

Tsl11CS

Tenkal District
Common Second Revision Test - 2025



Standard 11
COMPUTER SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 70

Part - I

Choose the correct answer:

15×1=15

- 1) Which shortcut key is used to cut a file or folder?
a) Ctrl+Alt+C b) Ctrl+Alt+X c) Ctrl+C d) Ctrl+X
- 2) 2^{40} is referred as
a) Kilo b) Tera c) Peta d) Zetta
- 3) What is the smallest size of data represented in a CD?
a) Blocks b) Sectors c) Pits d) Tracks
- 4) Operating system provides how many levels of securities to the user?
a) 2 b) 3 c) 4 d) 1
- 5) Which is volatile memory?
a) ROM b) PROM c) RAM d) EPROM
- 6) Using the following recursive definition $a^n = \begin{cases} 1 & \text{if } n = 0 \\ a \times a^{n-1} & \text{otherwise} \end{cases}$
how many multiplications are needed to calculate a^{10} ?
a) 11 b) 10 c) 9 d) 8
- 7) Which of the following operator is extraction operator in C++?
a) >> b) << c) <> d) ^^
- 8) How many times the following loop will execute?
for (int i = 0; i < 5; i++)
a) 0 b) 5 c) 4 d) 6
- 9) If two strings are equal, then strcmp () function return which value?
a) 0 b) -1 c) +1 d) =
- 10) By default, a string ends with which character?
a) \0 b) \t c) \n d) \b
- 11) A constructor that accepts no parameter is called as
a) Parameterized constructor b) Copy constructor
c) Default constructor d) Non-parameterized constructor
- 12) Which is the first Tamil programming language?
a) Thamizpori b) Ezhil c) Kamban d) Vani
- 13) Distributing unwanted e-mail to others is called
a) scam b) spam c) fraud d) spooting
- 14) Inheritance is a process of creating new class from
a) Base class b) Abstract c) Derived class d) Function
- 15) Which of the following is the identifiable with some characteristics and behaviour?
a) class b) object c) structure d) member

Part - II

Note: Answer any six of the following questions:

6×2=12

Question No. 24 is compulsory.

- 15) List the encoding systems that represent characters in memory.

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- 17) What is program counter?
- 18) What is an invariant?
- 19) Write about strlen() function.
- 20) What are Warez?
- 21) What is abstraction?
- 22) What are called standard icons?
- 23) Define class.
- 24) Convert the following if-else statement into conditional statement.


```
if (marks >= 60)
    Grade = 'A';
else
    Grade = 'B';
```

Part - III

Note: Answer any six questions. Question No. 33 is compulsory. 6x3=18

- 25) Add: (a) $-22_{10} + 15_{10}$ (b) $20_{10} + 25_{10}$
- 26) Write the De Morgan's Laws.
- 27) Classify the microprocessor based on the size of the data.
- 28) Write a note on the elements of a windows.
- 29) Why is main() function special?
- 30) Write the syntax and purpose of switch statement.
- 31) Write short note on pow() function in C++.
- 32) How to access members of a structure? Give an example.
- 33) Write a C++ program to print multiplication table of a given number.

Part - IV

Note: Answer all the questions.

5x5=25

- 34) a) Explain the basic components of a computer with a neat diagram.
(OR)
- b) Explain the concept of a distributed operating system along with its advantages.
- 35) a) Perform binary addition for the following:
(i) $(-21)_{10} + (5)_{10}$ (ii) $(-12)_{10} + (15)_{10}$
(OR)
- b) What is function overloading? What are the rules for function overloading?
- 36) a) Explain about the types of ROM.
(OR)
- b) Write the difference between if-else and switch statement.
- 37) a) What is an output unit? Explain any three output devices.
(OR)
- b) Explain the different types of inheritance.
- 38) a) What are the advantages of OOPs?
(OR)
- b) What is an entry control loop? Explain any one of the entry controlled loop with suitable example.

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XI Computer science

Answer key.

Part - I

S.No	OPTION	ANSWER
1.	d	CEH+X
2.	b	Tera
3.	c	Pits
4.	b	3
5.	c	RAM.
6.	c	9
7.	a	>>
8.	b	5
9.	a	0
10.	a	\0
11.	c	Default constructor.
12.	b	Ezhi
13.	b	SPAM
14.	a	Base class
15.	b	Object

Part - II

16. BCD - Binary coded decimal
 EBCDIC - Extended Binary coded Decimal
 Interchange Code
 Unicode.
 ASCII - American Standard code for Information Interchange.
 ISCII - Indian " " " " " " " " - 2 marks
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 marks
18. An expression involving variables, which remains unchanged by an assignment to one of these variables is called an Invariant of the assignment. - 2 marks

19. A The strlen() takes a null terminated string as its argument and returns its length
 * The length does not include the null character
 General form: strlen(string)

20. Commercial programs that are made available to the public illegally are often called warez. - 2 marks

21. Abstraction is the process of hiding or ignoring the details irrelevant to the task so as to model a problem only by its essential features. - 2 marks

22. The icons which are available on desktop by default while installing windows are called standard icons. - 2 marks

23. It can also be defined as a template or blue print representing a group of objects that share common properties and relationship. - 2 marks

24. Grade = (marks) = 60? A : B
 (OR) Any suitable statement - 2 marks

Part-III

25 a) - 22₁₀ + 5₁₀

60421
10110

2	22
2	11-0
2	5-1
2	2-1
	1-0

2	15
2	7-1
2	3-1
	1-01

Binary no (22)₁₀ = 10110₂
 1's complement =
 add 540 = 00010110
 1's complement = 11101001
 2's complement = 11101010

