GOVT OF KARNATAKA
KARNATAKA STATE PRE-UNIVERSITY EDUCATION EXAMINATION BOARD

II YEAR PUC EXAMINATION - MARCH 2012

SCHEME OF VALUATION

Subject Code : 41   **Subject   : COMPUTER SCIENCE**

Part – A

1. What is plug-and-play?   (1 M)
Ans:

   The card which can be inserted or removed while the system is on preserving the data integrity is called plug-and-play.
                    OR
   It is a device which can be directly connected to the computer through USB ports without switching off the system.
                    OR
   It is an operating system procedure that enables the user to add hardware devices to the computer without performing any difficult connection procedure.
                    OR
   It is a device/card which can be connected/inserted while the system is on.
                    OR
   It is a device/card which can be removed without switching off the system.

2. How many maximum number of comparisons are required for linear search for *n* values?   (1 M)
Ans: n comparisons.

3. What is best case in sorting technique?   (1 M)
Ans: A sorting technique takes less time or less iterations (passes) to sort the elements.

4. Write any one characteristic of an array subscript.   (1 M)
Ans:
1) It must be a positive **integer** constant or an expression.
2) Subscript variable should not exceed the declared size.
3) The subscript ranges (varies) from 0 to one less than the maximum size OR The subscript varies from 0 to n-1.
   (Any one of the above)

5. What is function prototype?   (1 M)
Ans: It is the declaration of a function in the main program before it is used.
         OR
   It is the declaration of a function that tells the program about the type of value returned and the number and type of arguments.

6. Define tactical information. (1 M)

Ans: It is a type of information needed for short term business goals and objectives.

OR

It is a type of information is needed to take short range decisions to run the business efficiently.

7. What is data definition language? (1 M)

Ans: It is a language which is used to describe the data items in a table and the associated relationships.

OR

It is used to build and modify the structure of tables and other objects in the database.

OR

It is used to define the conceptual schema of the database.

8. Give any one advantage of client / server networking. (1 M)

Ans:
   i. Centralized- Resources and data security are controlled through the server.
   ii. Accessibility – Server can be accessed by multiple users.
   iii. Flexibility – New technology can be easily integrated into the system.
   iv. Speed - It provides a very rapid method for sharing and transferring files
   v. Cost - Network versions of application software are available at lower costs.
   vi. Resource sharing - The peripherals can be shared by many users.
   vii. Security - Files and programs on network can be protected.
        (OR any other advantage)
        (Any one of the above)

9. Expand FTP. (1 M)

Ans: **F**ile **T**ransfer **P**rotocol

10. What does chatting mean? (1 M)

Ans: Chatting is a way for people to communicate, live with each other by typing text messages by everyone present on-line.

OR

Chatting refers to instant mail sending.

OR

Chatting means real-time communication between two users.

Part – B

11. Give the specifications of inkjet printer. (2 M)

Ans:
   i.   A high resolution inkjet printer has around 50 nozzles
   ii. Resolution is around 300 DPI.

iii. Printing speed varies from 1PPM to 12PPM.

iv. Buffer size varies from 1MB to 4MB.

v. Ink-jet printers produce high-quality text and graphics and colour images.

(Any two points; 1 mark each)

12. Design an algorithm for finding maximum of *n* values in an array.

Ans:

Step 1: large=A[0]
Step 2: pos =0
Step 3: For i = 1 to n-1
Step 4: If A[i]>large then
             large =A[i]
             pos =i
        end if
        [end of for loop]
Step 5: print "largest=", large, "position= ", pos
Step 6: Exit

(Initialization and output 1 mark; Logic 1 mark)

13. List any two advantages of modularity. (2 M)

Ans:

i. Reusability: The module can be called any number of times in the program.

ii. Eliminates in duplicating: Repeating the same instructions in a program is avoided.

iii. Debugging is easier: The user can easily locate the errors and correct them.

iv. Team work: Several programmers can work on individual programs at the same time.

v. Building library: The programmer can build his own library of the most commonly used functions.

vi. Program Maintenance: The new functionalities can be added to the modules without modifying the entire program.

vii. Testing the solution can be easily performed.

viii. It improves the flexibility of a program.

ix. It produces clear and efficient programs.

