

Subject Code: R13105/R13

Set No - 1

I B. Tech I Semester Regular/Supplementary Examinations Jan./Feb. - 2015
COMPUTER PROGRAMMING

(Common to CE, ME, CSE, PCE, IT, Chem E, Aero E, AME, Min E, PE, & Metal E)

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**

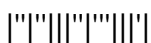
PART-A

- 1.(i) C is a structured programming language. Explain.
- (ii) Discuss about nested if with example.
- (iii) What are header files? Explain.
- (iv) Differentiate between pointer variable and normal variable.
- (v) Explain about bit fields.
- (vi) Write a short notes on files.

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

PART-B

- 2.(a) List and Explain different types of operators in C.
- (b) Write a program to find primes in the given range. [8+8]
- 3.(a) Explain any two iterative statements with examples.
- (b) Write a program for calculating the length of a string without using string handling functions. [6+10]
- 4.(a) What is the difference between recursive and non-recursive functions? Give their merits and demerits.
- (b) Write a recursive function for finding the factorial value of a given number. [8+8]
- 5.(a) How pointers can be used for declaring of multi dimensional arrays? Discuss.
- (b) Write a program to multiply two matrices using pointer. [8+8]
- 6.(a) Write a short notes on unions within structures.
- (b) Write a program to create a linked list. [8+8]
- 7.(a) Discuss about unformatted I/O with suitable examples.
- (b) Write a program to print file contents in reverse order. [8+8]



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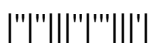
PART-A

- 1.(i) What is pseudo code? Explain.
- (ii) Differentiate between break and exit.
- (iii) Explain about block structure.
- (iv) What is indirect pointer? Discuss.
- (v) What is union? Explain.
- (vi) Write a program to read a text file and to print the count the no of tab characters in a given file.

[2+4+4+4+4+4]

PART-B

- 2.(a) What is a datatype? Discuss about the range for different data types.
- (b) Write a program to find the sum of the series: $1+2^2+3^2+\dots$ [8+8]
- 3.(a) Differentiate between iteration and branching.
- (b) Write a program to print the day of the week using switch and else-if and also give the comparison between using of switch and else-if. [8+8]
- 4.(a) What is user defined functions? Discuss with an example.
- (b) Write a recursive function to find GCD value. [8+8]
- 5.(a) What is copy by value and copy by address? Discuss.
- (b) Write a program to illustrate passing by address example. [8+8]
- 6.(a) Explain about the bitwise operators with examples.
- (b) Write a program find the one's complement for the given number. [8+8]
- 7.(a) How to read from and write to a file? Explain with examples.
- (b) Write a program to find the n^{th} occurrence of a given word in a given file. [8+8]



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PART-A

- 1.(i) Explain about enum data type.
 - (ii) Differentiate between do-while and for loop.
 - (iii) Explain about C Preprocessor with an example.
 - (iv) What are actual and former parameters.
 - (v) What is left shift? How is it different from right shift?
 - (vi) Write a program to read a text file and to count the no of uppercase letters in a given file.
- [4+4+3+4+3+4]

PART-B

- 2.(a) What is algorithm? Write an algorithm and flowchart for the finding the given no is Armstrong no or not?
 - (b) Write a C program to calculate the total of the series: $1+(1/2^2)+(1/3^2)+\dots$
- [8+8]
- 3.(a) Differentiate between string and array? What are the applications of an array? Discuss.
 - (b) Write a program to find the 4^{3^2} value.
- [8+8]
- 4.(a) Explain about call by value and call by reference mechanisms.
 - (b) Write a non recursive program for calculating the factorial of a number using functions.
- [8+8]
- 5.(a) What is the importance of * and **? Explain about the initialization and declaration of pointer variables.
 - (b) Write a program for illustrating the dynamic memory allocation.
- [8+8]
- 6.(a) Explain about Structures and functions.
 - (b) Write a program to illustrate structures and functions.
- [8+8]
- 7.(a) What is file? Explain about the Input and output functions of files.
 - (b) Write a program to illustrate file operations.
- [8+8]

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PART-A

- 1.(i) How to execute c program in linux? Explain with example.
- (ii) Differentiate between do-while and while-do.
- (iii) Differentiate between 1D and 2D arrays.
- (iv) Explain about character pointer.
- (v) Discuss about rotation.
- (vi) What is binary file? Discuss

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

PART- B

- 2.(a) Differentiate between hardware and software.
 - (b) Explain about the history of the C programming language.
 - (c) Write a C program that illustrates the unary operators.
- 3.(a) What is an array? What are the disadvantages of an array? Discuss.
 - (b) Write a program to print the following matrix on the screen.

[4+6+6]

```
a b c d e
f g h i j
k l m n o
p q r s t
```

[8+8]

- 4.(a) Explain about different storage classes with examples along with scope rules.
- (b) Write a program to print Pascal triangle using functions.

[8+8]

- 5.(a) Differentiate between direct and indirect pointers with examples.
- (b) Write a program to illustrate pointers.

[8+8]

- 6.(a) What is union? How to declare and initialize unions? Discuss.
- (b) Write a program to find two's complement for the given no.

[8+8]

- 7.(a) What are different types of operating modes of files? Explain with an example.
- (b) Write a program to copy one file contents into another file in reverse order.

[6+10]

