Subject Code: R13105/R13 **Set No - 1**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

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) What is recursive function? What is drawback of using recursion?
(ii) Write program to show the usefulness of getch() and getche().
(iii) How are scope rules associated with variables?
(iv) What is pointer to constant and constant pointer? Are they both same or different.
(v) Define an array of structure for reading and printing a character, integer and float value.
(vi) Write a program to read a text file and count the number of characters in the text file.

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

PART- B

2.(a) What is structured programming? What are the advantages and disadvantages of structured programming?
(b) Write a C program that illustrates the local static variables and functions.

[8+8]

3.(a) What is the purpose of the ***do while*** and ***while*** loops? Discuss about their usage. Distinguish between them.
(b) What is an array of pointers and pointers to an array? Summarize the difference between both of them.

[8+8]

4.(a) What is an enumerated data type? How is initialization of members to **enum** data type done?
(b) Describe different file opening modes used with the fopen() function.

[8+8]

5.(a) Explain briefly the features of an algorithm, flowchart and discuss about Program development steps?
(b) Explain nested. if else and else if ladder with syntax and give examples respectively?

[8+8]

6.(a) Describe categories of functions based on arguments and return type and what are different parameter passing methods in functions ?
(b) Give the implementation of multidimensional arrays using pointers. Let the user specify the number of rows and columns for the array for allocating memory dynamically.

[8+8]

7.(a) Write a C program that defines a structure student with members name, average, address and displays the category of student according to the following criteria

average>=70------Distinction
60<=average<70-------First Class
50<=average<60-------Second Class
40<=average<50--------Third Class
average<40--------Fail

(b) What is a file and what are different type of files and explain?

[8+8]

Subject Code: R13105/R13 **Set No - 2**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

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) What is the difference between %f, %g and %e format specifiers when used to display a real value defined as ***float x=12.34***?

(ii) Initialize an array of integers. Write a program for printing numbers that are greater than the average of the numbers present in the array.

(iii) Can main() function be called recursively? If so quote an example.

(iv) What is the difference between *p++ and p++?

(v) Define a structure to store the following information of a student-
Roll Number, Name, Grade.
Demonstrate the named initialization of the structure by writing a program which prints the name and grade of a student given the roll number as input.

(vi) Write a program to compare two files and print out the lines where they differ.

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

PART- B

2.(a) Describe how the rule of type promotion is followed in a typical expression containing mixed types.

(b) Illustrate the declaration, initialization of a pointer to a function and calling a function using a function pointer.

[8+8]

3.(a) What is the usage of fget( ), fputs( ) and gets( ), puts( ) functions.

(b) How is structure passed to a function? Explain.

[8+8]

4. Explain the following terms
(a) User defined functions
(b) Predefined functions
(c) Header Files
(d) C pre-processor

[4+4+4+4]

5.(a) What is a self referential structure and explain with an example ?What is the advantage of using a self referential structure ?

(b) Explain various operators in C Programming?

[8+8]

6. Write a C program that performs binary search on sorted array of elements and trace the program with an example?

[16]

7.(a) What is a pointer,pointer to a pointer and explain the advantages of using pointers ?

(b) Explain fseek(), ftell(), rewind(), fclose() file functions.

[8+8]

Subject Code: R13105/R13 **Set No - 3**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

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) How can the following code be rewritten using conditional operator in C?
```
int m=1, n=2, min;
if (m<n) min=m;
else min=n;
```
(ii) Can arrays be passed to functions? Justify your answer.

(iii) A number divisible by any number in the range of 2 and $\frac{n}{2}$ then it is considered to be a factor of the number. If the number is prime then the factor is a prime factor. Write a program to print prime factors of a given number.

(iv) Define an integer pointer array of 10 numbers. Initialize them to any integer values from the key board. Find the sum and average of these 10 integers.

(v) Write a program using enumerated types which when given today's date will print out tomorrow's date in the form 31st January.

(vi) Write a program to read a line at a time from a file. Use fgets() function.

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

PART- B

2.(a) Draw the flowchart for calculating the area of a equilateral triangle. Area of equilateral triangle is computed by formula A= $\frac{\sqrt{3}}{4}a^2$, where 'a' is the length of the sides of the triangle.

(b) Demonstrate the usage of sprintf() and puts() library functions with the help of a C program. [8+8]

3.(a) Give the recursive and iterative functions to find the factorial of a number.

