

DIRECTORATE OF GOVERNMENT EXAMINATIONS, CHENNAI – 600 006
HIGHER SECONDARY FIRST YEAR EXAM –MAY 2022
COMPUTER SCIENCE
ANSWER KEY

TOTAL MARKS – 70

Instructions :

1. Use Blue or Black ink to write and underline
2. Use Pencil to draw diagrams
3. Give the relevant marks for correct answers which is not present in the given key

PART – I

15 × 1 = 15

Q no	Answer all the questions. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer	Marks
1	(a) Third	1
2	(b) D	1
3	(a) cache Memory	1
4	(b) MS-DOS	1
5	(a) Edit → Paste	1
6	(a) S2	1
7	(c) Bjarne Stroustrup	1
8	(a) 3	1
9	(b) 9	1
10	(d) 10	1
11	(a) array	1
12	(d) Reusability	1
13	(c) Member functions	1
14	(b) Computer ethics	1
15	(a) Android	1
Part II Answer any six questions (Q.No 24 is Compulsory)		6 × 2 = 12
16	Windows, Linux , Unix , Android, iOS	2
17	101100 ₂	2
18	The icons which are available on desktop by default while installing Windows OS are called standard icons.	2
19	An algorithm is a sequence of instructions to accomplish a task or solve a problem.	2
20	data-type array_name [row size][column size] ;	2

21	The ability of the function to process the message or data in more than one form is called as function overloading. (or) Overloaded functions refer to a function having more than one distinct meaning, have same name but different signatures.	2
22	The derived class is a power packed class, as it can add additional attributes and methods and thus enhance its functionality.	2
23	TSCII is the first coding system to handle our Tamil language in an analysis of an encoding scheme that is easily handled in electronic devices, including non-English computers.	2
24	void data type specifies an empty set of values. void datatype do not return any value.	2
Part-III Answer any six questions 6 × 3 = 18 (Q.No 33 is Compulsory)		
25	8-bit microprocessor 16-bit microprocessor 32-bit microprocessor 64-bit microprocessor	3
26	Full marks may be awarded if candidates tries to attempt the answer	3
27	<ul style="list-style-type: none"> • Case analysis splits the problem into an exhaustive set of disjoint cases. • For each case, the problem is solved independently. • Case analysis statement generalizes it to multiple cases. 	3
28	<ul style="list-style-type: none"> • Keywords are the reserved words which convey specific meaning to the C++ compiler. • Keywords cannot be used as an identifier name. 	3
29	Null statement The "null or empty statement" is a statement containing only a semicolon. Compound statement C++ allows a group of statements enclosed by pair of braces { }. This group of statements is called as a compound statement or a block.	1½ 1½
30	The syntax of the switch statement switch(expression) { case constant 1: statement(s); break; case constant 2: statement(s); break; default: statement(s); }	2

	<p>Purposes of switch statement</p> <p>It provides an easy way to dispatch execution to different parts of code based on the value of the expression. (or)</p> <p>The switch statement replaces multiple if-else sequence.</p>	1
31	<ul style="list-style-type: none"> • We can also define new functions to perform a specific task. These are called as user-defined functions. User-defined functions are created by the user. • A function can optionally define input parameters that enable callers to pass arguments into the function. A function can also optionally return a value as output. • Functions are ideally with a name that clearly describes what the function does. 	3
32	<p>An Ethical issue is a problem or issue that requires a person or organization to choose between alternatives that must be evaluated as right (ethical) or wrong (unethical).</p> <p>List of common ethical issues</p> <ul style="list-style-type: none"> • Cyber crime • Software Piracy • Unauthorized Access • Hacking • Use of computers to commit fraud • Sabotage in the form of viruses • Making false claims using computer <p>(Any 3 point is enough)</p>	3
33	<pre>#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; }</pre> <p>(or) A program that gives this logic using for loop</p>	3
Part IV - (Answer All questions)		5 × 5 = 25
34 (a)	<p>Data</p> <ul style="list-style-type: none"> • Data is defined as an unprocessed collection of raw facts. • It is suitable for communication, interpretation or processing. • This will not give any meaningful message. • For example, 134, 16 'Kavitha', 'C' are data. <p style="text-align: center;">Or any other related examples.</p>	2½

