



2

Tsi11CS

## Part - II

Answer any six questions. Question No. 24 is compulsory:

6x2=12

- 16) Write a short note on Impact printer.
- 17) What is a program counter?
- 18) What are the functions of ALU?
- 19) Convert the given binary number  $(11.01)_2$  into its decimal equivalent.
- 20) What are called standard icons?
- 21) Define - Algorithm.
- 22) What is reference variable? What is its use?
- 23) What is Jump Statements in C++? Write its types.
- 24) Write a while loop that displays numbers 2, 4, 6, 8, ..... 20.

## Part - III

Answer any six questions. Question No. 33 is compulsory:

6x3=18

- 25) Write the truth table and draw the logic symbol of XOR gate.
- 26) What is type conversion? Write a short note on implicit type conversion.
- 27) Write the syntax and purpose of switch statement.
- 28) Explain about classification of Microprocessors based on the Data width.
- 29) What are Keywords? Can Keywords be used as identifiers?
- 30) What is the use of a header file?
- 31) Draw a flowchart for 3-case analysis using alternative statements.
- 32) What is the format of the specification of an algorithm?
- 33) Write a program to sum the numbers from 1 to 10 using 'for' loop.

## Part - IV

Answer all the questions:

5x5=25

- 34) a) Explain any five input devices.  
(OR)
- b) Add:  $1101010_2 + 101101_2$   
Subtract:  $1101011_2 - 111010_2$
- 35) a) Explain the characteristics of a microprocessor.  
(OR)
- b) Write the procedure to create shortcut in Windows OS.
- 36) a) Explain the derived gates with expression and truth table.  
(OR)
- b) What are the points to be noted while creating a user interface for an OS?
- 37) a) Explain the types of Errors in C++.  
(OR)
- b) What are the arithmetic operators in C++? Differentiate unary and binary arithmetic operators. Give example for each of them.
- 38) a) What are the key differences between if...else and Switch statement?  
(OR)
- b) Write a program to find the LCM of two numbers in C++.

Quarterly Examination - 2023  
 Tenkasi District  
 XI Computer Science Answer Key.

Part-I

1. b) Plotters
2. a) B
3. d) 50 GB
4. d) Android
5. d) C++
6. a) Specification
7. b) Pseudo code
8. c)  $m=7, n=-8$
9. b) Int
10. d) \n
11. d) 11
12. a) { }
13. c) 13, 3
14. a) lexical unit
15. a) size of

8 4 2 1  
 1 0 1 1

10 - A  
 11 - B  
 12 - C  
 13 - D

Part-II

- 16) \* Impact Printers print with striking of hammers or pins on ribbon.  
 \* These printers can print on multi part by using mechanical pressure.

\* Example: Dotmatrix printers, line printers.

- 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) 1. The ALU is a part of the CPU. / mark  
 2. The ALU performs arithmetic operations such as addition, subtraction, multiplication, division and logical operations. / mark

- 2 marks



19) Ans.  $(11.011)_2 = (3.375)_{10}$  2 marks

20) The icons which are available on desktop by default while installing windows os are called standard icons. 2 marks

21) An algorithm is a sequence of instructions to accomplish a task or solve a problem. 2 marks

22) \* A Reference variable name is assigned the value of a previously declared variable  
 \* Declaration of a reference consists of base type and an & symbol. 2 marks

23) \* Jump statements are used to interrupt the normal flow of program. 1 mark

\* Types: goto statement, break statement, continue statement 1 mark

24) `int i = 2;`

`while (i <= 20)`

`{`

`cout << i << "\n";`

`i += 2;`

`}`

(OR) Any suitable program. 2 marks

Part-III

25) 

A	B	A ⊕ B
0	0	0
0	1	1
1	0	1
1	1	0

1 mark

0 0 0

0 1 1

1 0 1

1 1 0



3 marks

26) The process of converting one fundamental type into another is called type conversion.

Implicit type conversion: type conversion done by

compiler automatically called is implicit type conversion.

