

B. TECH (CSE, IT, ECE, MAE, CE, E & EE,
E & IE, AE, NST, S & AE), B. TECH (MAE) +
M. TECH AUTOMOBILE ENGINEERING (DD),
B. TECH (CSE, ECE, MAE, CE) + MBA DUAL
DEGREE PROGRAMMES, B. TECH + M. TECH
(NS & T) - DD & B. TECH (AE) + M. TECH (A) - DD

FIRST SEMESTER END TERM EXAMINATION :
NOVEMBER - 2012

**INTRODUCTION TO COMPUTERS &
PROGRAMMING IN C**

Time : 3 Hrs.

Maximum Marks : 70

Note: Attempt questions from all sections as directed.

SECTION - A (30 Marks)

Attempt any 5 questions.

Each question carries 6 marks.

1. With neat block diagram of computer organization, explain the functions of various units.

2. Explain : (i) Working of dot matrix printer (ii) Point & draw devices.

3. Perform following :

(i) Subtract 110111_2 from 101110_2 using complementary method.

P.T.O.

- (ii) Multiply the binary numbers 01101_2 and 1001_2 .
- (iii) Divide 11001_2 by 101_2 .
4. WAP to check if it is an Armstrong number. Explain ternary conditional operator with example.
5. Convert the following :
- (i) $(110.101)_2 = (?)_{10}$
- (ii) $(FBD)_{16} = (?)_2$
- (iii) $(2BA6)_{16} = (?)_8$
6. What is a pointer? What are the operations performed on pointer variable.

SECTION - B (20 Marks)

Attempt any two questions.

Each question carries 10 marks.

7. (a) What will be the output of following Code

```
#include <stdio.h>
main( )
{
    int var = 0;
    For (; var++; printf("%d", var));
    printf("%d", var);
}
```

(6)

- (b) What is difference between passing arguments by "call by reference" and "call by value"? Give example. (4)
8. (a) What are command line arguments? Explain argc and argv with the help of a program. (4)
- (b) Distinguish between sequential access, direct access and random access storage device. Give one example of each. (2)
- (c) What are strings? Discuss strlen(), strcpy(), strcat() and strcmp(). (4)
9. (a) Explain four types of storage classes, their features with an example program. (6)
- (b) What are structures and explain how structure elements can be accessed? (4)

SECTION - C (20 Marks)

(Compulsory)

10. (a) What is recursion? Explain. Write a program to display Fibonacci series using recursion. Why is the lower bound needed. Explain in the example. (10)

(b) What will be the output of following program :

```
#include <stdio.h>
void main( )
{
int i;
float a;
clrscr( );
for(i = 1; i <= 9; i++)
```

(3)

(c) Define and differentiate the terms hardware, software and firmware. (3)

(d) Write a program that will read the value x and evaluate the following function

$$Y = \begin{cases} 1 & \text{for } x > 0 \\ 0 & \text{for } x = 0 \\ -1 & \text{for } x < 0 \end{cases}$$

Using

- (i) Nested if statements
 - (ii) Else -if statements
 - (iii) Conditional operators
- (4)

```
{ a = i*i;
printf("%d", a);
}
```
