NOTE: 1. All Questions are compulsory.   Marks:75
      2. All questions carry equal marks.   Time:2 ½ hrs

Q.1 A. State whether the following statements are true or false and justify your answer.
(Attempt any seven)
1. Operating system was developed in third generation of computer.
2. Printf() is input function.
3. %c is format character for single character.
4. An operating system is part of Application software.
5. Parallelogram shape in the flow chart signifies input.
6. ALU is part of memory in hard drive.
7. An assembler is a program that translates mnemonic code into machine code.
8. Y^{++} is post increment in C programming.
9. First generation of computers used vacuum tube.
10. Full form of CPU is central processing unit.

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

1. Which of these provides an interface to the user to use a computer system?
   a)Compilers   b)Application software c)Operating system   d)Utility software

2._____computers are used in a weather monitoring system.
   a) Analog   b) Digital   c)Hybrid   d)None of these

3. Which of the following is a system software?
   a) Microsoft word   b)Tally   c)Coral Draw   d)Windows XP

4. The binary number system is based on
   a)2   b)4   c)8   d)none of these

5.The terminal symbol in a flowchart represents _____.
   a) Decision   b)Processing   c)Start of program logic   d)Display data

6. The data type int uses _____bytes of memory.
   a) 4   b)2   c)8   d)6

7. Unformatted function to input single character is_____.
   a) printf()   b)gets()   c) getchar()   d) puts()

8.An escape sequence used to take cursor o new line is _____.
   a) (\h)   b) (\v)   c) (\n)   d) (\t)
9. Nested if should be used when we have more than _____alternative.
   a)2   b)3   c)4   d)1
10.Which of these is not a programming language?
   a)C   b)C++   c)Linux   d)JAVA

Q.2 A Write note on Basic component of a computer.

B. Write note on generation of computers.

OR

C. Convert into decimal number system

1)$(11111)_2$ 2)$(11001)_2$ 3)$(10100.01)_2$

D. Convert into binary number system

1)56   2)19.5   3)73

Q.3 A. Write note on basic functions of operating system.

B. Write an algorithm and draw flowchart for following problem. the name and salary of an employee and calculate and display the name, sales, discount and net amount for the customer and commission for the salesman. Commission is 2% of sales for sales up to 15000 and 3% otherwise. Discount is 5% on sales up to 20000 and 8% otherwise.

OR

C. Write note on Language translator.

D. Write an algorithm and draw a flowchart that read two numbers and print the larger number.

Q.4

A. Write a program to input the length and the breadth of a rectangular farm and calculate and display the area.

B.What is the output of the following C program?

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

OR

C. Write a C program to input the amount invested(P), rate of interest(r) and the period of investment in years(n) and calculate and display the simple interest on the same. Si=Prn/100.

D. What is the output of the following C program?

```c
#include <stdio.h>

void main()
{ int x=10,y=15,z=300,t;
 z%=--y;
 t=4*x--;
 x+=y++; }
```

Q.5 A. Write a program to input telephone number and number of calls made. Calculate and display the bill amount which includes a fixed rent of 250,the first 60 calls are free and excess calls are charged @80 paise each.

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

OR

C. Write a C program to input the basic pay and calculate and display basic pay,da,hra,total pay and tax where da as 60% of basic pay ,hra as 25% of basic pay ,total as basic pay+da+hra and tax as 20% of total pay.

D. Write a program in C to accept sales from the keyboard and calculate and display sales tax as per the following:

SALES	SALES TAX
Upto Rs.5000	5% of sales
Between Rs.5000 and upto Rs.9000	10% of sales
Over Rs.9000	12% of sales.