(OR any other advantages)

(Any two of the above; 1 mark each)

14. What is the purpose of 'extern' variable? Write the declaration syntax in C. (2 M)

Ans: The 'extern' variable is used to declare the variable which is both alive and active throughout the entire program.

        OR

The purpose of 'extern' variable is to declare the global variables.

        OR

The 'extern' variable is used to declare the variable for which the validity or scope of the variable is from the point of declaration to the rest of the program.

Declaration syntax:

extern data-type variable;
OR
extern data-type var 1, var 2,.....var n;
(Purpose-1 mark; Syntax-1 mark)

15. Give the declaration syntax and example for array of strings? (2 M)

Ans:

Syntax: **char array_name[size1][size2];**

where size1→ number of strings.
size2→ maximum length of each string.

Example: **char name[4][15];**
(OR any other example)
(Syntax-1mark; Example-1mark)

16. What is a file? How to declare file in C? (2 M)
Ans:

The basic unit of storage in a computer system is a **file**.
OR
A **file** is a named area in secondary storage that is used to hold a collection of data.
OR
Group of related records compose a **file**.
Declaration:
A file is declared in C with the help of pointer variable.
OR
FILE *file_pointer;
(Definition-1mark; Declaration-1 mark)

17. Write the syntax and example for fopen( ) in C. (2 M)
Ans:
Syntax:

file_pointer = fopen ("file name", "mode");
OR
fp = fopen ("file name", "mode");
Example:
fp1=fopen ("student.dat" , "w");
OR
fp2=fopen ("book.dat" , "r");
(OR any other example)
(Syntax-1 mark; Example-1 mark)

18. Define master file and transaction file. (2 M)
Ans:
i. **Master files:** They are files, which are basically permanent by nature.

ii. Transaction files: These files contain data, which are basically temporary by nature.

OR They are input files which are used to update the contents of master file.

(1 mark each)

19. List any two advantages of distributed data processing. (2 M)

Ans:

1. Because many computers are involved, the system is not dependent on one large unit.
2. Reduces the load on the host computer.
3. Less risk of system breakdown.
4. Reduction of delays in data processing increases the efficiency of services offered to customers.

(Any other advantages)

(Any two of the above; 1 mark each)

20. What is indexed sequential file? Write any one advantage of it. (2 M)

Ans

Definition: The method which uses the index table to access a particular record from the system is called **Indexed Sequential Access Method (ISAM).**

OR

It is type of file organization in which the records are arranged randomly but they are accessed sequentially.

OR

A sequential file that is indexed is called Indexed sequential file.

OR

The data blocks in the physical storage are stored randomly however the access of data blocks is in a sequential manner. It is commonly refered to as **Indexed Sequential Access Method (ISAM).**

Advantages:

1. It combines the best features of sequential access and direct access.
2. Permits quick access of records with a high activity ratio.
3. It is advantage for those files, which need sequential order for some applications and direct access for other applications.
4. Permits the quick access of records even when the number of records is very high.

(Definition-1 mark; Any one advantage-1 mark)

21. Mention any two arithmetic built-in functions in MS-Excel. (2 M)

Ans:

1. **SUM(num1, num2...)** : this function returns the sum of all the numbers in the list of arguments.

Ex: =SUM(a2:e2)
2. **ABS(number)** : It returns absolute value of a number.

Ex: =ABS(-35)=35
3. **PRODUCT(num1, num2...)** : It returns the product of all the numbers given as arguments.

Ex: =PRODUCT(5,8,2)=80
4. **SQRT(number)** : This function returns a positive square root.
    Ex: =SQRT(5) equals 2.1928.
5. **POWER(number, power)** : This function returns the result of a number raised to a power.
    Ex: =POWER(2,3) equals 8.
6. **MOD(number, divisor)** : This function returns the result the remainder.
    Ex: =MOD(15,10) equals 5.

