



ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2008
INTRODUCTION TO COMPUTING
SEMESTER - 2

Time : 3 Hours]

[Full Marks : 70

GROUP - A**(Multiple Choice Type Questions)**

1. Choose the correct alternatives for any ten of the following : 10 × 1 = 10

i) RAM stands for

- | | |
|----------------------------|-----------------------|
| a) Readwrite Access Memory | b) Read Access Memory |
| c) Random Access Memory | d) None of these. |

ii) Operating system is

- | | |
|-------------------------|--------------------|
| a) application software | b) system software |
| c) both of these | d) none of these. |

iii) ALU is a part of

- | | |
|-----------------|-------------------|
| a) memory | b) CPU |
| c) input device | d) output device. |

iv) The output of the following code is :

```
for (i=1; i<=5; i++)
```

```
{
```

```
    if (i%2)
```

```
        continue;
```

```
    printf ("%d", i);
```

```
}
```

- | | |
|--------------|-------------------|
| a) 1 2 3 4 5 | b) 1 3 5 |
| c) 2 4 | d) none of these. |

II-2223-1 (4)



v) The output of

```
int i=5;
```

```
printf ("%d %d %d", i, i++, ++i);
```

is

a) 5 5 7

b) 5 6 7

c) 7 6 5

d) 7 6 6.

vi) The output of

```
#define SQ(x) x*x
```

```
void main( )
```

```
{
```

```
int a,b;
```

```
a=5;
```

```
b=-SQ (a+2);
```

```
printf("%d", b);
```

```
}
```

is

a) -49

b) -17

c) 7

d) none of these.

vii) Which one of the following is a Bitwise operator ?

a) <

b) >=

c) <<

d) &ch.

viii) The output of

```
fact=1;
```

```
for (i=1;i<5;i++);
```

```
fact=fact*i;
```

```
printf("%d", fact);
```

is

a) 24

b) 5

c) infinite loop

d) none of these



ix) The output of

```
void main( )
```

```
{
```

```
int arr [6]={20, 25};
```

```
printf("%d %d %d", arr [2], arr [3], arr[4]);
```

```
}
```

is

a) 0 0 0

b) 20 25 0

c) 25 0 0

d) none of these.

x) The purpose of mode r+ is to

a) open for only reading

b) open for only writing

c) open for both reading and writing

d) none of these.

xi) Pointer is

a) a variable containing the address of a variable

b) a value

c) a memory location

d) none of these.

xii) A function may contain

a) one return statement

b) two return statements

c) more than two return statements

d) none of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

3 × 5 = 15

2. a) What are the basic features of an algorithm ? 1
- b) Write an algorithm to find largest among three numbers taken as input. 2
- c) What are the disadvantages of machine language ? 2

11-222811 (4)



3. With a suitable block diagram, briefly explain the major components and their functions of any conventional computer system.

4. a) Write a function power (a,b) to calculate the value of a raised to b.
b) What will be the output ?

```
void fun(int*i, int*j);
```

```
main ()
```

```
{
```

```
    int i=5, j=2;
```

```
    fun(&i,&j);
```

```
    printf ("\n%d %d", i, j);
```

```
}
```

```
fun (int*i, int*j)
```

```
{
```

```
    *i=*i**i;
```

```
    *j=*j**j;
```

```
}
```

2 + 3

5. a) What is dynamic memory allocation ?
b) Write down the differences between malloc () and calloc ().
c) Write down the differences between structure and union.
6. a) What are the differences between recursion and iteration.
b) Write a recursive C function to calculate factorial of a number.

1

2

2

2

3

**GROUP - C****(Long Answer Type Questions)**

Answer any three of the following questions.

3 × 15 = 15

7. a) Write down the differences between compiler and interpreter. 2
- b) What is an operating system ? Write down the basic features and operations of an operating system. 5
- c) Perform the following operations :
- Convert $(100110101)_2$ to octal
 - Convert $(536)_8$ to hexadecimal
 - Convert $(23.78)_{10}$ to binary
 - Subtract $(7)_{10}$ from $(17)_{10}$ in binary using 2's complement
8. a) Write a C program to find the largest and smallest among a list of n numbers taken as input. 5
- b) Write a C program to check whether a string taken as input is a palindrome or not. 5
- c) Write a C program to print the following pattern (till n rows, where n is taken as input). 5

1

2 3 2

3 4 5 4 3

4 5 6 7 6 5 4

9. a) Explain call by value and call by reference mechanism for passing arguments into a function a function call. Write a C function to swap the values of two integer variables passed as arguments. Also write the main function. 6



- b) Define a structure called cricket that will describe the following information :

Player name

team name

batting average

Using cricket, declare an array player with 50 elements and write a program to read the information about all the 50 players and print the name of the player having highest batting average.

10. a) Write a C program that will receive a filename and a line of text as command line arguments and write the text to the file.
- b) Write down the differences between while and do-while.
- c) What is type casting ? What is automatic type conversion ?
11. a) What is the difference between iterative function and recursive function ?
- b) Write a C program to find factorial of a number using iterative function as well a recursive function.

3 + (6 + 6)

END