CHRIST THE KING BOYS MATRIC HR. SEC. SCHOOL, KUMBAKONAM – 612 001

XI STANDARD COMPUTER SCIENCE REDUCED SYLLABUS

EXPECTED PUBLIC QUESTIONS – 2022

CHAPTERS	2 MARKS & 3 MARKS	5 MARKS
UNIT – I FUNDAMENTALS OF COMPUTER AND WORKING WITH TYPICAL OPERATING SYSTEMS (WINDOWS & LINUX) CHAPTER – 1 INTRODUCTION TO COMPUTERS	1. What is Computer? 2. What are the applications of Computer? 3. Who is Charles Babbage? 4. Distinguish Data and Information? 5. What is Sixth Generation Computing? 6. What are the Characteristics of a Computer?	1. Discuss the various generations of computers.
CHAPTER – 2 NUMBER SYSTEMS	1. What is Data? 2. What is meant by Bit? 3. What is Nibble? 4. What is Word Length? 5. What is called Byte? 6. How the Memory is represented in the Computer? 7. What is Base or Radix in the Number System? 8. Write the steps to convert the fractional Decimal to Binary?	1. Explain the Different Types of Number Systems? 2. a) Write the procedure to convert fractional Decimal to Binary b) Convert (98.46)10 to Binary 3. Find 1's Complement and 2's Complement for the following Decimal number a) -98 b) -135

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	9. What is called as Signed Magnitude? 10. Write the steps to be followed to find 1's complement of a number? 11. Write the steps to be followed to find 2's complement of a number?	
CHAPTER – 3 COMPUTER ORGANIZATION	1. Differentiate Computer Organization and Computer Architecture. 2. What is Microprocessor? 3. What are the Components of Microprocessor? 4. What are the parameters which influence the Characteristics of a Microprocessor? 5. What is the Classification of Microprocessors based on data width? 6. What is the Classification of Microprocessors based on Instruction Set? 7. How many types of accessing methods to access the memory? 8. Define RAM 9. What are the Types of RAM? 10. What is Cache Memory? 11. What is Access Time?	1. Explain the Characteristics of Microprocessor? 2. What are the different types of ROM? 3. Arrange the memory devices in ascending order based on the access time.
CHAPTER – 4 THEORETICAL CONCEPTS	1. What are the types of Software? 2. Define OS	

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OF OPERATING SYSTEM	3. Mention the few uses of Operating System? 4. What are the Functions of an Operating System? 5. List some of the Operating Systems or List Prominent Operating Systems? 6. What are the types of Operating System?	
CHAPTER – 5 WORKING WITH TYPICAL OPERATING SYSTEM PART – I WORKING WITH WINDOWS	1. What are the most popular Operating Systems? 2. Define Multitasking 3. What are the Functions of Windows Operating System? 4. Define Desktop 5. Define Icon 6. What are called Standard Icons? 7. What is called as Shortcut icon? 8. What is meant by Window? 9. What are the Types of Window? 10. Define Word pad 11. Differentiate the Cut and Copy in files and folders? 12. How to delete the file and folder? 13. Define Recycle bin 14. Differentiate Files and Folders. 15. Write the two ways to create a new folder?	1. What are the Elements of a Window? Explain it briefly? 2. What are the methods are there to create a New Folder? 3. What are the methods to Rename the Files or Folders? 4. Explain how to Copying Files and Folders to removable disk?
UNIT – II CHAPTER – 6	1. Define Algorithm 2. Difference between Algorithm and a Process?	1. Write the specification of an algorithm hypotenuse whose inputs are the lengths of the two shorter sides of a right angled triangle,

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SPECIFICATION AND ABSTRACTION	3. What is meant by Data? 4. Define Variables 5. What is Control Flow? 6. Define Sequential Control Flow 7. Define Alternative Control Flow 8. Define Iterative Control Flow 9. Define Functions 10. What is meant by Specification? 11. What is meant by Abstraction? 12. What is Composition? 13. What is Decomposition? 14. What is Input – Output relation? 15. Define Double Dash 16. Write the parts of the Specification format? 17. Write the specification of an algorithm to compute the quotient and remainder after dividing an integer A by another integer B? 18. Write the specification of the algorithm to find the square root of the number? 19. Write the specification of the algorithm to find the minimum of two numbers? 20. Write the specification of the algorithm to find the addition of three numbers?	and the output is the length of the third side. 2. Exchange the contents: Given two glasses marked A and B. Glass A is full of apple drink and glass B is full of grape drink. For exchanging the contents of glasses A and B, represent the state by suitable variables, and write the specification of the algorithm.