(OR any other two functions)
(Any two of the above; 1 mark each)

22. Explain Star topology.
    Ans:
    i. In a Star topology, each node is directly connected to the central computer.
    ii. All communications between the nodes have to pass through the central computer.
    iii. A powerful central computer coordinates the activities of all the nodes.
    iv. In Star network, failure of one or more nodes will not affect the network but the failure of the central computer leads to network system going down.
        (Any two points – 2 marks)

Part – C

A. Answer any two questions :

23. Explain any five advanced I/O interfaces.   (5 M)
Ans:

i. **USB (Universal Serial Bus) interface:** USB is a plug and play interface, that is new devices can be added without adding an adopter card or even turning off the computer.
ii. **I-O port:** Other I/O devices which are not USB devices can be connected through serial or parallel port.
iii. **PCI slot:** It stands for Peripheral Component Interconnect and is used to fit some expansion cards into PCI slots such as graphics card, sound card, network card, fax card, modem card etc.,
iv. **AGP slot:** It stands for Accelerated Graphics Port and is used for inserting graphics (video) card which make graphics application run faster and also to insert high-speed video card.
v. **MIDI (Musical Instruments Digital Interface) port:** It is used to connect wide variety of musical instruments to the system.
vi. **Game port:** It is used to connect wide variety of gaming devices to the system.
vii. **SCSI: (Small Computer System Interface):** It is a standard for connecting the peripheral devices to the computer.
viii. **IEEE-1394:** It was designed to replace SCSI and is similar to the first version of USB in many ways.
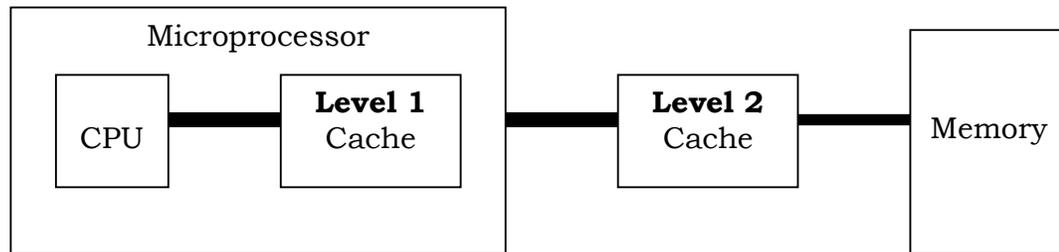   (Any five of the above – 1 mark each)

24. What is cache memory? Explain.   (5 M)
Ans:

Cache Memory: Cache memory is a very high speed small capacity memory placed between the CPU and main memory.

OR

Cache memory is a type of a high speed memory that contains the frequently used most recent data and instructions.

```
┌─────────────────────────────────┐         ┌──────────┐        ┌──────────┐
│  Microprocessor                 │         │          │        │          │
│  ┌──────┐      ┌──────────┐     │         │ Level 2  │        │          │
│  │      │══════│ Level 1  │═════════════════ Cache   │════════│ Memory   │
│  │ CPU  │      │ Cache    │     │         │          │        │          │
│  └──────┘      └──────────┘     │         │          │        │          │
│                                 │         └──────────┘        └──────────┘
└─────────────────────────────────┘
```

When program is running and the CPU needs to read data or program instruction from RAM. The next time the CPU needs the same data it finds it in the cache memory.

In 1980 cache memory is built into CPU. This CPU resident cache is called as **Level-1** cache (**primary cache**). Cache came with 8KB to 39KB. Today's CPU will have 256KB to 512KB in cache. Cache is also adding to the motherboard. This mother board resident cache is called as **Level-2** cache (**external cache**). Today's pc will have 512KB to 1024KB of mother board cache.

(Definition-1 mark; Diagram-2 marks; Explanation-2 marks)

25. Explain Computer maintenance.   (5 M)

Ans: Computer system is very reliable and accurate. They wear out and fail either by human error or adverse operating conditions. In the event of failure faults have to be diagnosed and corrected and some form of back up facilities are should be arranged. Both software and hardware maintenance should be done.