(b) How is dynamic memory allocation done in C? What library functions are provided by C for dynamic memory allocation? [8+8]

4.(a) What is a enumerated data type? How is the initialization of members to **enum** data type done?

(b) Explain about bit-fields in 'C' [8+8]

5.(a) A Fibonacci sequence is defined as follows:
1, 1, 2, 3, 5, 8, ….
Write a program for computing the Fibonacci number sequence using recursion

(b) Write a C program that performs all arithmetic operations based on user choice using switch case? [8+8]

6.(a) What are iterative statements and explain the difference between while and do while loops?

(b) Write a C program that swaps two numbers using pointers? [8+8]

7. Describe the following (a) putc() (b) getc() (c) putw() (d) getw() [4+4+4+4]

Subject Code: R13105/R13 **Set No - 4**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

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) Write an algorithm for computing the sum of the series $1+x+\frac{x^2}{2!}+\frac{x^3}{3!}+\frac{x^4}{4!}+\ldots$ upto N terms.

(ii) Why do array subscripts start at 0 instead of 1?

(iii) Compare recursion with iteration.

(iv) What is wrong with the following code segment?

```
int *p;
*p=10;
```

(v) Write a program using structures and functions to compare two dates.

(vi) What happens if anyone doesn't close a file?

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

PART- B

2.(a) What are the advantages and limitations of using flow charts?

(b) What is a multidimensional array? How is it initialized? How are the elements of multidimensional arrays stored? Comment on the accessing of the elements.

[6+10]

3.(a) Describe the Towers of Hanoi problem. Write a function to solve the Towers of Hanoi problem with 3 disks.

(b) Write a program that calculates sum of array elements where array elements can be accessed using a pointer to an array?

[8+8]

4.(a) How is a structure variable different from an array with respect to its use as a function parameter?

(b) Write a C program that calculates GCD of two numbers using a recursive function?

[8+8]

5.(a) Write an algorithm and C program to calculate roots of a quadratic equation and explain how to compile and the run above program?

(b) Write a C program that calculates the product of two matrices and displays it?

[8+8]

6.(a) Explain character pointer and pointer to a function with examples?

(b) Write a C program that reads n numbers and writes even numbers into one file EVEN.txt and odd number into another file ODD.txt?

[8+8]

7.(a) Write a C program that copies the content of one file into another file?

(b) Write a C program that defines a structure-student with members-name, average, address where address is inner structure that contains dno, street, city as members, read the student details and display the output -student name and his city as follows:

Student name	city
X	zzz
Y	www

[8+8]

Subject Code: R13108/R13 **Set No - 1**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

PROFESSIONAL ETHICS & HUMAN VALUES

(Common to ECE, EEE, EIE, Bio-Tech, EComE, Agri.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) Write short note on the concept of safety.
(ii) Write about human values.
(iii) Give an account of History of Ethics.
(iv) Explain the meaning of moral leadership.
(v) What are the limitations of code of ethics?
(vi) What is meant by loyalty and collegiality?
(vii) What are the social responsibilities of engineers?

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

PART-B

2. What is the concept of Safety? Explain the Types of Risks.

[16]

3. Write about classification of Human Values.

[16]

4. What do you understand by 'Environmental Ethics'?

[16]

5. Write a short note on
(a) Professional Ethics
(b) Types of Inquiry.

[8+8]

6. 'Engineering as social experimentation- comparison with standard experiments'- Elaborate.

[16]

7.(a) What are the techniques for achieving 'Collegiality'?
(b) Discuss the importance of Professional Ethics.

[8+8]

Subject Code: R13108/R13 **Set No - 2**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

PROFESSIONAL ETHICS & HUMAN VALUES

(Common to ECE, EEE, EIE, Bio-Tech, EComE, Agri.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) Does globalization solve the global issues?
(ii) Explain the essence of Indian spirituality.
(iii) What are the uses of ethical theories?
(iv) Write short note on 'Industrial Standards'.
(v) What is meant by voluntary risks?
(vi) List the moral rights of a salaried Engineer.
(vii) 'Morals, Values and Ethics are the guiding principles that prescribe the standards of human behaviour' Explain briefly.