Binary no (5)₁₀ = 101₂
 Add 840 = 00001011
 (-22)₁₀ = 11101010
 (5)₁₀ = 00001011
 (-22)₁₀ + (5)₁₀ = 11100001

$$\begin{array}{r}
 - 22_{10} \Rightarrow 11101010 \\
 15_{10} = 00001111 \\
 \hline
 11111001 \\
 \hline
 - 7_{10} 11111001
 \end{array}$$

- 1/2 marks

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

$$\begin{array}{r}
 2 \mid 20 \\
 \hline
 2 \mid 10 - 0 \\
 \hline
 2 \mid 5 - 0 \\
 \hline
 2 \mid 2 - 1 \\
 \hline
 2 \mid 1 - 0
 \end{array}$$

The binary equivalent of $20_{10} = (10100)_2$

The binary equivalent of $25_{10} = (11001)_2$

$$\begin{array}{r}
 2 \mid 25 \\
 \hline
 2 \mid 12 - 1 \\
 \hline
 2 \mid 6 - 0 \\
 \hline
 2 \mid 3 - 0 \\
 \hline
 2 \mid 1 - 1
 \end{array}$$

$$\begin{array}{r}
 8 \text{ bit format} = 00010100 \\
 8 \text{ bit format} = 00011001 \\
 \hline
 00101101
 \end{array}$$

- 1 1/2 marks

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

26) $A+B = \overline{A} \cdot \overline{B}$ } 3 marks
 $(A \cdot B) = \overline{A} + \overline{B}$

27) 57)

8 bit micro processor 32 bit micro processor
 16 bit " " 64 " "

- 3 marks

28) Title bar Work place
 menu bar Corners & borders

Scrollbar
 - with explanation

- 3 marks

29) * The main function in C++ program is starting point
 * All the programs begin their execution in main()
 * Therefore, the executable statements should be inside the main function()
- 3 marks

30)

Syntax:

switch (expression) {
 case constant 1:
 Statement (S);
 break;
 case constant 2:
 Statement (S);
 break;

default:
 Statement (S);
 }

- 2 marks

Purpose of switch statement
 The switch statement replaces multiple if-else sequence.

(or)

It provides an easy way to dispatch execution to different parts of a program.

31. * The pow() function returns base related to the power of an exponent — 1 mark

* If any argument passed to pow() is long double, the return type is promoted to long double.

* If not the return type is double.

* The pow() function takes two arguments:
base — base value
exponent — exponent of the base.

32. * Once the object of structure type are declared their members can be accessed directly. — 3 marks

* Structure elements are referenced using the objects name followed by (.dot) operator & then the member name.

Any Example

```
#include <iostream>
using namespace std;
int main()
{
    int n;
    cout << "Enter the table number to print:";
    cin >> n;
    for (int i = 1; i <= 10; i++)
    {
        cout << i << "x" << n << "=" << (i * n) << endl;
    }
    return 0;
}
```

(OR)

Any suitable program

— 3 marks

Q.No	Answer	Marks	
34 (b)	<p>The Distributed operating system is used to access shared data and files that reside in any machine around the world using internet/ Intranet.</p> <p>Advantages</p> <ul style="list-style-type: none"> • A user at one location can make use of all the resources available at another location over the network. • Many computer resources can be added easily in the network. • Improves the interaction with the customers and clients. • Reduces the load on the host computer. 	2	5
35. (a)	<p>i. $(11110000)_2$ ii. $(10000011)_2$ (or) $(00000111)_2$</p>	2½ 2½	5
(or)			
(b)	<p>The ability of the function to process the message or data in more than one form is called as function overloading.</p> <p>Rules:</p> <ul style="list-style-type: none"> • The overloaded function must differ in the number of its arguments or data types. • The return type of overloaded functions are not considered for overloading same data type. • The default arguments of overloaded functions are not considered as part of the parameter list in function overloading. 	2	5
36. (a)	<p>Types of ROM :</p> <p>ROM - Read only memory PROM - Programmable read only memory EPROM - Erasable Programmable read only memory EEPROM - Electrically Erasable Programmable read only memory (With Explanation)</p>	2 3	5
(or)			
(b)	<p style="text-align: center;">if...else</p> <ol style="list-style-type: none"> 1. Expression inside if statement decide whether to execute the if block or under else block. 2. An if...else statement uses multiple statements for multiple choices. 3. if...else statement checks for equality as well as for logical expression. 4. The if statement evaluates integer, character, pointer or floating-point or Boolean type. 5. If the condition is false the else block statements will be executed. 	<p style="text-align: center;">switch</p> <ol style="list-style-type: none"> 1. Expression inside switch statement decide which case to execute. 2. Switch statement uses single expression for multiple choices. 3. Switch checks only for equality. 4. Switch statement evaluates only character or a integer data type. 5. If the condition is false then default statements are executed. 	5

Q.No	Answer	Marks	
37. (a)	Output: An output unit is any hardware component that conveys information to users in an understandable form Output Devices : 1. Monitor 2. Printer 3. Speakers 4. Multimedia Projectors 5. Plotter (Note: Any THREE with Explanation)	2	5
(or)			

37) b)

Types of Inheritance

Single, multiple, multilevel, Hierarchical, Hybrid
 Inheritance (2)
 with Explanation (3)

+5 marks

38) a)

* reusability
 * Redundancy
 * Easy maintenance

* security

Explain the above four

-5 marks

b)

In an unrolled loop, the test expression is evaluated before entering into a loop where as in exit controlled loop, the test expression is evaluated before exit from the loop.

Explain any one for loop (or) while with example

-3 marks

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