PC's requires regular check up for proper maintenance.
 (i)   **Update virus definitions:** We should keep the antivirus software up to date.
(ii)   **Reboot when programs crash:** Failed applications can cause other problems in other programs. Therefore restart the system for every crash to clear it out.
(iii) **Perform a full virus scan:** By using software, perform a total scan.
(iv)   **Do a complete backup:** Take a back up of all the data which help to recover if your drive fails.
(v)   **Run windows update:** Get the latest version from windows to secure the system.
(vi)   **Update your programs:** To Make the applications more stable, check for software updates.
(vii) **Check for new drivers:** Installing the latest drivers for the devices can speed up and stabilize your PC.
(vii) **Clean up your PC case:** Use a vacuum cleaner to carefully clear out the dust.

(ix) **Clean your programs:** Make a full backup and format the system then use the restore CD to return the system to its original state.

(OR)

Steps involved in Computer Maintenance:

i. To protect from heat cooling vents of computer should be kept clear.

ii. The system should be kept dust free inside and outside.

iii. Keep the disks away from the magnetic fields to avoid damage to data on it.

iv. When the system is not being used, it should be covered.

v. Only after removing the diskettes from the drives, the system should be switched off.

vi. Proper wiring connection should be given.

vii. The UPS should be installed to avoid power problems.

viii. Rub the pins clean to prevent corrosion.

(Brief note + any 3 points = 5 marks OR Any five points – 5 marks)

B. Answer any one question :

26. Explain insertion sort method with an example.   (5 M)

Ans: In this method the whole array is divided into two portions:

➢ Ordered (sorted) part

➢ Unordered (unsorted) part.

Ordered part	X	Unordered part

Initially the whole array is in a completely unordered state. The first element is considered to be in the sorted part. The remaining elements are considered in the unsorted part.

Begin with the second element which is to be inserted from the unordered part. This is compared with an element in the sorted part. The second element is then inserted either in the first or second position. This process extends the ordered part to 2 elements and the remaining elements are considered to be unsorted or unordered. Inserting the 3rd element and then the 4th element and so on, slowly extends the ordered part and reducing the unordered part.

Example: Consider the following elements stored in an array A:

55	44	33
0	1	2

Pass 1: Assume that the first element in sorted part. Take the next element from the unsorted part and compare with the first element. This pass put the first two elements in order.

44	**55**	33
0	1	2

Pass 2: Take the next element from the unsorted part and compare with the first two elements. This pass put the first three elements in order.

33	44	55
0	1	2

After 2 passes the elements are in sorted order.

33	44	55
0	1	2

(OR any other example)
(Only explanation / example = 3 marks)
(Explanation with example = 5 marks)

27.   What is top-down design? Explain with an example.   (5 M)
Ans:
Definition: The process of dividing a problem into smaller sub-problems (also called modules) and the sub-problems into more sub-problems is called **top-down design**.

The following properties are considered with the top-down approach:

i. Understandability: The modules should be organized in such a way that they represent the sequence of execution of the program.
ii. Clear identification of tasks: Each module created should perform one and only task. The name of the module should be such that it can be automatically associated with the task.
iii. Code reusability: This concept indicates that a task, which has already been coded and works properly in one program can be copied to another program which requires the same task to be performed.
iv. Eliminates duplication in coding: A task can be coded as a module once and the module can be called any number of times anywhere in the program. This eliminates the need to repeat the same code in a number of places in the program.
v. Team work: Several programmers can work on individual programs at the same time, thus making development of programs faster.
vi. Program Maintenance: The new functionalities can be added to the modules without modifying or rewriting the program to a large extent.
        (Definition-1 mark; Any two properties-2 marks; Example-2 marks)

                OR
Definition: The process of dividing a problem into smaller sub-problems (also called modules) and the sub-problems into more sub-problems is called   **top-down design**.

Explanation: Top-down design is based on **Divide and conquer** method. Top down analysis can be represented as a tree structure with the general description of the problem at the top level. The functions within the top level are further analyzed and broken down into a series of second level functions. The components within the second level can further be reduced into still lower level sub components. This leads to a hierarchical structure of modules.

