

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA SEM-I Examination- Jan.-2012

Subject code: 2610001

Date: 02/01/2012

Subject Name: Fundamentals of Programming (FOP)

Time: 10.30 am-1.00 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Do as Directed

- 1 List common escape sequence characters. **02**
- 2 State all and explain any one bitwise operator with example. **02**

3 Give output of followings **03**

i) `main()`
`{`
`int i=0, j=1;`
`printf("\n %d", ++i && ++j);`
`printf("\n %d %d", i,j);`
`return 0;`
`}`

ii) `main()`
`{`
`int a,b;`
`a= -3- -3;`
`b= -3- -(-3);`
`printf("a=%d b=%d",a,b);`
`}`

iii) `main()`
`{`

`printf("\n\n\n nn\n");`
`printf(" Have a good day\n");`
`printf("\n /n/n nn/n");`
`}`

(b) Answer the following questions **07**

- 1 Explain ternary operator in 'C'.
- 2 Differentiate formal and actual parameters.
- 3 Write use of `putc()` with example.
- 4 What is conditional compilation?
- 5 Give the difference between `break` and `continue`.
- 6 Write a drawback of a singly linked list?
- 7 Write the purpose of `fclose()`.

Q.2 (a) Briefly classify Generation of programming languages. **07**
Discuss its advantages over other generations.**(b) Which are the control structures available in C Language? **07****
Explain any one with example.**OR**

- (b) What is an Array? Discuss two dimension arrays with memory representation and example. **07**
- Q.3** (a) What is Recursion? Where Recursion can be used? Discuss the advantages of Recursion. Explain with example. **07**
- (b) What is pointer? How pointers can be used for call by reference parameter passing mechanism? **07**
- OR**
- Q.3** (a) What is the purpose of storage class in 'C'? Discuss each storage class with example. **07**
- (b) How will you handle the strings in 'C'? Explain the string manipulation functions with example. **07**
- Q.4** (a) Define Function. Differentiate user defined function and built in function. Write a program to find factorial of a given number using user defined function. **07**
- (b) Attempt followings
- 1 Discuss advantages and limitations of flowchart **04**
- 2 How is an enumerated data type defined? Explain with example. **03**
- OR**
- Q.4** (a) What is a structure? Why is it called user-defined data type? Give examples for three different ways to declare a structure. **07**
- (b) What is Dynamic memory allocation? Explain the uses of malloc() and calloc() with example. **07**
- Q.5** (a) What do you mean by Preprocessor directives? Discuss unconditional directives with example. **07**
- (b) Write a C program which accepts input from user to multiply two matrices. **07**
- OR**
- Q.5** (a) How files can be managed in C? Explain three necessary functions to access a file randomly? **07**
- (b) Write a C program to copy a text file which accepts source and destination file name from command line arguments. **07**
