

**Code No: 111AF****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech I Year Examinations, May/June - 2017****COMPUTER PROGRAMMING****(Common to CE, EEE, ME, ECE, CSE, EIE, IT, MCT, MMT, AE, AME, MIE, PTM,  
CEE, AGE)****Time: 3 hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.  
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**Part- A (25 Marks)**

- 1.a) Distinguish between variables and constants with example. [2]
- b) Explain the difference between break, goto and continue statements with an example. [3]
- c) What is a function? Why do we use functions in 'C' language? Give an example. [2]
- d) What is the difference between array and a pointer? Give examples for declaring single, two dimensional and multi dimensional arrays. [3]
- e) Define a pointer. What is a function pointer with an example? [2]
- f) Explain various string manipulation functions in 'C' programming. [3]
- g) Distinguish between structures and functions. [2]
- h) Explain enumerated type, Structure and Union types with examples. [3]
- i) Explain about dequeue. [2]
- j) Write a simple program for bubble sorting technique. [3]

**Part-B (50 Marks)**

- 2.a) Describe the for loop statement in 'C'.
  - b) Explain the difference between while and do-while statements with suitable examples.
  - c) Write a C program to print digits in reverse order for a given number. [3+4+3]
- OR**
- 3.a) Describe type casting with an example.
  - b) Explain the logical operators with suitable examples.
  - c) Write C program to print prime numbers in a given series of numbers.  
For example: numbers from 1 to 100. [3+3+4]
- 4.a) Distinguish between Library functions and user defined functions in 'C' and with relevant examples.
  - b) Explain the various Parameter Passing Mechanisms in 'C'-Language with examples.
  - c) Write a program to check whether given elements in an array are distinct or not? [4+3+3]
- OR**
- 5.a) Explain the various categories of user defined functions in 'C' with examples.
  - b) Differentiate actual parameters and formal parameters.
  - c) Write a program to calculate sum and multiplication of all elements in a two dimensional array. [3+3+4]

- 6.a) Explain about pointers to pointers with an example.  
b) How pointers can be used for declaring multi dimensional arrays?  
c) Write a program to find whether the given number is Armstrong number or not by using command line arguments. [3+3+4]

**OR**

- 7.a) What is character pointer? How to initialize pointer variables?  
b) Write a program to find whether the given number is palindrome or not by using command line arguments.  
c) What is dynamic memory allocation? Discuss with examples. [3+4+3]

- 8.a) Write a short notes on unions within structures.  
b) Discuss about self referential structures with examples.  
c) Write a program to print 60 student's total marks and grades. [3+3+4]

**OR**

- 9.a) What are the advantages of structures and unions? Discuss.  
b) How to access structure elements? Discuss.  
c) Write a program to print the binary number equivalent for the whole digit number. [3+3+4]

- 10.a) Explain Linear and binary search methods.  
b) Write a program using arrays to demonstrate the push and pop operations of a STACK.  
c) Explain Selection sort technique with a simple program. [3+4+3]

**OR**

- 11.a) Explain briefly about enqueue operations.  
b) Write a program to create a single linked list.  
c) Explain insertion and deletion operations on linear list. [3+3+4]

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