Structured Programming Approach - Dec 2016
First Year Engineering (Semester 2)

TOTAL MARKS: 80
TOTAL TIME: 3 HOURS

(1) Question 1 is compulsory.
*(2) Attempt any **three** from the remaining questions.*
*(3) **Assume data** if required.*
(4) Figures to the right indicate full marks.

1(a) Explain the significance of pointers in C (4 marks)

1(b) What is an algorithm? How do you develop an algorithm? (4 marks)

1(c) Explain the following statement with example:

i) continue

ii) break (4 marks)

1(d) Explain any two functions of string.h (4 marks)

1(e) Explain the following functions-

floor(), ceil(), trunc(), squrt() (4 marks)

2(a) Write a program to display prime numbers between 1 to 1000 (5 marks)

2(b) What is recursion? Write a program to compute fibonacci series using recursion. (5 marks)

2(c) Write a C program to add two distances(fcet-inch system) entered by user, using structures (10 marks)

3(a) Write a C program to check if the given number is a palindrome or not (6 marks)

3(b) Write a C program to print following E

E D

E D C

E D C B

E D C B A (6 marks)

3(c) Write a program to calculate sum of digits of a given n digit number using recursion (8 marks)

4(a) Write a program to sort given 10 numbers in ascending order (10 marks)

4(b) Write a program to calculate the sum of following series:

(1!/1)

+ (2!\2)

+ (3!/3)

+ (4!/4)

+ (5!/5) + ...(n!/n) (10 marks)

5(a) Write a program to compure matrix multiplications and transpose of a matrix   (10 marks)

5(b) Write a program to count number of vowels and consonants in a given sentence   (10 marks)

6(a) Explain the difference between call by value and call by reference with example   (8 marks)

6(b) Explain different storage classes   (8 marks)

6(c) What is a file? Explain the following file handling function in c-fopen(),

fread(), fwrite()   (4 marks)