HIGHER SECONDARY FIRST YEAR ANSWER KEY
COMPUTER SCIENCE

1 MARKS

Q. NO	ANSWER	MARKS
1	A) RAM	1
2	B) A	1
3	A) MS-DOS	1
4	D) 4	1
5	B) S1;S3	1
6	D) int	1
7	D) 10	1
8	A) main()	1
9	C) t.seconds	1
10	B) class	1
11	A) .(dot)	1
12	B) Function overloading	1
13	B) Base class	1
14	D) Warez	1
15	B) Tamil Script Code for Information Interchange	1

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2 MARKS

Q. NO	ANSWER	MARKS
16	1. Control unit, 2.Arithmetic and logic unit (ALU), 3.Memory unit.	2
17	The Program Counter (PC) is a special register in the CPU which always keeps the address of the next instruction to be executed.	2
18	The icons which are available on desktop by default while installing Windows OS are called standard icons. The standard icons available in all Windows OS are My Computer, Documents and Recycle Bin.	1 1
19	Program statements that cause such jumps are called as “Control flow”. The basics of control structures such as “Selection”, “Iteration” and “Jump” statement.	1 1
20	setw() manipulator sets the width of the field assigned for the output. The field width determines the minimum number of characters to be written in output. **Syntax:** setw(number of characters)	1 1
21	Polymorphism is the ability of a message or function to be displayed in more than one form.	2
22	1. Scope operator (::) 2.Sizeof 3. Member selector (.) 4. Member pointer selector (*) 5. Ternary operator (? :)	2

23	**Phishing:** Phishing is a type of computer crime used to attack, steal user data, including login name, password and credit card numbers.	**2**
24	**OUTPUT:** **computer science16** **(OR)** **(Mere Attempt) => Error in the Program lines**	**2**

3 MARKS

Q. NO	ANSWER	MARKS
25	$(101110101)_2 = (565)_8 = (175)_{16}$	3
26	1.User Interface (UI) 2.Memory Management 3. Process management 4. Security Management 5. Fault Tolerance 6.File Management	3
27	Ignoring or hiding unnecessary details and modelling an entity only by its essential properties is known as abstraction	3
28	A function that calls itself is known as recursive function. This technique is known as recursion.	3
29	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. Declaration of 2D Array: Char Name[6][10];	3
30	1. Default Constructor 2. Parameterized Constructor 3. Copy Constructors	3
31	**Private Members:** Cannot be accessed from outside the class. **Public Members:** Accessible from anywhere outside the class but within a program. **Protected Members:** Similar to a private member but it provides one additional benefit that they can be accessed in child classes.	3
32	With the objectives of spreading Tamil to the entire world through internet, Tamil Virtual University was established on 17th February 2001 by the Govt. of Tamil Nadu. Now, this organisation functioning with the name “Tamil Virtual Academy”. It offers different courses regarding Tamil language, Culture, heritage etc., from kindergarten to under graduation level.	3

33	#include <iostream>
	using namespace std;
	int main () {
	int i,sum=0;
	for(i=1; i<=10;i++) {
	sum=sum+i;
	}
	cout<< “The sum of 1 to 10 is”<<sum;
	return 0;
	}
	Output:
	The sum of 1 to 10 is 55
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		3

5 MARKS

Q. NO	ANSWER	MARKS
34 A)	**(i) Inkjet Printers:** Inkjet Printers use colour cartridges which combined Magenta, Yellow and Cyan inks to create colour tones. A black cartridge is also used for monochrome output. Inkjet printers work by spraying ionised ink at a sheet of paper. The speed of Inkjet printers generally range from 1-20 PPM (Page Per Minute). **(ii) Multimedia Projectors:** Multimedia projectors are used to produce computer output on a big screen. These are used to display presentations in meeting halls or in classrooms. **(iii) Bar Code / QR Code Reader:** A Bar code is a pattern printed in lines of different thickness. The Bar code reader scans the information on the bar codes transmits to the Computer for further processing. The system gives fast and error free entry of information into the computer. **QR (Quick response) Code:** ❖ The QR code is the two dimension bar code which can be read by a camera and processed to interpret the image.	**2** **1** **2**
34 B)	**Specifications:** 1.circulate (A, B, C) 2. -- inputs : A, B, C all are real numbers 3. -- outputs: A, B, C all are real numbers T:=C C:=B B:=A A:=T **Algorithm:** 1. circulate (A, B, C) 2. T:=C 3. C:=B 4. B:=A 5. A:=T	**5**
35 A)	A Microprocessor's performance depends on the following characteristics: a) Clock speed b) Instruction set c) Word size **a) Clock Speed:** Every microprocessor has an internal clock that regulates the speed at which it executes instructions. The speed at which the microprocessor executes instructions is called the clock speed. Clock speed is measured in MHz (Mega Hertz) or in GHz (Giga Hertz). **b) Instruction Set:** A command which is given to a computer to perform an operation on data is called an instruction. Basic set of machine level instructions that a microprocessor is designed to execute is called as an instruction set. This instruction set carries out the following types of operations:	**5**

	1.Data transfer, 2.Arithmetic operations, 3.Logical operations, 4.Control flow , 5.Input/output **c) Word Size:** The number of bits that can be processed by a processor in a single instruction is called its word size. Word size determines the amount of RAM that can be accessed by a microprocessor.	

