11TH COMPUTER SCIENCE –FIRST REVISION EXAM

ANSWER KEY(SIVAGANGAI DISTRICT)

I. CHOOSE THE BEST ANSWER

1. c)power on self test
2. c) word length
3. c) Pentium III
4. c) System software
5. a) My Document
6. b)4
7. a) Size of()
8. b)int
9. b) Switch
10. c)4
11. a) Data Hiding
12. c)copy constructor
13. c)function Overloading
14. c) constructor
15. c)firewall

II. ANWER THE QUESTION (2-MARKS)

16.Distinguish Primary and Secondary memory.

Primary Memory	Secondary memory
The Primary Memory is volatile, that is, the content is lost when the power supply is switched off.	The Secondary memory is non-volatile, that is, the content is available even after the power supply is switched off.
Example: Random Access Memory (RAM).	**Example:** Hard disk, DVD ROM.

17.List the encoding systems for characters in memory.

There are several encoding systems used for computer.

BCD – Binary Coded Decimal
EBCDIC – Extended Binary Coded Decimal Interchange Code
ASCII – American Standard Code for Information InterchangeUnicode
ISCII – Indian Standard Code for Information Interchange

18.What is HDMI?

- High-Definition Multimedia Interface is an audio/video interface which transfers the uncompressed video and audio data from a video controller, to a compatible computer monitor, LCD projector, digital television etc.

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19.What is the difference between an algorithm and a program?

ALGORITHM	PROGRAM
• An algorithm is a sequence of instructions to accomplish a task or solve a problem.	• An algorithm expressed in a programming language is called a program.

20.Write about strlen() function.

- The **strlen()** takes a null terminated string as its argument and returns its length.
- The length does not include the null(\0) character.

General Form:

strlen(string)

21.How is modular programming different from procedural programming paradigm?

- Procedural programming aims more are procedures. In this Programs are organized in the form of subroutines or sub programs
- Modular programming combines related procedures in a module and hides data under modules.

22.List the operators that cannot be overloaded.

Operator that are not overloaded are follows

- Scope operator (**::**)
- Sizeof
- Member selector (**.**)
- Member pointer selector (**✳**)
- Ternary operator (**?:**)

23.**What is inheritance?**

The mechanism of deriving new class (Derived class) from an existing class (Base class) is called inheritance

24.Write a while loop that displays numbers 2, 4, 6, 8.....20.

Coding:

```
#include<iostream>
using namespace std;
int main()
{
int i=2;
while(i<=20)
{
cout<<i<< "\t";
i+=2;
}
return 0;
}
```

II. ANWER THE QUESTION (3-MARKS)

25. Write the significant features of monitor.

Monitor is the most commonly used output device to display the information. It looks like a TV.Pictures on a monitor are formed with picture elements called PIXELS.

There are many types of monitors available such as CRT (Cathode Ray Tube), LCD (Liquid CrystalDisplay) and LED (Light Emitting Diodes).

Monochrome which display text or images in Black and White or can be color, which display results in multiple colors.

The monitor works with the VGA (Video Graphics Array) card. The video graphics card helps thekeyboard to communicate with the screen.

26. Convert $(150)_{10}$ into Binary, then convert that Binary number to Octal

2	150	LSB
2	75	- 0
2	37	- 1
2	18	- 1
2	9	- 0
2	4	- 1
2	2	- 0
MSB	1	- 0

Binary Number to Octal

10010110 = ?

010	010	110
2	2	6

$(10010110)_2 = (226)_8$

$(150)_{10} = (10010110)_2$

27. Write the two ways to create a new folder.

Method I:

Step 1: Open **Computer Icon**.

Step 2: Open any drive where you want to create a new folder.

Step 3: Click on File → New → Folder.

Step 4: A new folder is created with the default name "New folder"

Step 5: Type in the folder name and press Enter key.

Method II:

In order to create a folder in the desktop:

Step 1: In the Desktop, right click → New → Folder

Step 2: A Folder appears with the default name "New folder" and it will be highlighted.

Step 3: Type the name you want and press Enter Key.

Step 4: The name of the folder will change.

28. Is C++ case sensitive? What is meant by the term "case sensitive"?

- Yes, C++ is case sensitive as it treats upper and lower-case characters differently.
- All the keywords must be in lowercase

29. Write note an Array of strings.

- An array of strings is a two-dimensional character array.
- The size of the first index (rows) denotes the number of strings and the size of the second index (columns) denotes the maximum length of each string.
- Usually, array of strings are declared in such a way to accommodate the null character at the end of each string.
- Example of the 2-D array has the declaration:

```
char Name[6][10];
```

30. What are the points to be noted while deriving a new class?

The following points should be observed for defining the derived class.

➢The keyword class has to be used

➢The name of the derived class is to be given after the keyword class

➢A single colon (:)

➢The type of derivation (the visibility mode), namely private, public or protected. If no visibilitymode is specified ,then by default the visibility mode is considered as private.

➢The names of all base classes(parent classes) separated by comma.

31.What is the role of firewalls?

- A firewall is a computer network security-based system that monitors and controls incoming and outgoing network traffic based on predefined security rules.
- A firewall commonly establishes a block between a trusted internal computer.

32.What is TSCII?

- TSCII (Tamil Script Code for Information Interchange) is the first coding system to handle our Tamil language.
- This encoding scheme was registered in IANA (Internet Assigned Numbers Authority) a unit of ICANN.