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

PART-B

2. Suggest the steps to ensure the safety of the Engineer as well as the safety of the design of the equipment?

[16]

3. Define –
(a) Privileged information
(b) Proprietary information

[8+8]

4. Write about
(a) Kohlberg's theory
(b) Use of ethical theories

[8+8]

5. Explain Intellectual Property Rights.

[16]

6. Explain the terms: Integrity, Work ethic, Civic virtue, Character.

[16]

7. What are the functions and limitations of 'code of ethics'?

[16]

Subject Code: R13108/R13 **Set No - 3**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

PROFESSIONAL ETHICS & HUMAN VALUES

(Common to ECE, EEE, EIE, Bio-Tech, EComE, Agri.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) Write short note on the concept of safety.
(ii) Why should we learn and follow ethics?
(iii) Do you consider courage as virtue? Give your reasons.
(iv) What is meant by globalization?
(v) Define the word 'confidentiality'.
(vi) Write a brief note on 'Consulting Engineering'.
(vii) How does character form?

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

PART-B

2. Write an essay on Accountability and Responsibility of Engineers towards society.

[16]

3. Give an account of 'Computer Ethics' and the problems associated with the autonomous nature of computers.

[16]

4. Explain in detail –
(a) values (b) ethics (c) value time (d) courage

[4+4+4+4]

5.(a) What were the conclusions made by 'Gilligan' about men and women?
(b) Mention the uses of 'Ethical Theories'.

[8+8]

6.(a) What do you understand by 'acceptable risk'?
(b) What is meant by 'voluntary risk'?

[8+8]

7.(a) What is meant by 'Whistle Blowing'?
(b) List any two limitations of 'Whistle blowing'

[8+8]

Subject Code: R13108/R13 **Set No - 4**

I B. Tech I Semester Regular Examinations Feb./Mar. - 2014

PROFESSIONAL ETHICS & HUMAN VALUES

(Common to ECE, EEE, EIE, Bio-Tech, EComE, Agri.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) Define utilitarianism.
(ii) 'Safety is a product that comes with a price'. - Explain.
(iii) Discuss the aim of 'Engineering Ethics'.
(iv) Why should one have 'Respect for Others'?
(v) Discuss the need to focus on 'Professional Ethics'.
(vi) Write a short note on Industrial Standards.
(vii) Explain the meaning of Moral Leadership.

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

PART-B

2. Discuss the relationship between professional responsibility and individual loyalty to the organization?

[16]

3. What are the aspects of Engineering that make it appropriate to view Engineering projects as experiments?

[16]

4. Write briefly on
(a) Empathy
(b) Living peacefully
(c) Caring and Sharing
(d) Courage

[4+4+4+4]

5. Estimate the applicability of Intellectual Property Rights (IPR) to the Indian scenario.

[16]

6. Write short notes on
(a) History of Ethics
(b) Heinz's Dilemma

[8+8]

7. What are types of' Risks'? Suggest some safety measures.

[16]

Code No: R10105/R10 **Set No. 1**

I B.Tech I Semester Supplementary Examinations, Feb/Mar 2014
C PROGRAMMING
(Common to Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Chemical Engineering, Electronics & Instrumentation Engineering, Bio-Medical Engineering, Information Technology, Electronics & Computer Engineering, Aeronautical Engineering, Bio-Technology, Automobile Engineering, Mining and Petroliem Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is a Programming language? Classify and explain various Programming Languages [15]

2. (a) Write C program to check whether the given number is even or odd without using %(mod) operator.
   (b) Write C program to check whether the given number is palindrome or not (use if and go to statement). [7+8]

3. (a) How strings and characters are represented in an array?
   (b) Write a program to print array of characters. [6+9]

4. (a) Explain the drawbacks of linear arrays in detail.
   (b) Write a C program to calculate sum and average of array elements? [8+7]

5. (a) What is the advantage of using header files in 'C'?
   (b) Write short notes on auto and static storage classes [8+7]

6. (a) What is a pointer variable? How is a pointer variable different from an ordinary Variable?
   (b) Write a C program to read in an array of integers. Instead of using subscripting, however, employ an integer pointer that points to the elements currently being read in, and which is incremented each time. [7+8]

7. (a) How structure variable be defined as a member of another structure? Explain.
   (b) Write a program to store and print name, address, department and marks using structure. [8+7]

8. (a) Distinguish between the binary files and text files in C with suitable examples
   (b) Explain about formatted I/O in files. [7+8]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: R10105/R10 **Set No. 2**