35 B)	**Entry control loop: (for loop)**
	The for loop is a entry- controlled loop.
	It is the easiest looping statement which allows code to be executed repeatedly.
	It contains three different statements (initialization, condition or test-expression and update expression(s)) separated by semicolons.
	
	Syntax :
	for (initialization(s); test-expression; update expression(s))
	{
	Statement 1;
	Statement 2
	.....
	}
	Statement-x;
	
	Working of for loop:
	The initialization part is used to initialize variables or declare variable which are executed only once, then the control passes to test-expression.
	After evaluation of test-expression, if the result is false, the control transferred to statement-x. If the result is true, the body of the for loop is executed, next the control is transferred to update expression.
	❖ After evaluation of update expression part, the control is transferred to the test-expression part. Next the steps 3 to 5 is repeated.
	❖ The workflow of for loop and flow chart are shown below.
	
	Example :
	#include <iostream>
	using namespace std;
	int main ()
	{
	int i;
	for(i = 0; i< 5; i ++)
	cout<<"value of I :"<<i<<endl;
	return 0;
	}
	
	Output:
	value of I : 0
	value of I : 1
	value of I : 2
	value of I : 3
	value of I : 4
		5

36 A)	**(i) Add: $1101010_2 + 101101_2 = 10010111_2$** **(ii) Subtract: $1101011_2 - 111010_2 = 110001_2$**	**2 ½** **2 ½**
36 B)	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)
	{
	x=x*x;
	cout<<"\n\nThe Value inside display function (x*x):"<<x;
	}
	int main()
	{
	int a;
	cout<<"\nExample : Function call by value:";
	cout<<"\n\nEnter the Value for A :";
	cin>>a;
	display(a);
	cout<<"\n\nThe Value inside main function "<<a;
	return(0);
	}
	Output
	Enter the Value for A: 5
	The Value inside display function (a * a): 25
	The Value inside main function: 5
		5

37 A)	**Creating Source code:** Creating includes typing and editing the valid C++ code as per the rules followed by the C++ Compiler. **Saving source code with extension .cpp** After typing, the source code should be saved with the extension .cpp **Compilation:** This is an important step in constructing a program. In compilation, compiler links the library files with the source code and verifies each and every line of code. If any mistake or error is found, it will throw error message. If there are no errors, it translates the source code into machine readable object file with an extension .obj **Execution:** This is the final step of a C++ Program. In this stage, the object file becomes an executable file with extension .exe. Once the program becomes an executable file, the program has an independent existence.	**5**
37 B)	**Re-usability:** "Write once and use it multiple times" you can achieve this by using **class**. **Redundancy:** Inheritance is the good feature for data redundancy. If you need a same functionality in multiple class you can write a common class for the same functionality and inherit that class to sub class.	**5**

Easy Maintenance:
It is easy to maintain and modify existing code as new objects can be created with small differences to existing ones.

Security:
Using data hiding and abstraction only necessary data will be provided thus maintains the security of data.

38 A)

L No	Error Code	Correct Code
1	~INCLUDE (iostream)	#include <iostream>
2	~include<string.h>	#include<string.h>
6	PUBLIC;	public:
8	VIOD getstrings(char str[ ]):	void getstrings(char str[ ])
10	strcpy(s,str):	strcpy(s,str);
13	}:	};
16	strcat(s:ob:s);	strcat(s,ob.s);
17	cout>>"\n concatenated string is:"<<s;	cout<<"\n concatenated string is:"<<s;
19	int main[ ]	int main( )
21	string ob1,ob2;	strings ob1,ob2;
23	cout>>"\n Enter First String:";	cout<<"\n Enter First String:";
24	cin<<string1;	cin>>string1;
27	cin<<string2:	cin>>string2;
31	};	}

5

38 B)

Output:
Enter the age:
18
Enter the height:
155.6 **(OR) Any Suitable Values**
Enter the weight:
43.5
The values entered
18 155.6 43.5

(Mere Attempt) Because of struct Keyword 'S' is in Caps

5

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