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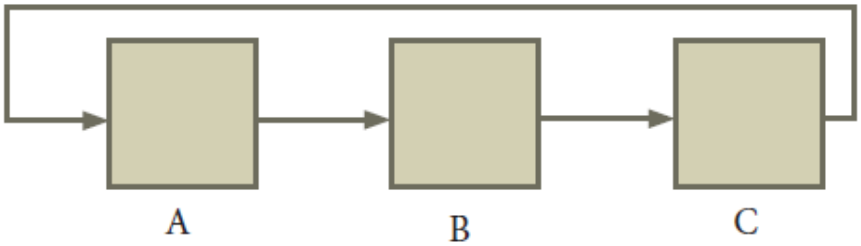
	21. What is meant by State? 22. What is Assignment Statement? 23. Difference between Assignment Operator and Equality Operator? 24. How state is represented in algorithms?	
CHAPTER – 7 COMPOSITION AND DECOMPOSITION	1. What is Programming Language? 2. Define Pseudo code 3. What is meant by Flowchart? 4. What are the Symbols in Flowchart? 5. What are the Disadvantages of Flowchart? 6. What is Conditional Statement? 7. What is Refinement? 8. Define Compound Statements 9. What is Decomposition? 10. Distinguish between a condition and a statement? 11. Draw a flowchart for conditional statement? 12. What is difference between algorithm and a program? 13. What is case analysis?	1. Exchange the contents: Given two glasses marked A and B. Glass A is full of apple drink and glass B is full of grape drink. Write the specification for exchanging the contents of glasses A and B, and write a sequence of assignments to satisfy the specification. 2. Circulate the contents: Write the specification and construct an algorithm to circulate the contents of the variables A, B and C as shown below: The arrows indicate that B gets the value of A, C gets the value of B and A gets the value of C.  3. Decanting problem. You are given three bottles of capacities 5 ,8, and 3 litres. The 8L bottle is filled with oil, while the other two are empty. Divide the oil in 8L bottle into two equal quantities. Represent the state of the process by appropriate

		variables. What are the initial and final states of the process? Model the decanting of oil from one bottle to another by assignment. Write a sequence of assignments to achieve the final state. 4. Trace the step-by-step execution of the algorithm for factorial (4). Factorial(n) -- inputs : n is an integer , $n \geq 0$ -- outputs : f = n! f, I := 1 ,1 while $I \leq n$ f, I := f × I, i+1
CHAPTER – 8 ITERATION AND RECURSION	1. What is Invariant? 2. What is Loop invariant? 3. What is Iteration? 4. Define Recursion 5. What is meant by Loop Invariant? 6. How to construct a loop? 7. What is meant by Recursive Problem Solving? 8. What is Invariant of the Assignment? 9. Define factorial of a natural number recursively	1. There are 7 tumblers on a table, all standing upside down. You are allowed to turn any 2 tumblers simultaneously in one move. Is it possible to reach a situation when all the tumblers are right side up? (Hint: The parity of the number of upside down tumblers is invariant.) 2. A knockout tournament is a series of games. Two players compete in each game; the loser is knocked out (i.e. does not play any more), the winner carries on. The winner of the tournament is the player that is left after all other players have been knocked out. Suppose there are 1234 players in a tournament. How many games are played before the tournament

