enumeration data type. | [5+5] |
| OR | | |
| 5.a) | Explain creating, accessing elements and multidimensional arrays in C? | |
| b) | Distinguish between structure and an union. | [6+4] |

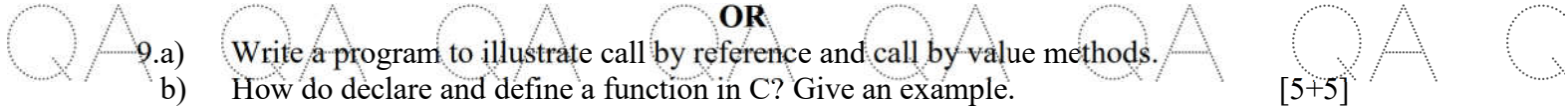
- | | | |
|----|---|------|
| 6. | List and explain various operations performs and text files used file I/O functions in C. | [10] |
|----|---|------|

OR



7. What is the purpose of fseek(), ftell() and rewind functions? Explain. [10]

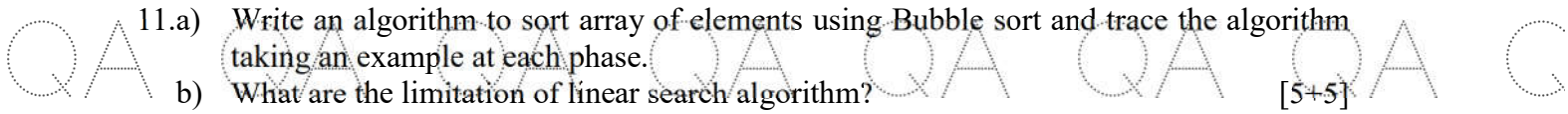
8.a) Write a recursive and non-recursive functions to print Fibonacci series. [5+5]
b) Explain malloc() and calloc() functions with example C codes.



9.a) Write a program to illustrate call by reference and call by value methods. [5+5]
b) How do declare and define a function in C? Give an example.

10.a) Write an algorithm to find roots of a quadratic equations. [5+5]
b) Explain binary search algorithm.

OR



11.a) Write an algorithm to sort array of elements using Bubble sort and trace the algorithm taking an example at each phase. [5+5]
b) What are the limitation of linear search algorithm?

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