

**Subject Code: R13105/R13**

**Set No - 1**

**I B. Tech I Semester Regular/Supple. Examinations Nov./Dec. - 2015**

**COMPUTER PROGRAMMING**

**(Common to CE, ME, CSE, PCE, IT, Chem. E, Aero E, AME, Min E, PE, Metal E, Textile Engg.)**

**Time: 3 hours**

**Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**  
Answering the question in **Part-A** is Compulsory,  
Three Questions should be answered from **Part-B**

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**PART-A**

1. (a) C is a structured language? Justify the statement.
- (b) Differentiate between while-do and do while.
- (c) What is the importance of #include? explain
- (d) What is pointer? Is \*p is similar to &p? explain.
- (e) Discuss about the masks.
- (f) Differentiate between text file and binary file.

[3+4+3+4+4+4]

**PART- B**

2. (a) Is there any difference between the pre decrement and post decrement operators?  
Explain.
- (b) Write a program for performing the arithmetic calculation. [8+8]
3. (a) Explain about the switch statement? What is the importance of the break and continue?  
Give examples.
- (b) Write a program to sum the digits in a given number. [8+8]
4. Explain about different storage classes with examples. [16]
5. (a) How to initialize and access pointer variables? Discuss.
- (b) Write a program to swap two numbers using pass by address. [8+8]
6. (a) How to pass structure variable to functions? Explain with example.
- (b) Write a program to add two complex numbers. [8+8]
7. (a) Explain about the functions for reading and writing data from a file.
- (b) Write a program to print command line arguments on screen. [8+8]

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**PART-A**

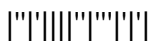
1. (a) C is a Middle-Level Language. Justify the statement.
- (b) How to access array elements? Explain.
- (c) What is the importance of auto and register?
- (d) Differentiate between direct and indirect pointers with examples.
- (e) Explain about shift keyword.
- (f) Discuss about the formatted I/O.

[3+4+4+4+3+4]

**PART- B**

2. (a) What is flow chart? How it is useful in writing the programs? Explain about different symbols in flow chart?
- (b) Draw the flow chart for the Armstrong number and write the program. [6+10]
3. (a) Explain about different iterative statements with examples.
- (b) Write a program to calculate the ncr value. [8+8]
4. (a) Explain about the static keyword.
- (b) Discuss about user defined functions.
- (c) Write a recursion program for the towers of hanoi [4+6+6]
5. (a) How pointers are used to declare single and multi dimension arrays with examples.
- (b) Write a program for printing the command line arguments. [8+8]
6. (a) Is it possible to nest the structures? Explain with example.
- (b) Write a program for reversing a linked list. [8+8]
7. What is file? Explain about different file operations with example. [16]

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**PART-A**

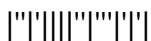
1. (a) What is compilation? Is it different from the compiler?
- (b) What is the importance of break in switch statement? If break is not given what happens? Explain with example.
- (c) What is the importance of #define? explain
- (d) What is pointer? Is \*p is similar to \*\*p? explain.
- (e) Discuss about bit fields.
- (f) What are different types of files? Explain.

[3+4+3+4+4+4]

**PART- B**

2. (a) What is algorithm? What are the criteria's for an algorithm?
- (b) Explain about relational operators.
- (c) Write an algorithm for sum of digits in a given number. [5+5+6]
3. (a) Explain about the selection statements with examples.
- (b) Write a program for sum of series. [8+8]
4. (a) What is recursion? How it is different from the normal function.
- (b) What are the importance of the extern and register storage classes.
- (c) Write a recursion program for the factorial function [4+6+6]
5. (a) How variables are passed to functions using pointers? Discuss.
- (b) Write a program for matrix multiplication. [8+8]
6. Explain about different bit wise operators with examples. [16]
7. (a) Explain about the fprintf and fscanf functions with examples.
- (b) Write a program to copy one file contents into another file. [8+8]

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**PART-A**

1. (a) What is interpreter? How to compile a C program?
- (b) Discuss about conditional operator.
- (c) What is the importance of #typedef? explain
- (d) Discuss about character pointer.
- (e) Explain the importance of the bit-wise operators.
- (f) Explain about the functions for reading data from a file.

[3+4+3+4+4+4]

**PART- B**

2. (a) Explain about the program development steps.
- (b) Write an algorithm for generating Fibonacci series. [8+8]
3. (a) How strings are represented using strings? Explain about different string manipulations.
- (b) Write a program to calculate the following series:  
 $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \dots$  [8+8]
4. Explain about different parameter passing algorithms with examples. [16]
5. (a) Explain about the functions which are used for allocating memory dynamically.
- (b) Write a program for calculating the sum of values in a given array using pointers. [8+8]
6. (a) What is meant by self-referential structures? Give examples.
- (b) Write a program for creating a linked list. [8+8]
7. (a) Explain about the fopen and fclose functions with examples.
- (b) Write a program to merge two files into single file. [8+8]

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