Mid Term Examination

B. Tech – Semester: II   February, 2019
Paper. Code: ETCS 108   Subject: Introduction to Programming
Time: 1 ½ Hour   Maximum Marks: 30

Note: Question No. 1 is compulsory. Attempt any two more questions from the rest.

Q 1.   Answer the following: [2 x 5 = 10]

a)   Differentiate between a keyword and an identifier with examples. List the criteria of declaring an identifier.

b)   Write the steps involved from sample.c to sample.exe.

c)   What would be appropriate data type to store the following:-
   i)   Distance among the galaxies   ii) Factorial of a 2-digit number
   iii) an exclamation mark (!)   iv) average age of student in your class.

d)   Define precedence and associativity of operators with examples.

e)   What is a header file? List any three header files with their purpose.

Q 2.   a)   Describe various operators with the help of suitable examples.   [5]

b)   Write the output of the following statements. All are integer values.   [1 x 5 = 5].
   i)   i = 8 ; j =7;   j + = i * i;   printf("%d", j);
   ii)   i = j = k =1;   printf("%d", (j+2) % k / (i + 1));
   iii)   i=9; j=14; k=6;   ((i % 4) * (5+ (j – 2) / (k+3))) = ?
   iv)   a = 5 < = 8 && 6 != 5;   printf("%d", a);
   v)   - 10 % - 3 = ?

Q 3.   a)   What is the purpose of loops in programming? Differentiate between various loops with the help of examples.   [5]

b)   Write a program to find numbers and their sum between 100 to 1000 which are divisible by 7.   [5]

Q 4.   a)   What is a switch statement? List its disadvantages. Write a program using switch statement.   [5]

b)   Define break and continue statements with example.   [3]

c)   What is the purpose of getchar() and putchar()?   [2]

END TERM EXAMINATION

SECOND SEMESTER [B.TECH.] MAY-JUNE-2014

Paper Code: ETCS108

Subject: Introduction to Programming
(Batch: 2004-2012)

Time : 3 Hours

Maximum Marks :75

Note: Attempt any five questions including Q.no.1 which is compulsory. Select one question from each unit.

Q1 (a) Perform subtraction using 2"s and 1"s Complement method. You have to find M-N, M=101000100 and N=00110010.
(b) Explain the design flow to solve the problem.
(c) What is the difference between the Flow chart and Data flow Diagram?
(d) What is the difference between ASCII and EBCDIC codes?
(e) What is an Operator? Discuss different types of operator included in C language with an example for each. **(5x5=25)**

UNIT-I

Q2 Define Algorithm. Write the characteristic features and format of algorithm. Discuss the technique used to design an algorithm. **(12.5)**

Q3 Define Flowchart. Write the advantage and symbols used in flowchart. Draw the Flowchart to find the smallest of 3 numbers. **(12.5)**

UNIT-II

Q4 What do you mean by the terms Precedence and Associatively? Write a program to find the roots of a Quadratic Equation? Find the roots for the cases when determinant D>0, D=0 and D<0. **(12.5)**

Q5 (a) What is the difference between Formatted Console I/O Function and Unformatted Console I/O Functions? **(6)**
(b) How many times will a "for loop" be executed? Compare with the "While Loop" and the "Do-while Loop". **(6.5)**

Unit-III

Q6 (a) Describe Entry Controlled Loop and Exist Controlled Loop in C programs. **(6)**
(b) Write a program in C, which can print the following:- **(6.5)**

```
                1
            1   2   3
        1   2   3   2   1
    1   2   3   4   3   2   1
```

Q7 (a) Mention the return types in function. By default a function returns which type of a value? Give an example. **(6)**
(b) Describe Format Argument, Actual Argument, Function Declaration and Function Definition. **(6.5)**

UNIT-IV

Q8 Explain the following:-
(a) Static Memory Allocation and Dynamic Memory Allocation. **(3)**
(b) Call by Value and Call by Reference. **(3)**
(c) Comparison between an array of char and a pointer to char. **(3.5)**
(d) Structure and union. **(3)**

Q9 (a) Differentiate between a Pointer to Constant and a Constant Pointer. **(4)**
(b) Write C program to sort a list of strings in alphabetical order. **(8.5)**

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END TERM EXAMINATION

SECOND SEMESTER [B.TECH] MAY - JUNE 2019

Paper Code: ETCS-108   **Subject: Introduction to Programming**
                                   (Batch 2013 Onwards)

Time: 3 Hours   **Maximum Marks: 75**

Note: Attempt any five questions including Q no.1 which is compulsory.

Q1 Differentiate between the following **(any five)**:-   **(5x5=25)**
(a) Ternary and Bitwise operator.
(b) External and Internal documentation.
(c) Primitive and Non Primitive data types.
(d) Loader and Linker
(e) Declaration and Definition of a variable.
(f) Auto, Register, static and Extern variables.