I B.Tech I Semester Supplementary Examinations, Feb/Mar 2014
C PROGRAMMING
(Common to Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Chemical Engineering, Electronics & Instrumentation Engineering, Bio-Medical Engineering, Information Technology, Electronics & Computer Engineering, Aeronautical Engineering, Bio-Technology, Automobile Engineering, Mining and Petroliem Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What is a flow chart? Draw and explain various symbols used in flow chart
   (b) Differentiate algorithm with flow chart. Draw flow chart for calculating simple Interest [8+7]
2. What is if statement? Give different forms if-else statements using syntax and flow chart notations (use suitable examples). [15]
3. (a) What is String? Explain about declaration and initialization of string in 'C'?
   (b) How to display string with different formats? Explain with examples. [8+7]
4. (a) Write a C program to delete an element at a specified position?
   (b) Write C program find out the second highest and smallest of given array? [8+7]
5. Write program for arranging numbers in ascending order using recursion. [15]
6. What is Dynamic Memory Allocation? Mention the advantages of Memory Allocation and discuss its functions. [15]
7. (a) What is the use of type def in C? Explain with a suitable example
   (b) Explain the advantage of bit fields in C with suitable example [7+8]
8. (a) Explain about file i/o operations in C.
   (b) Write a 'C' program to append the contents of one file to another. [8+7]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: R10105/R10 **Set No. 3**

I B.Tech I Semester Supplementary Examinations, Feb/Mar 2014
C PROGRAMMING
(Common to Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Chemical Engineering, Electronics & Instrumentation Engineering, Bio-Medical Engineering, Information Technology, Electronics & Computer Engineering, Aeronautical Engineering, Bio-Technology, Automobile Engineering, Mining and Petroliem Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What are assignment, arithmetic, relational and logical operations in C? Give examples. [15]
2. (a) Write a C program to find whether the given number is Armstrong number or not. (Armstrong number is a number such that the sum of digits raised to the third power is equal to the number itself. Ex.$371=3^3+7^3+1^3=371$)
   (b) Write a C program to print squares of odd numbers up to given integer. [8+7]
3. (a) Write briefly about the nested for loop statement. Write a program to generate multiplication table.
   (b) Explain about event and counter controlled losops.. [9+6]
4. (a) Write a C program to display names of days of week using single-dimensional array.
   (b) Write C program to insert an element in an array at a specified position? [8+7]
5. (a) Write a C program to send and receive value from the user defined function.
   (b) What are the standard header files used in 'C'. Explain their functions. [7+8]
6. (a) Write short notes on Pointer arithmetic.
   (b) How to use pointers in expression. Explain. [7+8]
7. Write a program using a pointer to structure illustrating the initialization of the members in the structure, using different techniques to avoid floating point error problem. [15]
8. Write a program that reads a file and creates a new file with the same data, except reverse the case on the second file. Everywhere uppercase letters appear in the first file, write lower-case letters to the new file, and everywhere lowercase letters appear in the first file, and write uppercase letters to the new file. [15]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: R10105/R10 **Set No. 4**

I B.Tech I Semester Supplementary Examinations, Feb/Mar 2014
C PROGRAMMING
(Common to Civil Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Electronics & Communication Engineering, Computer Science & Engineering, Chemical Engineering, Electronics & Instrumentation Engineering, Bio-Medical Engineering, Information Technology, Electronics & Computer Engineering, Aeronautical Engineering, Bio-Technology, Automobile Engineering, Mining and Petroliem Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) What is the need of escape sequence? Write a sample program using any four escape sequence.
   (b) What are the different character sets available in 'C'? [8+7]
2. (a) Write a C program to check whether number is positive or negative
   (b) Explain about multi-way selestion in 'C' with a sample program. [8+7]
3. (a) Explain about standard String Functions with examples?
   (b) Write C program convert the uppercase string to lowercase? Without using string function. [8+7]
4. Write a program to find rank of a matrix. [15]
5. What is a Function? What are the different types of functions? Explain function with no argument and no return type with an example. [15]
6. (a) Explain the concept of passing strings to functions as dynamic arrays with a program.
   (b) Describe about **pointers to pointers** in 'C'. [15]
7. (a) How to declare a **union** in C explain with an example
   (b) How to access the elements of a **union** explain with an example [7+8]
8. (a) Write a C program to count the number of characters in a file.
   (b) Write a C program to count the number of words in a file. [8+7]

⋆ ⋆ ⋆ ⋆ ⋆