

**GUJARAT TECHNOLOGICAL UNIVERSITY****MCA – SEMESTER - I • EXAMINATION – WINTER 2012****Subject code: 610001****Date: 03/01/2013****Subject Name: Fundamentals of Programming (FOP)****Time: 02:30 pm – 05:00 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 07**

1. Give an example of Octal Literal.
2. Default return type of any function in “C” is.
3. continue keyword can be used with switch case. State True/False.
4. printf is a valid identifier in “C”. State True/False.
5. Write down any two symbols of flow chart.
6. Return type of getch () function is char. State True/False.
7. Enum is a derived data type. State True/False.

**(b) Write down the output of following code snippet with reason.**

1. void main(){  
int i;  
for(i=1;i<=10;i++);  
printf(“%d”,i); } **2**
2. void main(){  
unsigned int main=10;  
printf(“%u”,main); } **2**
3. void main(){  
printf(“%10.2s”,”Hello”);} **1**
4. void main(){  
int a[]={ 1,2,3,4},i=2;  
printf(“%d”,i[a]);} **2**

**Q.2 (a) Differentiate between following 07**

1. Entry control and Exit Control loop.
2. Flow chart and algorithm.

**(b) Write a C program to print all prime numbers between 1 and 100 using user define function. 07****OR****(b) Write a C program to print following Triangle in any given text file. 07**

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

- Q.3 (a)** Write short note on following **03**  
     1. Command line argument **03**  
     2. Bitwise operator **01**  
     3. sizeof operator
- (b)** Write a “C” program to count number of character, word, vowel and special symbols in given string. **07**
- OR**
- Q.3 (a)** Write a “C” program to convert a decimal number to hexadecimal number using user define function. **07**
- (b)** Explain following term **02**  
     1. Actual and formal parameter. **03**  
     2. Life and scope of a variable in a function. **02**  
     3. Function prototype and function definition. **01**  
     4. return type.
- Q.4 (a)** Answer the following **07**  
     1. Define pointer.  
     2. What is the size of float pointer in Turbo C compiler?  
     3. Write down any two uses of pointer.  
     4. Create a pointer to 2-D array for int a [3] [3].  
     5. Create an array of pointers.  
     6. Initialize array of string.  
     7. What is void \*?
- (b)** Differentiate union, structure and enum with suitable example. **07**
- OR**
- Q.4 (a)** Explain all primitive data type in detail. **07**
- (b)** Write down the significance of static and extern storage class with appropriate example. **07**
- Q.5 (a)** What is FILE \*? Explain various file opening modes and functions used in reading and writing into the file. **07**
- (b)** Write a program to create two dimensional array using dynamic memory allocation and make a user define function to print contents of the array. **07**
- OR**
- Q.5 (a)** Compare array and linked list. Also write a program to insert and delete node in singly linked list. **07**
- (b)** Differentiate between following **02**  
     1. Macro and function **02**  
     2. recursion **03**  
     3. break , return and exit statement

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