Example: Top-down approach to compute the simple interest.

```
                          ┌─────────────────┐
                          │ Simple Interest │
                          └─────────────────┘
              ┌──────────────────┼──────────────────┐
    ┌──────────────────┐ ┌──────────────────────┐ ┌──────────────────┐
    │ Input the values │ │ Compute Simple Interest│ │ Output the result │
    └──────────────────┘ └──────────────────────┘ └──────────────────┘
             │                      │                      │
    ┌──────────────┐      ┌──────────────────┐     ┌──────────────┐
    │ Input P, T, R │      │  SI=P*T*R/100    │     │  Output SI   │
    └──────────────┘      └──────────────────┘     └──────────────┘
```
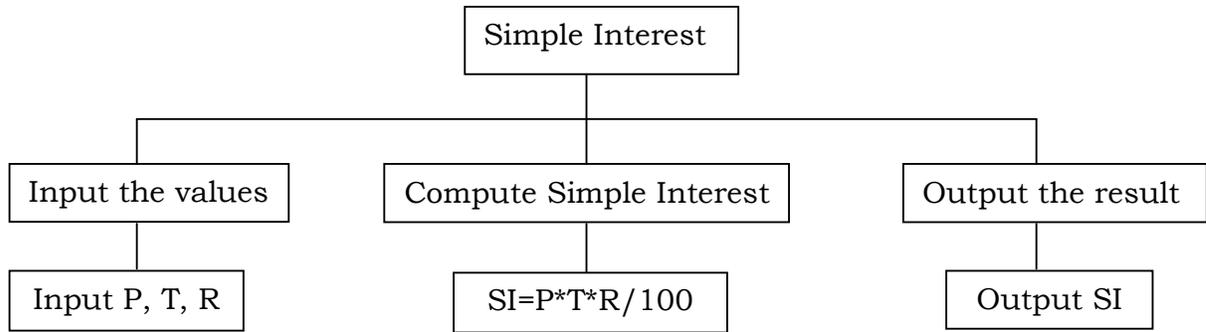
(OR any other example)

(Definition-1 mark; Explanation-2 marks; Example-2 marks)

C. Answer any three questions :

28. Write a C program to find the frequency of presence of a digit in a given number.   (5 M)

Ans: #include <stdio.h>
        #include <conio.h>
        void main( )
        {
                int n, r, digit, count=0;
                clrscr( );
                printf("Enter the number\n");
                scanf("%d", &n);
                printf("Enter the digit\n");
                scanf("%d", &digit);
                while(n!=0)
                {
                        r=n%10;
                        if(r==digit)
                           count++;
                        n=n/10;
                }

                if (count>0)
                        printf("The given digit occurs %d times", count);
                else
                        printf("The given digit does not exists\n");
                getch( );
        }

Declaration	- 1 mark
Input	- 1 mark
Logic	- 2 marks
Output	- 1 mark

29. Explain function with arguments and with return value. Give a programming example.   (5 M)

Ans:

In this type of function, the first function calls the second function by passing some arguments or values to the second function. The second function returns the answer back to the first function.

function1( )
 {
 	
 ----------- 	
 y=function2(**x**)
 }
	------------>
	 arguments
	
	 <--------------
	 return values
		function2(**a**)
		 {
		 --------------- 	
		 return(**s**);
		 }

(Here **x** is the actual parameter and **a** is the formal parameter)

Example:
```
# include <stdio.h>
void main( )
{
    int sum(int, int);
    int a, b, s;
    printf ("Enter the numbers\n");
    scanf ("%d%d", &a, &b);
    s = sum(a, b);
    printf("Sum of two numbers=%d", s);
}
int sum(int x, int y)
{
    return(x+y);
}
```

(OR any other example OR any recursive program example can also be considered. Because In recursive function, we will send some arguments to the function and it returns some values)
(Explanation-1 mark; Syntax-2 marks; Example-2 marks)

30. Explain strrev( ) and strcat( ) in C. Write syntax and example for each. (5 M)
  Ans: **strrev( ) function:** This function reverses the characters in a string.
     Syntax: **strrev(string);**

     Example: strrev("program");   It returns "margorp".

     strcat( ) function: This function is used to concatenate or join two strings.
      Syntax : **strcat(string1,string2);**
     Example: strcat("Charles", "Babbage"); It returns CharlesBabbage.
     (Each function- 2.5 marks)

31. Briefly explain the array passing mechanism to a function with an example.   (5 M)
Ans:
Like the values of simple variables it is also possible to pass the values of an array to a function.

