



**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.

**11-2223-1 (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 ?

1

- b) Write down the differences between malloc ( ) and calloc ( ).

2

- c) Write down the differences between structure and union.

2

6. a) What are the differences between recursion and iteration.

2

- b) Write a recursive C function to calculate factorial of a number.

3

**II-223811 (4)**



**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 :
- i) Convert  $(100110101)_2$  to octal
  - ii) Convert  $(536)_8$  to hexadecimal
  - iii) Convert  $(23.78)_{10}$  to binary
  - iv) 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 )

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END