33.Add a) $-22_{10}+15_{10}$

2	22	LSB
2	11	- 0
2	5	- 1
2	2	- 1
MSB	1	- 0

2	15	LSB
2	7	- 1
2	3	- 1
MSB	1	- 1

-22_{10} = 11101010
$+15_{10}$ = 00001111
-7_{10} = 11111001

$-7_{10}=(11111001)_2$

b) $20_{10}+25_{10}$

2	20	
2	10	- 0 LSB
2	5	- 0
2	2	- 1
MSB	1	- 0

2	25	LSB
2	12	- 1
2	6	- 0
2	3	- 0
MSB	1	- 1

8 bit format of 20_{10} = 00010100
8 bit format of 25_{10} = 00011001
45_{10} = 00101101

$45_{10} = (00101101)_2$

IV. ANWER THE QUESTION (5-MARKS)

34 Explain the basic components of a computer with a neat diagram.

- The computer is the combination of hardware and software.
- Hardware is the physical component of a computer like motherboard, memory devices, monitor, keyboard etc.
- Software is the set of programs or instructions. Both hardware and software together make the computer system to function. Every task given to a computer follows an Input- Process- Output Cycle (IPO cycle).
- It needs certain input, processes that input and produces the desired output

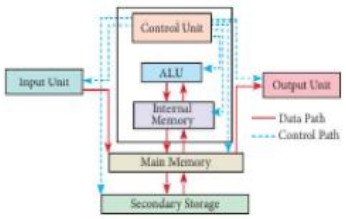

Figure 1.3 components of a computer

b. Explain the process management algorithms in Operating System.

Process management is function that includes creating and deleting processes (program) and providing mechanisms for processes to communicate and synchronize with each other.

A system task, such as sending output to a printer or screen, can also be called as a Process.

A computer consists of a collection of processes; they are classified as two categories:

- Operating System processes which is executed by system code
- User Processes which is execute by user code

The Process Management algorithms are mainly used to allocate the job (process) to the processor

1.FIFO 2.SJF 3.Round Robin 4.Based On Priority

35.a) **Write about Binary operators used in C++.**

Binary Operators - Require two operands

C++ Operators are classified as:

(1)Arithmetic Operators
(2)Relational Operators
(3)Logical Operators
(4)Assignment Operators
(5)Conditional Operator

35 b. Explain Call by value method with suitable example.

Call by value method copies the value of an actual parameter into the formal parameter of the function. In this case, changes made to formal parameter within the function will have no effect on the actual parameter.

Example Program:

```
#include<iostream>
using namespace std;
void display(int x)
{
int a=x*x;
cout<<"\n\n The Value inside display function (a * a):"<<a;
}
int main()
{
int a;
cout<<"\n\n Enter the Value for A :";
cin>>a;
display(a);
cout<<"\n\n The Value inside main function "<<a;
return(0);
}
```

36a).Write a C++ program to find the difference between two matrix.

```
#include<iostream>
using namespace std;
 int main()
 {
clrscr();
 int arr1[3][3], arr2[3][3], arr3[3][3], sub, i, j;
cout<<"Enter 3*3 Array 1 Elements : ";
for(i=0; i<3; i++)
{
```

```
for(j=0; j<3; j++)
 {
cin>>arr1[i][j];
 }
}
cout<<"Enter 3*3 Array 2 Elements : ";
for(i=0; i<3; i++)
{
for(j=0; j<3; j++)
 {
cin>>arr2[i][j];
 }
}
cout<<"Subtracting array (array1-array2) ... \n";
for(i=0; i<3; i++)
 {
for(j=0; j<3; j++)
 {
arr3[i][j]=arr1[i][j]-arr2[i][j];
}
}
cout<<"Result of Array1 - Array2 is :\n";
 for(i=0; i<3; i++)
 {for(j=0; j<3; j++)
{
cout<<arr3[i][j]<<" ";
 }cout<<"\n";
}
getch();
}
```

b)Write a note on the basic concepts that support OOPs?

The Object Oriented Programming has been developed to overcome the drawbacks of procedural and modular programming.

It is widely accepted that object-oriented programming is the most important and powerful way of creating software.

The Object-Oriented Programming approach mainly encourages:

- **Modularisation:** where the program can be decomposed into **modules**.
- **Software re-use:** where a program can be composed from existing and new modules.

Main Features of Object Oriented Programming

- ✓Data Abstraction
- ✓Encapsulation
- ✓Modularity
- ✓Inheritance
- ✓Polymorphism

37a.What are the rules for operator overloading?

1. Precedence and Associativity of an operator cannot be changed.
2. No new operators can be created, only existing operators can be overloaded.
3. Cannot redefine the meaning of an operator's procedure. You cannot change how integers are added. Only additional functions can be given to an operator
4. Overloaded operators cannot have default arguments.
5. When binary operators are overloaded, the left hand object must be an object of the relevant class

b. **Mention the differences between constructor and destructor**

CONSTRUCTOR	DESTRUCTOR
• When an instance of a class comes into scope, a special function called the constructor gets executed.	• When a class object goes out of scope, a special function called the destructor gets executed.
• The name of the constructor must be same as that of the class	• The destructor has the same name as that class prefixed by the tilde character '~'
• Constructor has no return type.	• Destructor has no return type.
• A constructor can have parameter list.	• The destructor cannot have arguments.
• They cannot be inherited but a derived class can call the base class constructor.	• They cannot be inherited
• The compiler generates a constructor, in the absence of a user defined constructor.	• In the absence of user defined destructor, it is generated by the compiler.
• The constructor function can be overloaded.	• Destructors cannot be overloaded.

38. What are the various crimes happening using computer?

Crime	Function
Malware	• Malicious programs that can perform a variety of functions including monitoring user's computer activity without their permission.
Harvesting	• A person or program collects login and password information from a legitimate user to illegally gain access s to others' account(s).
Spam	• Distribute unwanted e-mail to a large number of internet users.
Cyber Terrorism	• Hacking, threats, and blackmailing towards a business or a person.
Cyber stalking	• Harassing through online.
Scam	• Tricking people into believing something that is not true

b)