When you pass an array, the address of the first location of the array is passed to called function. C does not make a copy of the entire array, but both the functions share the same data. Any changes made inside the called function will automatically be reflected in the calling function.

Note: To pass an array to a called function only the array name (because it indicates the address of the 1st element) and the size are used as arguments.

Example Program:
```
#include <stdio.h>
void main( )
{
   int a[10], n, i;
   void output(int *, int);   [ int * is used to pass the address of an array ]
   printf("enter the no of elements\n");
   scanf("%d", &n);
   printf("enter the elements\n");
   for (i=0; i<n; i++)
   scanf("%d", &a[i]);
   output(a, n);
}

void output(int b[ ], int m)
{
    int i;
   for(i=0; i<m; i++)
   printf("%d\t", b[i]);
}
```

(OR any other example)
(Explanation – 2 marks; Example-3 marks)

D. Answer any two questions :

32. Define the following: (5 M)

Ans:
a) Data model: This is used to describe data and their relationship.
                   OR
It is a set of rules for representing the logical organization of data in the database.
                   OR
Data model is basically a description of data in a database structure.

b) Entity: It is a real world object.
                   OR
It refers to any real world object that needs to be represented in a data base.
                   OR
It is an object with physical existence such as student, employee etc.,

OR

It is an object with conceptual existence such as company, course etc.,

c) Instance: Each row of a table represnts an instance of the entity.

OR

Each row of a table is called an instance.

d) Attribute: It is each column of a table identified with a distinct header, which describes that column.

OR

It is a field or column of the relation.

e) Domain: It represents the set of all permissible values for the column.

OR

The range of values that an attribute take forms the domain.

(Each definition – 1 mark)

33. Discuss the differences between manual and electronic data processing. (5 M)

Ans:

Manual Data Processing	Electronic Data Processing
1. The volume of data which can be processed is limited.	1. The volume of data which can be processed can be very large.
2. It involves people.	2. It involves electronic devices and computers.
3. Since the data is stored using physical means, it involves the usage of large amount of paper.	3. The use of computers has eliminated the use of papers.
4. The speed and accuracy is limited.	4. Involves very high speed and greater accuracy.
5. Since a lot of manual work is involved the cost of processing is very high.	5. Though the initial investment is high, the cost is reduced to a large extent.
6. Repetitive tasks reduce the efficiency of a human being.	6. The computer is never bored of repetitive tasks.
7. Efficiency is low, because human beings are involved.	7. Efficiency is high, because computers are involved.

(Any five differences)

34. What is e-commerce? Write any two advantages and any two disadvantages of it. (5 M)

Ans:

Definition: **E-Commerce** can be defined as using telecommunications and computers to facilitate the trade of goods and service.

OR

The practice of conducting business transactions online, such as selling products from a World Wide Web is called **E-Commerce**.

Advantages (any two):

1. With the introduction of online shopping consumers can engage in all their shopping with quickness and ease.

2. Providing extensive and relevant information to consumers.
3. Organize transporting of goods and receive payment for goods and services.
4. Facilitate the consumers to browse at the products and the services offered.
5. Not wasting time to physically select their products and waiting in line to purchase them.
6. By shopping online consumers have the option to view other sites when purchasing an item.
7. Shoppers can compare prices to ensure they are getting the best possible price.
    (Any other advantages)

Disadvantages (any two):

