

Code No: R10105/R10

**Set No. 1**

**I B.Tech I Semester Supplementary Examinations, Feb/Mar 2014  
C PROGRAMMING**

( Common to Civil Engineering, Electrical & Electronics Engineering,  
Mechanical Engineering, Electronics & Communication Engineering,  
Computer Science & Engineering, Chemical Engineering, Electronics &  
Instrumentation Engineering, Bio-Medical Engineering, Information  
Technology, Electronics & Computer Engineering, Aeronautical  
Engineering, Bio-Technology, Automobile Engineering, Mining and  
Petroleum Technology)

**Time: 3 hours**

**Max Marks: 75**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. What is a Programming language? Classify and explain various Programming Languages [15]
2. (a) Write C program to check whether the given number is even or odd without using %(mod) operator.  
(b) Write C program to check whether the given number is palindrome or not (use if and go to statement). [7+8]
3. (a) How strings and characters are represented in an array?  
(b) Write a program to print array of characters. [6+9]
4. (a) Explain the drawbacks of linear arrays in detail.  
(b) Write a C program to calculate sum and average of array elements? [8+7]
5. (a) What is the advantage of using header files in 'C'?  
(b) Write short notes on auto and static storage classes [8+7]
6. (a) What is a pointer variable? How is a pointer variable different from an ordinary Variable?  
(b) Write a C program to read in an array of integers. Instead of using subscripting, however, employ an integer pointer that points to the elements currently being read in, and which is incremented each time. [7+8]
7. (a) How structure variable be defined as a member of another structure? Explain.  
(b) Write a program to store and print name, address, department and marks using structure. [8+7]
8. (a) Distinguish between the binary files and text files in C with suitable examples  
(b) Explain about formatted I/O in files. [7+8]

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1. (a) What is a flow chart? Draw and explain various symbols used in flow chart  
(b) Differentiate algorithm with flow chart. Draw flow chart for calculating simple Interest [8+7]
2. What is if statement? Give different forms if-else statements using syntax and flow chart notations (use suitable examples). [15]
3. (a) What is String? Explain about declaration and initialization of string in 'C'?  
(b) How to display string with different formats? Explain with examples. [8+7]
4. (a) Write a C program to delete an element at a specified position?  
(b) Write C program find out the second highest and smallest of given array? [8+7]
5. Write program for arranging numbers in ascending order using recursion. [15]
6. What is Dynamic Memory Allocation? Mention the advantages of Memory Allocation and discuss its functions. [15]
7. (a) What is the use of type def in C? Explain with a suitable example  
(b) Explain the advantage of bit fields in C with suitable example [7+8]
8. (a) Explain about file i/o operations in C.  
(b) Write a 'C' program to append the contents of one file to another. [8+7]

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**Time: 3 hours**

**Max Marks: 75**

**Answer any FIVE Questions  
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1. What are assignment, arithmetic, relational and logical operations in C?  
Give examples. [15]
2. (a) Write a C program to find whether the given number is Armstrong number  
or not. (Armstrong number is a number such that the sum of digits raised to  
the third power is equal to the number itself. Ex.  $371=3^3+7^3+1^3=371$ )  
(b) Write a C program to print squares of odd numbers up to given integer. [8+7]
3. (a) Write briefly about the nested for loop statement. Write a program to generate  
multiplication table.  
(b) Explain about event and counter controlled loops. [9+6]
4. (a) Write a C program to display names of days of week using single-dimensional  
array.  
(b) Write C program to insert an element in an array at a specified position?  
[8+7]
5. (a) Write a C program to send and receive value from the user defined function.  
(b) What are the standard header files used in 'C'. Explain their functions. [7+8]
6. (a) Write short notes on Pointer arithmetic.  
(b) How to use pointers in expression. Explain. [7+8]
7. Write a program using a pointer to structure illustrating the initialization of the  
members in the structure, using different techniques to avoid floating point error  
problem. [15]
8. Write a program that reads a file and creates a new file with the same data, except  
reverse the case on the second file. Everywhere uppercase letters appear in the  
first file, write lower-case letters to the new file, and everywhere lowercase letters  
appear in the first file, and write uppercase letters to the new file. [15]

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**Time: 3 hours**

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1. (a) What is the need of escape sequence? Write a sample program using any four escape sequence.
- (b) What are the different character sets available in 'C'? [8+7]
2. (a) Write a C program to check whether number is positive or negative
- (b) Explain about multi-way selection in 'C' with a sample program. [8+7]
3. (a) Explain about standard String Functions with examples?
- (b) Write C program convert the uppercase string to lowercase? Without using string function. [8+7]
4. Write a program to find rank of a matrix. [15]
5. What is a Function? What are the different types of functions? Explain function with no argument and no return type with an example. [15]
6. (a) Explain the concept of passing strings to functions as dynamic arrays with a program.
- (b) Describe about **pointers to pointers** in 'C'. [15]
7. (a) How to declare a **union** in C explain with an example
- (b) How to access the elements of a **union** explain with an example [7+8]
8. (a) Write a C program to count the number of characters in a file.
- (b) Write a C program to count the number of words in a file. [8+7]

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