

IM.Sc. (CS) Sem.-1 (NEP) (A.T.K.T.) Examination

Fundamentals of Computer and Programming

Time : 2-00 Hours]

July-2024

[Max. Marks : 50

- Q.1** A. Differentiate between BCD and Excess-3 code. 5+5
 B. Explain representation of negative numbers using 1's and 2's complement.

OR

- Q.1** A Draw and explain the block diagram of basic components of digital computer. 5+5
 B. Explain error detecting and correcting codes.

- Q.2** Explain addressing modes in detail with suitable examples. 10

OR

- Q.2** Explain asynchronous data transfer and handshaking with suitable example. 10

- Q.3** A. Explain the process of 'C' program compilation. 5+5
 B. Explain arithmetic and logical operators in 'C' language.

OR

- Q.3** A. Write algorithm to perform linear search. 5+5
 B. Differentiate between actual parameters and formal parameters with suitable examples.

- Q.4** A. Explain Conditional operator with example. 5+5
 B. Explain recursion with suitable example.

OR

- Q.4** A. Differentiate between break and continue with suitable example. 5+5
 B. Differentiate between If-Else ladder and switch case.

- Q.5** Answer any 10 out of 12 10

1. Write the statement of Moore's law.
2. $(1011.1)_2 = (\dots\dots)_ {10}$
3. $(702.5)_8 = (\dots\dots)_ {10}$
4. Define odd parity and even parity.
5. Write full form of OMR and MICR.
6. What is cache memory?
7. Give Output of following program

```
main()
{
    int m,n,p;
    for(m=0;m<3;m++)
    for(n=0;n<3;n++)
    for(p=0;p<3;p++)
    if(m+n+p == 3) goto abc;
    abc:printf("%d, %d, %d",m,n,p);
}
```

8. Give Output of following program

```
#include<stdio.h>
main()
{
    int a=15,b=50;
    if(a<b)
    {
        if(b>5)
            printf("%d",b);
    }
    else
        printf("%d",a);
    printf("%d",a*b);
}
```

9. Give Output of following program

```
int main() {
    int arr[5]={1,3,5};
    printf("%d %d", arr[0],arr[4]);
}
```

10. State True or False : strcpy("XYZ","xyz") returns positive value

11. Identify error in following code

```
int main() {
    char s1[10]="abc",s2[14]="xyz";
    s1=s2;
    puts(s1);
}
```

12. Give Output of following program

```
int main() {
    int p=1,a=2,b=3,d=2,c=0,e=1;
    printf(" %d",++p+a--+c);
}
```