1. Most merchants offer a money back guarantee. But in E-commerce a money back guarantee would take a lot of time in sending the product back and waiting for the refund or the exchanged product to come back to us.
2. Surrounding the Internet is security, where the private information could be stolen and used.
3. Using the Internet may be too difficult for the people who have little knowledge or no experience with the computers.
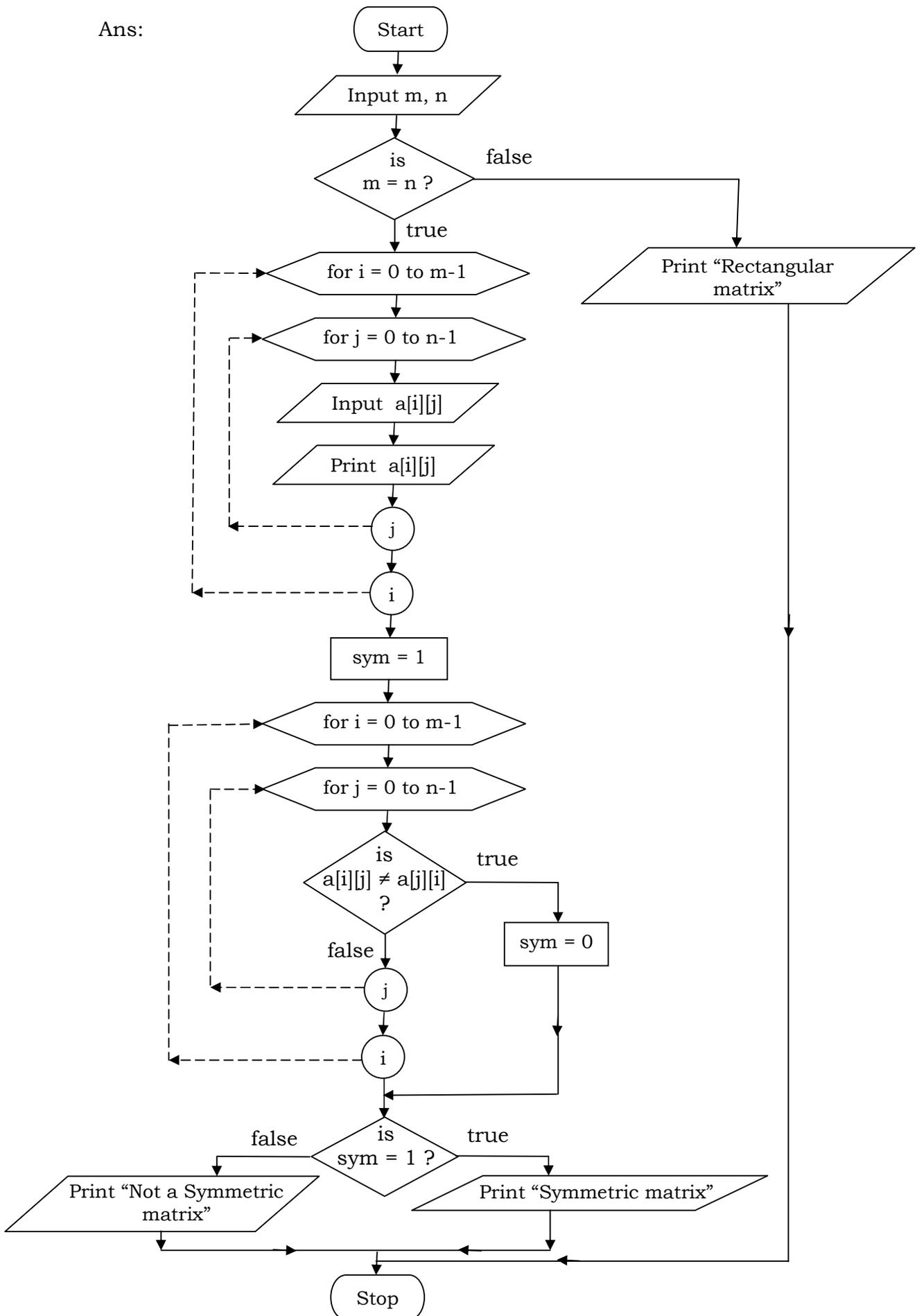   (Any other disadvantages)