Q2 (a) Explain how strings can be stored using a multidimensional arrays? **(5)**
(b) Differentiate between break and continue. Write a C program to print the pattern.   **(7.5)**

```
*
***
*****
*******
```

Q3 (a) Explain actual and formal parameters with example.   **(5)**
(b) Distinguish between an array of structures and an array within a structure.   **(5)**
(c) What is dangling pointer? What precaution should be taken to avoid it?   **(2.5)**

Q4 (a) Explain argument passing using pointers.   **(4)**
(b) Explain preprocessor directives with examples.   **(3)**
(c) What is self referential structure?   **(3)**
(d) Define token with example.   **(2.5)**

Q5 (a) Write a C program to compare contents of two files.   **(6)**
(b) Differentiate between text mode and binary mode in file handling.   **(3)**
(c) Differentiate between append and write mode.   **(3.5)**

Q6 (a) Explain storage classes available in C.   **(6.5)**
(b) Draw a flow chart to count the number vowels in a string of characters.   **(6)**

Q7 (a) Distinguish between user defined function and build-in functions. **(4.5)**
(b) Write a C program that dynamically allocates an integer, initializes the integer with a value, increment it, and then print the incremented value.   **(4)**
(c) Differentiate between sequential and random access files.   **(4)**

Q8 (a) What is type casting? Explain with example.   **(6)**
(b) Explain nested looping with example.   **(3.5)**
(c) Write a C program to search an element in an array.   **(3)**

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First Term Examination
Second Semester(B.Tech)

Paper Code :ETCS- 108   Feb 2018

Paper Name :Introduction to Programming   Time: 1.30Hrs

Max. Marks :30

Note: Q. No.1 is Compulsory and Attempt **any two** questions out of the remaining questions.

Q.1 (a) Explain the difference between an identifier and a keyword.

(b) What do you mean by the term precedence and Associativity?

(c) What is a characteristic of an Algorithm?

(d) What purpose is served by break statement & where it is used?

(e) Why it is necessary to use '&' sign before a variable name in scanf function?

                                                  (2+2+2+2+2=10)

Q.2 Write an algorithm to generate Fibonacci series and draw the flowchart for the same.

                                                  (5+5=10)

Q.3 What is the output of the following program?   (3+3+4=10)

(a) void main()
{
inti, j=10;
For(; i=j; j-=2)
Printf("%d", j);
}
	(b)main()
	{
	int a=10;
	A=a++*a--;
	Printf("%d\n",a);
	}
		(c) void main()
		{int a =8654;
		Printf("%d\n",a);
		Printf("%3d\n",a);
		Printf("%6d\n",a);
		Printf("%5d\n",a);
		Printf("%04d\n",a);
		}

Q. 4 (a)Write a program to accept any six digit number and print the sum of all even digits of that number and multiplication of odd digits.

(b) Draw the pattern

```
1
2   3
4   5   6
7   8   9   10
11 12   13  14  15
```

                                                                (5+5)

END TERM EXAMINATION

SECOND SEMESTER [B.TECH] MAY- JUNE 2018

Paper Code: ETCS-108	**Subject: Introduction to Programming**
Time: 3 Hours (Batch: 2013 onwards)	**Maximum Marks: 75**

Note: Attempt any five questions including Q.No1 which is compulsory.

(5x5=25)

Q1　Answer the following:-
- (a) Define break statement. How does continue statement differ from break statement?
- (b) What is meant by function? List its characteristics and name and five in-built functions with their purpose.
- (c) Describe the various phases of compilations. Is there any relation between compilation and pre processor directives? Justify your answer.
- (d) Differentiate between array and structure. Define an array of structure with an example.
- (e) Define associativity of operators. Write the output of the following statements. All are integer values.
  - (i) i= 3; j =7　　　　i* 2*j' printf("%d" , i)'
  - (ii) i=j = k = 3;　　　printf("%d" , (i+5)% (j+2)/k);

Q2　(a) Define an algorithm and list its characteristics. Write an algorithm for measuring 4 liter of water if only 5 liter and 3 liter jugs are available. **(6)**
　　(b) What is logical error? How does logical error differ from run time error and syntax error? Support your answer with examples. **(6.5)**

Q3　(a) Describe storages classes in C with suitable examples. **(6)**
　　(b) Describe various operators used in C language. Which operator has the highest precedence? **(6.5)**

Q4　(a) Using the for loop, write a program to print the sum of first n odd numbers. **(4)**
　　(b) Using the do-while loop, write a program that prints the factorial of n. **(4)**
　　(c) Using the while statement, write a program that reverses the digits n. **(4.5)**

Q5　(a) Describe the methods of parameter passing with the help of suitable examples. **(6)**
　　(b) What do you mean by recursion? Write a program using a recursive function. **(6.5)**

Q6　(a) What are pointers? Why are they needed? Explain with an example. **(6)**
　　(b) Give two matrices A[ ] $_{m \times r}$ and A [ ] $_{r \times n}$. Write a program to calculate product of two matrices such that: **(6.5)**
　　　C [ ] $_{m \times n}$ = A [ ] $_{m \times r}$ *B [ ] $_{r \times n}$

Q7　(a) Declare a structure for employee' record. Also determine size of this structure. **(6)**
　　(b) Define a random access file. What are the various operations commonly used in file handling? Discuss with examples. **(6.5)**

Q8　Write short notes on the following with the help of examples:-
- (a) Argument passing using pointers **(4)**
- (b) Array of pointer **(4)**
- (c) Call by reference **(4.5)**

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