		winner is decided? 3. King Vikramaditya has two magic swords. With one, he can cut off 19 heads of a dragon, but after that the dragon grows 13 heads. With the other sword, he can cut off 7 heads, but 22 new heads grow. If all heads are cut off, the dragon dies. If the dragon has originally 1000 heads, can it ever die? (Hint:The number of heads mod 3 is invariant.) 4. Assume an 8 × 8 chessboard with the usual coloring. "Recoloring" operation changes the color of all squares of a row or a column. You can recolor re-peatedly. The goal is to attain just one black square. Show that you cannot achieve the goal. (Hint: If a row or column has b black squares, it changes by (|8 – b) – b|).
CHAPTER – 9 C++	1. What is Character Set? 2. Define Lexical Elements or Tokens 3. Define Keywords 4. What is Identifier? 5. What are the Rules for Naming Identifier? 6. What are Literal and its types? 7. Define Integer Constants 8. What is Floating – Point Constant? 9. What is Boolean Literals? 10. Define Character Constant	1. Write about the Binary Operators used in C++? 2. What are the different types of Errors in Dev C++? 3. Assume a=15, b=20; what will be the result of the following operations? a) a&b b) a|b c) a^b d) a>>3 e) (~b)

11. What is Escape Sequence or Non – Graphic Characters or Non – Printable Characters?
12. Define String Constant
13. List some Escape Sequences?
14. Define Operator and Operand
15. What are the types of Operators? (Or) Based on the Operands how many types of operators are there?
16. What is Assignment Operator?
17. List the Other Operators in C++?
18. Define Association
19. Define Conditional Operator
20. What is Punctuator?
21. What is the use of Modulus Operator?
22. What is Stream Extraction or Get from Operator?
23. What is Cascading of Operator?
24. Define Stream Insertion or put to operator
25. How will you cascade I/O Operators?
26. What is the use of a header file?
27. Why is main function special?
28. Write two advantages of using include compiler directive.
29. Define Variable with example
30. Write the Syntax for declaring the variable?

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	31. Define int data type 32. Define char data type 33. What are the Advantages of float type? 34. Define double data type 35. What is void data type? 36. List the memory allocation of fundamental data types? 37. Define Qualifier or Modifier and list the modifiers 38. Define sizeof () operator 39. What is Initialization? Give an example? 40. What is Dynamic Initialization? 41. Define the const Modifier 42. What is meant by Reference?	
CHAPTER – 10 FLOW OF CONTROL	1. What is meant by Control Flow? 2. What are the kinds of statements are there in C++? 3. Define Control Statement 4. What is If Statement? 5. What is If – else Statement? 6. Define Iteration Statement 7. What are types of Iteration Statement? 8. What is Infinite Loop? 9. What is Empty Loop? 10. Define Nested Loop	1. Write the Syntax for i. If Nested inside if part, ii. If Nested inside else part, iii. If Nested inside both if and else part 2. Draw the Flowchart for i. If Nested inside if part, ii. If Nested inside else part, iii. If Nested inside both if and else part 3. Write the Syntax and Flowchart for if-else-if ladder? 4. Explain Switch Statement with an example?

		5. Explain the Rules for Switch Statement? 6. Describe the Key Differences between if – else and switch? 7. What are the parts of the Loop in the Iteration Statement? 8. Explain the For Loop with Syntax and Example? 9. Explain the While Loop with Syntax and Example? 10. Explain the Do – While Loop with Syntax and Example?
CHAPTER – 11 FUNCTIONS	1. Define Function 2. What are the different types of Function? 3. What is the Need for Function? 4. Define Header File with example 5. What is Function Definition? 6. What is Function Prototyping? 7. What is the prototyping information provided to the compiler? 8. What is the use of Void Command? Or Define Void Command 9. What is meant by Parameter? What are the types of Parameters? 10. Write a note on Default Arguments? 11. Define const arguments 12. Write the syntax for const arguments with example? 13. Define Inline Function 14. Write the Syntax for Inline Function with Example?	1. Explain the Call by Value method with Program? 2. Explain the Call by Reference method with Program? 3. What is Recursion? Write a program to find GCD using recursion. 4. Define Scope? Explain the various types of scopes in C++ language?