(Definition-1mark; Any two advantages-2 marks; Any two disadvantages- 2 marks)

Part – D

35. Draw a flowchart to accept a matrix and to check if it is symmetric. (10 M)

```
Input         - 2 marks
Square/Rectangular checking – 1 mark
Logic         - 5 marks
Output        - 2 marks
```

15

Ans:

```
                    ( Start )
                        │
                  Input m, n
                        │
                   is m = n ? ──false──> Print "Rectangular matrix"
                        │ true
                  for i = 0 to m-1
                        │
                  for j = 0 to n-1
                        │
                  Input a[i][j]
                        │
                  Print a[i][j]
                        │
                        j
                        │
                        i
                        │
                   sym = 1
                        │
                  for i = 0 to m-1
                        │
                  for j = 0 to n-1
                        │
                  is a[i][j] ≠ a[j][i] ? ──true──> sym = 0
                        │ false
                        j
                        │
                        i
                        │
                   is sym = 1 ? ──false──> Print "Not a Symmetric matrix"
                        │ true
                  Print "Symmetric matrix"
                        │
                    ( Stop )
```

36. Write a C program to find the sum of *n* natural numbers using a recursive function.   (10 M)

Ans:

```
 #include<stdio.h>
 #include<conio.h>
 void main( )
 {
        int sum(int);
        int n;
        clrscr( );
        printf("Enter the value of n\n");
        scanf("%d", &n);
        printf( "Sum of n natural numbers = %d\n", sum(n) );
        getch( );
 }


 int sum(int m)
 {
        if (m = = 0)
           return 0;
        else
           return (m + sum (m – 1));
 }
```

| Declaration - 2 marks |
| Input   - 1 mark |
| Function call - 1 mark |
| Output   - 1 mark |
| Function header - 1 mark |
| Logic   - 4 marks |

37.

i) Mention and explain the different communication modes.   (4 M)

Ans:

The different communication modes are:

1. **Simplex**
2. **Half-duplex**
3. **Full-duplex**

1) **Simplex:** On a simplex channel, only one interface is a transmitter and every other interface is a receiver. In this, the transmitting interface cannot receive information and the receiving interface(s) can't transmit.

Example: Commercial broadcast and television use simple channel.

2) **Half duplex:** On a half duplex channel each interface serves as both transmitter and receiver ,but only one interface can transmit at a time. Use of the channel by one interface is limited by use of the other interface.

Example: Walkie talkies use half duplex channels.

3) **Full Duplex:**

A full duplex has two ends. Each serving as both transmitter and receiver. Each interface can both transmit and receive at same time. It is more expensive because two complete channels must exist simultaneously.

Example: Modern Telephone system provides full duplex channels.

(Mention-1 mark; Explanation-3 marks (1 mark each))

ii) Write a note on online data processing. (4 M)

Ans:

On-line processing system refers to the processing of individual transactions as they occur from their point of origin.

An On-line system is one which has direct interaction with the user. As soon as the user inputs the data it is processed immediately. Validation of the data entered is done at various points.

Some of the major functions are:

i. The information is centralized which can be accessed by the variety of users.

ii. The movement of information is very fast.

iii. Allows the sharing of different computing facilities.

Advantages:

1. The result of data processing transaction is available immediately.

2. On-line system ensures that records are in the updated state at any time.

Applications of on-line systems are:

- Banking
- Stock exchange
- Air line reservation etc.,

(Explanation-3 marks; Application-1 mark)

iii) What is web browser? Give an example. (2 M)

Ans:

Definition: A **web browser** is a program used to view a web page.

OR

It acts as an interface between the user and web.

OR

A **web browser** is a software application that enables a user to display and interacts with text, images and other information typically located on a web page at website on the World Wide Web.

Different web browsers are:

Internet Explorer, Mozilla Firefox, Opera, Netscape Navigator, chrome

(OR any other)

(Definition-1 mark; any one example-1 mark)

* * * * * *