3 marks

27) Syntax: `switch (expression)`

```

{
  case constant 1:
    Statement (S);
    break;
  case constant 2:
    Statement (S);
    break;
  ...
}

```

default: Statement(S) — 2 marks

Purpose of switch statement  
 \* It provides an easy dispatch way to execution to different parts of code based on the value of the expression.  
 (or)

The switch statement replaces multiple if else sequence — 1 mark

28) 8 bit microprocessor  
 16    "    "  
 32    "    "  
 64    "    "

— 3 marks

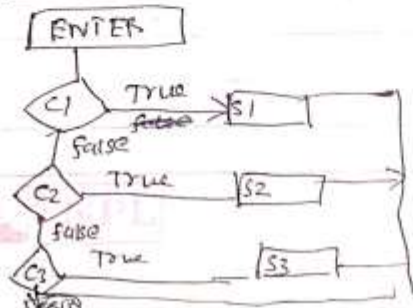
29) \* Keywords are the reserved words which convey specific meaning to the C++ compiler  
 \* Keywords cannot be used as an identifier name.

— 3 marks

30) #include <iostream> statement tells the compiler's Preprocessor to include the header file "iostream" in the program.

iostream header file contains the definition of ias member objects cin and cout. — 3 marks

31)



(OR) Any suitable diagram — 3 marks

32) algorithm\_name (inputs)

-- Inputs: P

-- Outputs: Q

-- 3 marks

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;

}

(OR) ANY suitable Program

-- 3 marks

Part - IV

34) a) (Explain any 5 headings)

1. Key board

5. track ball

2. Mouse

6. Retinal scanner

3. Scanner

7. Light pen

4. Finger print scanner

8. OCR

9. Bar code / QR code

11. Digital camera

10. voice input systems

12. Touch screen

13. Keyes

-- 5 marks

b)

1101010

1101011

101101

111010

10010111

0110001

-- 5 marks

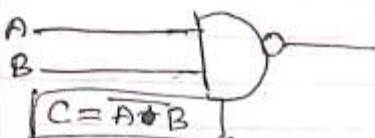
- 35) a) 1. Clock speed 3. word of size  
 2. Instruction set  
 Explanation

b) Important Points:  
 Right click on the file or folder  
 Send to shortcut menu → select desktop

36) a) Derived gates:

NAND

A	B	$\overline{A \cdot B}$
0	0	1
0	1	1
1	0	1
1	1	0



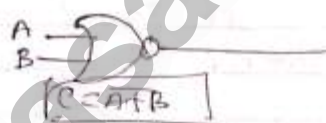
XOR

A	B	$A \oplus B$
0	0	0
0	1	1
1	0	1
1	1	0



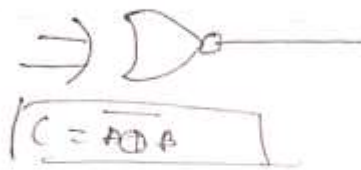
NOR

A	B	$\overline{A + B}$
0	0	1
0	1	0
1	0	0
1	1	0



XNOR

A	B	$\overline{A \oplus B}$
0	0	1
0	1	0
1	0	0
1	1	1



b) Any 5 points

Truth Table: 2 1/2 marks  
 Expression + logic gate - 2 1/2 marks

37) a) Explain Error details

- Syntax Error
- Semantic
- Runtime

1 1/2 marks  
 Explanation: 3 1/2 marks



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b) + Addition / division  
 - Subtraction / - modulus.  
 \* multiplication

Binary  
 Binary  
 1. Required only <sup>two</sup> operands.

Unary  
 Binary  
 Require <sup>only one</sup> operand.

2. Example: +, -, \*, ... Ex: +, -, not ~  
 etc

- 5 marks

Key points

38) a) if else

Key Syntax:

Multiple statement - multiple choices

Single statement - multiple choice.

Data type - int, float, char

Data type: int, char

- 5 marks

b) LCM of two numbers:

A program ~~that~~ write any logic

Using LOOP &amp; Branching statements

(while, do while, for) (if, if else statement)

- 5 marks