

ComPutes

Marks: 75
Time: 2:30

- Note: 1. All Questions are compulsory.
2. Each question carry 15 marks.

Q.1

A. State whether the following statements are true or false and justify your answer.
(Attempt any eight)

1. Microprocessors were developed and used in fourth generation of computers.
2. Interpreter executes entire program codes.
3. C-programs are converted to machine language by a compiler.
4. Digital computers are used for processing data that vary continuously.
5. $Y++$ is called a pre-increment of the value of y .
6. Circle shape in the flow chart signifies input.
7. Comparison carried out in the ALU.
8. Algorithm must be executed in finite time.
9. $\&\&$ is logical operator.
10. For every $\text{if}()$ it is compulsory to use else clause.

B. Fill in the blank using appropriate option. (Attempt any seven).

1. _____ is not a function of operating system.
a) File management b) Memory management c) Security d) Facility to type letters
2. Technology used in Third generation computers is _____.
a) Integrated circuit b) transistors c) radios d) vacuum tubes
3. Which of following is a system software?
a) Windows XP b) Microsoft Word c) Corel draw d) Tally
4. The terminal symbol in a flowchart represents _____.
a) Decision b) Processing c) Start of program logic d) Display data
5. Escape sequence " $\backslash n$ " is used for _____.
a) vertical tab b) horizontal tab c) give output in new line d) none of these.
6. The format characters " $\%c$ " is used for _____ data type.
a) char b) int c) float d) double
7. An identifier must begin with _____.
a) Alphabet b) underscore c) digit d) Alphabet or underscore
8. The unformatted function used to get string from monitor is _____.
a) $\text{getchar}()$ b) $\text{scanf}()$ c) $\text{printf}()$ d) $\text{gets}()$
9. The modulus operator($\%$) gives the _____ of the division.
a) Quotient b) Numerator c) Denominator d) Remainder
10. _____ computers are used in a weather monitoring system.
a) Analog b) Digital c) Hybrid d) None of these.

Q.2

- A) Write note on generation of computer.
- B) Write note on storage devices.

OR

- C) Explain decimal to binary conversion with example.
- D) Convert into decimal number system.
1) 11011.01 2) 11010101

Q.3

- A) Write note on system software.
- B) Write an algorithm and draw a flow chart to average of three numbers.

OR

- C) Write an algorithm and draw flow chart to compute the factorial of a number N.
- D) Write note on Compiler and Interpreter.

Q.4

- A) Write a program to input the amount invested(p), the rate of interest(r) and the period of investment in years(n) and calculate and display the simple interest on the sum. hint: $si = \frac{p \cdot r \cdot n}{100}$.
- B) Write program in C program to input the name and sales and calculate and display the name, sales, discount and net amount for the customer and commission for salesman, where commission is 2% of sales for sales up to 15,000 and 3% on excess. Discount is calculated as follows

Sales	Discount
First 10,000	5%
Next 15000	10%
Excess	15%

OR

C) What is an output of following C program?

```
#include<stdio.h>
void main()
{int a=10, b=5,c,d;
a+=-b*3;
b*=7;
c=b%a;
d=++c+2*b;
printf(“%d %d %d %d \n”,a,b, c, d);
}
```



D) What is an output of following C program?

```
#include<stdio.h>
void main()
{
int x=4, y=10;
x=x++;
y+=++x;
y--;
x -=2;
printf(“%d %d \n ”,x,y);
}
```

Q.5

A) Write C-program to calculate and display the sum of following series

$2+5+8+\dots+302$

B) Input two numbers and an arithmetic operator and give the result of the operation on the two numbers.

OR

C) Give the difference between following.(Any three)

- a) Analog and digital computer
- b) ++x and x++
- c) printf() and puts()
- d) while() loop and for() loop
- e) float and double