	Information <ul style="list-style-type: none"> Information is a collection of facts from which conclusions may be drawn. In simple words we can say that data is the raw facts that is processed to give meaningful, ordered or structured information. For example Kavitha is 16 years old. This information is about Kavitha and conveys some meaning. Or any other related examples. 	2½
	(OR)	
34 (b)	<ul style="list-style-type: none"> ROM – Read Only Memory. PROM – Programmable Read Only Memory. EPROM – Erasable Programmable Read Only Memory. EEPROM – Electrical Erasable Programmable Read Only Memory. Explain the above types of ROM	5
35 (a)	Full marks may be awarded if candidates tries to attempt the answer	5
	(OR)	
35 (b)	1. Let us name the algorithm square_root. 2. It takes the number as the input. Let us name the input n. n should not be negative. 3. It produces the square root of n as the output. Let us name the output y. Then n should be the square of y. The specification of the algorithm is square_root(n) -- inputs: n is a real number, $n \geq 0$. -- outputs: y is a real number such that $y^2 = n$.	5
36 (a)	List out the types of Error Syntax Error Syntax errors occur when grammatical rules of C++ are violated. Semantic Error <ul style="list-style-type: none"> program is grammatically correct, but it contains some logical error. A Program has not produced expected result. It may be happened by wrong use of variable / operator / order of execution etc. Run-time error <ul style="list-style-type: none"> A run time error occurs during the execution of a program. (or) It occurs because of some illegal operation that takes place. 	5
	(OR)	
36 (b)	The switch statement is a multi-way branch statement. It provides an easy way to dispatch execution to different parts of code based on the value of the expression . Syntax: switch(expression) { case constant 1: statement(s);	2

	<pre> break; case constant 2: statement(s); break; default: statement(s); } </pre> <p style="text-align: center;">Give any one example</p>	3																														
37 (a)	<p>Parts of a loop</p> <ul style="list-style-type: none"> • Initialization expression • Test expression • Update expression • The body of the loop <p style="text-align: center;">Explain the above parts of loop</p>	5																														
(OR)																																
37 (b)	<p><u>Output of the program.</u></p> <pre> Enter Number1=4 Enter Number2=5 Enter Number3=13 Enter Number4=15 Enter Number5=18 Enter Number6=23 Enter Number7=34 Enter Number8=66 Enter Number9=77 Enter Number10=80 There are 5 Even Numbers There are 5 Odd Numbers OR Any 10 inputs with relevant output. </pre>	5																														
38 (a)	<p>Error Correction</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">LINE NO</th> <th style="width: 45%;">Error</th> <th style="width: 40%;">CORRECTED LINE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>%include(iostream.h)</td> <td>#include <iostream></td> </tr> <tr> <td>3</td> <td>Missing</td> <td>using namespace std;</td> </tr> <tr> <td>4</td> <td>Class A</td> <td>class A</td> </tr> <tr> <td>6</td> <td>Public;</td> <td>public:</td> </tr> <tr> <td>7</td> <td>Int a1,a2:a3;</td> <td>int a1, a2, a3;</td> </tr> <tr> <td>8</td> <td>Void getdata[]</td> <td>void getdata()</td> </tr> <tr> <td>11</td> <td>a2=13;a3=13;</td> <td>a2=14 ; a3=13;</td> </tr> <tr> <td>13</td> <td>}</td> <td>};</td> </tr> <tr> <td>14</td> <td>Class B::public A()</td> <td>class B : public A</td> </tr> </tbody> </table>	LINE NO	Error	CORRECTED LINE	1	%include(iostream.h)	#include <iostream>	3	Missing	using namespace std;	4	Class A	class A	6	Public;	public:	7	Int a1,a2:a3;	int a1, a2, a3;	8	Void getdata[]	void getdata()	11	a2=13;a3=13;	a2=14 ; a3=13;	13	}	};	14	Class B::public A()	class B : public A	
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	16	PUBLIC	public:	5
	17	voidfunc()	void func()	
	19	int b1:b2:b3;	int b1,b2,b3;	
	20	A::getdata[];	A.getdata();	
	23	a3=a3;	b3 = a3;	
	24	cout<<b1<<'t'<<b2<<'t'<<b3;	cout<<b1<<'n'<<b2<<'n'<<b3;	
	26	Missing	};	
	29	clrscr()	clrscr();	
	31	der1:func();	der.func();	
	Rectify any 10 Errors (or) Write the Corrected program with any 10 Error rectification			
	(OR)			
38 (b)	Advantages of Object Oriented Programming <ul style="list-style-type: none"> • Re-usability • Redundancy • Easy Maintenance • Security <p>Explain the above points.</p>			5