Subject Code: R10105/R10

Set No - 1

I B.Tech I Semester Supplementary Examinations Nov./Dec. - 2015
C - PROGRAMMING
(Common to All Branches)

Time: 3 hours   **Max. Marks: 75**

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

1. (a) What is algorithm? Explain how algorithm helps for writing a program
   (b) Explain the structure of C program.
   (c) Explain relational and logical operators with example.

[3+4+8]

2. (a) Explain the switch statement with example
   (b) A cloth show room has announced the following seasonal discounts on purchase of items:

Purchase amount	Discount	
	Mill cloth	Handloom items
0-100	-	5%
101-200	5%	7.5%
201-300	10.0%	15.0%
Above 300	10.0%	15.0%

   Write a program using switch and if statements to compute the net amount to be paid by a customer

[7+8]

3. (a) Write a C program to reverse a string without using string functions
   (b) Explain the do-while loop with example

[8+7]

4. (a) What is an array? How array elements will be initialized in 1D and 2D arrays.
   (b) Write a program to print transpose of a given matrix

[7+8]

5. (a) What is a function? Explain their advantages
   (b) Write a program to pass 1-D array to a function with example

[6+9]

6. (a) Explain call by reference and call by value with example
   (b) Write a program using pointers to read in an array of integers and print its elements in reverse order.

[8+7]

7. Explain the following:
   (a) Nested structure
   (b) Array of structure
   (c) Union

[5+5+5]

8. (a) What is a file? Distinguish between text mode and binary mode operation of a file.
   (b) Write a C program to open-existing file and add information at the end of the file. Display the contents of the file before and after appending.

[7+8]

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Set No - 2

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C - PROGRAMMING
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Time: 3 hours   **Max. Marks: 75**

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

1. (a) What is a flow chart? Give a flow chart for addition of two numbers.
   (b) Explain the primitive data types and sizes defined in C
   (c) Write a program to calculate the average of a set of N numbers

                                                                  [5+5+5]

2. (a) List the decision making statements in C. Explain the nested if – else with example
   (b) Write a program to find the count and sum of all integers greater than 100 and less than 200 and which are divisible by 7

                                                                  [8+7]

3. (a) Explain strcmp () and strcpy () string handling functions with example
   (b) What is loop? Explain while loop with suitable example.

                                                                  [7+8]

4. (a) Define and initialize two dimensional arrays.
   (b) Given are two one-dimensional arrays A and B where are sorted in ascending order. Write a program to merge them into a single sorted array C that contemns every class from arrays A and B, the ascending order.

                                                                  [6+9]

5. (a) Explain different storage classes with example
   (b) What is recursion? Write a program for towers of Hanoi using recursion.

                                                                  [8+7]

6. What is Dynamic Memory allocation? Explain all dynamic memory management functions with examples

                                                                  [15]

7. (a) What is a structure? List differences between structure and unions
   (b) Define a structure called cricket that will describe the following information.
      Player Name
      Team Name
      Batting average
      Using cricket, declare an array player with 50 elements and write a program to read the information about all the 50 players and print a team wise list containing names of players with their batting order.

                                                                  [8+7]

8. (a) What are bit field? What are its advantages? What is its syntax?
   (b) Distinguish between the following
      (i)   getc and getchar
      (ii) printf and fprintf
      (iii) feof and ferror

                                                                  [6+9]

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Set No - 3

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Time: 3 hours   **Max. Marks: 75**

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

1. (a) What are constants? List and explain constants in C.
   (b) Describe the four basic data types. How could we extend the range of values they represent?
   (c) Write a program to read the price of an item in decimal form (like 15.95) and print the output in paise (like 1595 paise)

   [5+5+5]

2. (a) Explain else-if ladder with example
   (b) Write a C program with the else-if ladder for the following data

Average Marks	Grade
80 to 100	Excellent
60 to 79	First division
50 to 59	Second division
40 to 49	Third division
0 to 39	Fail

   [7+8]

3. (a) Write a c program to append a string to the end of other string without using string manipulation function.
   (b) What is a for loop? Write a c program that computes and prints factorial of an integer.

   [8+7]

4. (a) What is a character array? Define and initialize two dimensional character arrays with example
   (b) Write a program to multiply two matrices (Note: Before multiply program should check the validity)

   [7+8]

5. What is a user defined function? Explain different user defined function with example

   [15]

6. (a) What is a pointer? Describe the advantages and disadvantages of pointer.
   (b) Explain the pointer arithmetic with example

   [7+8]

7. (a) Explain the meaning and purpose of the following
       (i) sizeof   (ii) struct   (iii) typedef
   (b) Explain array of structures and structure pointers with examples

   [7+8]

8. Write a C program to read a text file and to connect
   (a) Number of character
   (b) Number of words
   (c) Number of sentences and write in an output function

   [5+5+5]

Subject Code: R10105/R10

Set No - 4

I B.Tech I Semester Supplementary Examinations Nov./Dec. - 2015

C - PROGRAMMING

(Common to All Branches)

Time: 3 hours   **Max. Marks: 75**

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

1. (a) Explain different computer languages in detail
   (b) List and explain different arithmetic operators
   (c) What is precedence and order of evaluation? Explain

   [5+5+5]

2. (a) List and explain usage of logical operators in C with example
   (b) Explain the conditional operator with example
   (c) The total distance travelled by a vehicle in t seconds is given by
      distance = ut + (at^2)/2
      Where u is the initial velocity (meters per second), a is the acceleration (meters per second^2) ,.write a program to evaluate the distance travelled at regular intervals of time, given the values of u and a. *0*The program should provide the flexibility to the user to select his own time intervals and repeat the calculations for different values of u and a

      [5+4+6]

3. (a) What is a string? Explain strcat () and strlen () functions with example
   (b) Write a program to read a line of text containing a series of words from keyboard and display the count of words and white spaces.

      [8+7]

4. (a) Explain the concept of declaring, accessing and storing elements in a 1-dimensional array?
   (b) Write a program to add two matrixes. (Note: Before performing additions, program should check the validity condition)

      [8+7]

5. (a) Explain the following storage classes (i) extren (ii) auto (iii) register (iv) scope
   (b) Explain pre-processor directives in C in detail.

      [8+7]

6. (a) What is a pointer? How is a pointer initialized? Given an example.
   (b) Write a program using pointers to compute the sum of all elements stored in an array.

      [7+8]

7. (a) What is structure? Explain different structure declarations with example.
   (b) Write a C program to complete the monthly pay of 100 employees using each employee name and basic pay. The DA is computed as 2.5% of the basic pay. Gross salary (Basic-pay + DA). Present the employees name and gross salary.

      [7+8]

8. (a) Explain various file operations in C.
   (b) Write a program to read an input file and count the number of character in the input file.

      [8+7]