	15. Write the Advantages of Inline Function? 16. Define Return Statement 17. Write the Syntax for Return Statement with Example? 18. What is Scope Resolution Operator?	
CHAPTER – 12 ARRAYS AND STRUCTURES	1. Define Array with Example 2. What are the types of Array? 3. Define One – Dimensional Array 4. Write down the Syntax for declaring one – dimensional Array? 5. How the Memory is allocated for One – Dimensional Array? 6. How the Initialization is done for One – Dimensional Array? 7. How the values are accepted to an array during run time? 8. How to access the Array Elements? 9. What is meant by Subscript? 10. What is Traversal? 11. What is meant by Strings? 12. Define Two – Dimensional Array with Example 13. How the 2 – D array is declared? 14. How the 2 – D array is initialized? 15. How the Memory is allocated for Two – Dimensional	

	Array? 16. What are Row Major Order and Column Major Order? 17. What is Array of Strings? 18. How the Arrays of Strings is initialized?	
CHAPTER – 13 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING TECHNIQUES	1. What are the Main Features of Object Oriented Programming? 2. Define Encapsulation or Data Binding 3. What is meant by Data Hiding or Information Hiding? 4. What is Data Abstraction 5. Define Data Member and Member Function 6. Define Inheritance 7. Define Polymorphism 8. What are the Advantages of OOP? 9. What are the Disadvantages of OOP? 10. What is Modularity?	1. Describe the main features of Object Oriented Programming?
CHAPTER – 14 CLASSES AND ITS OBJECTS	1. What is the Need for the Class? 2. How to Declare the Class? 3. Write the Syntax for declaring the Class? 4. How many access specifiers are there in Class? 5. Define the Public Access Specifier 6. Define the Private Access Specifier	

	7. Define the Protected Access Specifier 8. What are class members? 9. How many methods are there to define the Methods of a Class? 10. What is Outline Member Function or non – inline member function? 11. Write the Syntax for defining the Outline Member Function? 12. How to Create Objects in C++ program? 13. How many methods are there to create the Objects in C++? 14. What is Global Object? 15. How the Memory Allocation of Objects is done? 16. Write the General Syntax for Calling the Member Function? 17. Define Nesting of Member Functions	
CHAPTER – 15 POLYMORPHISM	1. Define Polymorphism 2. What is meant by Function Overloading? 3. What is the Need for Function Overloading? 4. What are the Rules for Function Overloading? 5. Define Operator Overloading 6. List the Operators that cannot be overloaded in C++? 7. What is the Syntax for Operator Overloading?	1. What is Function overloading? Explain with an example? 2. What are the Rules of Operator Overloading?

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	8. What is the use of overloading a Function?	
CHAPTER – 16 INHERITANCE	1. Define Inheritance 2. What is the Need for Inheritance? 3. What are the Advantages of Inheritance? 4. Define Base Class and Derived Class 5. What are the following points should be observed for defining the derived class? 6. Write the Syntax for defining the derived class with example? 7. Why derived class is called power packed? 8. In what multilevel and multiple inheritance differ though both contains many base class?	1. Define Inheritance. Explain the different types of inheritance?
CHAPTER – 17 COMPUTER ETHICS AND CYBER SECURITY	1. What is Cyber Crime? 2. What is ETHICS? 3. What is Computer Ethics? 4. Define Ethical Issue with some ethical issues 5. List some of the Ethical Issues? 6. Define Malware 7. What is meant by Scam and Spam? 8. Define Spoofing 9. What is meant by Software Piracy? 10. Define Warez 11. What is meant by Unauthorized Access?	1. What are the general guidelines of Computer Ethics? 2. What are the various crimes happening using computer?

	12. Define Hacking 13. Define Cracking	
CHAPTER – 18 TAMIL COMPUTING	1. What is meant by Search Engine? 2. List the Search Engines supporting Tamil? 3. What is E-Governance? 4. What is E-Library? 5. List the Tamil Keyboard Interface? 6. What is the Tamil Office Automation Applications? 7. What is Tamil Translation Applications? 8. Define TSCII 9. Define ISCII 10. Define Unicode 11. Define Tamil Operating System 12. What is Tamil Virtual Academy? 13. What are the Keyboard Layouts used in Android? 14. Write a Short note about Tamil Programming Language?	