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

11TH STANDARD NEW SYLLABUS
LIST OF 2 MARKS & 3 MARKS QUESTIONS
UNIT – I
FUNDAMENTALS OF COMPUTER AND WORKING WITH TYPICAL OPERATING SYSTEMS (WINDOWS & LINUX)

Q.NO.	QUESTION
	CHAPTER – 1 INTRODUCTION TO COMPUTERS
1.	What is Computer?
2.	Who is Charles Babbage?
3.	Define Vacuum Tube
4.	List the Merits and Demerits of Transistors?
5.	What is ENIAC?
6.	Define Data and Information
7.	What is Data Processing?
8.	Define Hardware and Software
9.	Define IPO Cycle
10.	What is Input Unit?
11.	What is CPU?
12.	Define ALU?
13.	What is Control Unit?
14.	Define Output Unit
15.	What are the types of Memory?
16.	What is Memory Unit?
17.	Define Keyboard
18.	Define Mouse
19.	What are the different types of mouse?
20.	Differentiate Optical and Laser Mouse?
21.	What are the Mouse actions?
22.	Define Scanner
23.	What is meant by Track Ball?
24.	What is Finger Print Scanner?
25.	What is Retinal Scanner?
26.	What is Light Pen?
27.	What is meant by OCR?
28.	What is Bar Code Reader?
29.	What is QR Code Reader?
30.	What is meant by Microphone?
31.	What is Digital Camera?
32.	What is Touch Screen?

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33.	Define Keyer
34.	What is Monitor?
35.	Define Plotter
36.	Define Printer. What are the types of Printer?
37.	What is Impact Printer?
38.	What is Non – Impact Printer?
39.	What is Dot – Matrix Printer?
40.	What is meant by Line Printer?
41.	What is Laser Printer?
42.	What is Inkjet Printer?
43.	Define Speaker
44.	What is Multimedia Projector?
45.	What are the types of Booting?
46.	Define Cold Booting
47.	Define Warm Booting
48.	What is NLP?
49.	What is Robot?
50.	What is High – level Language?
51.	Define Assembly Language
52.	What is Punched Card?
53.	What is Bio – Engineering?
54.	Define Nanotechnology
	CHAPTER – 2 **NUMBER SYSTEMS**
55.	What is Data?
56.	What is meant by Bit?
57.	What is Nibble?
58.	What is Word Length?
59.	What is called Byte?
60.	Define Computer Memory
61.	How the Memory is represented in the Computer?
62.	What are the different Number systems?
63.	What is Base or Radix in the Number System?
64.	What is Decimal Number System?
65.	What is Binary Number System?
66.	What is Octal Number System?
67.	What is Hexa - Decimal Number System?
68.	What are the Methods to Convert Decimal Number to Binary?
69.	Write the steps to convert the fractional Decimal to Binary?
70.	Write the steps to convert the Binary to Decimal?
71.	Write the steps to convert the Binary to Octal?
72.	Write the steps to convert the Binary to Hexa - Decimal?
73.	Write the steps to convert the fractional Binary to Decimal?
74.	Write the steps to convert the Octal to Binary?

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75.	Write the steps to convert the Hexa - Decimal to Decimal?
76.	What is called as Signed Magnitude?
77.	Write the steps to be followed to find 1's complement of a number?
78.	Write the steps to be followed to find 2's complement of a number?
79.	List the several encoding schemes used in the computer?
80.	Write a note on BCD?
81.	Write a note on ASCII?
82.	Write a note on EBCDIC?
83.	Write a note on ISCII?
84.	Write a note on Unicode?
	PART – II **BOOLEAN ALGEBRA**
85.	Define Boolean algebra
86.	What are the Logical Operations in Boolean algebra?
87.	What is meant by Truth Table?
88.	Define AND Operator
89.	Define OR Operator
90.	Define NOT Operator
91.	Define NAND Operator
92.	Define NOR Operator
93.	Define Gate
94.	What are Fundamental Gates?
95.	What are Derived or Universal Gates?
96.	Define AND Gate
97.	Define OR Gate
98.	Define NOT Gate
99.	Define NAND Gate
100.	Define NOR Gate
101.	Define Bubbled AND Gate
102.	Define Bubbled OR Gate
103.	What is XOR Gate?
104.	What is XNOR Gate?
	CHAPTER – 3 **COMPUTER ORGANIZATION**
105.	What is Microprocessor?
106.	What are the Components of Microprocessor?
107.	What are the Characteristics of Microprocessor?
108.	Define Hertz
109.	What is Clock Speed?
110.	What is Instruction Set?
111.	What are the types of Operations carried in Instruction Set?
112.	What is Word Size?
113.	What is Program Counter?
114.	What is MDR?

115.	What is MAR?
116.	What is meant by Bus?
117.	What are the different types of Bus?
118.	What is Read/Write Operation?
119.	What is the Classification of Microprocessors based on data width?
120.	Define RISC
121.	What are the examples of RISC?
122.	Define CISC
123.	What are the examples of CISC?
124.	How many types of accessing methods to access the memory?
125.	Define RAM
126.	What are the types of RAM?
127.	Define ROM
128.	Define PROM
129.	Define EPROM
130.	Define EEPROM
131.	What is Cache Memory?
132.	What is Access Time?
133.	What is called Backup Storage?
134.	What is Hard Disk?
135.	What is Compact Disk?
136.	What is DVD?
137.	What is Flash Memory?
138.	What are the various types of Port?
139.	What is Blu- Ray disc?
140.	Define HDMI
	CHAPTER – 4 **THEORETICAL CONCEPTS OF OPERATING SYSTEM**
141.	What are the types of Software?
142.	Define Application Software
143.	Define System Software
144.	Define OS
145.	What are the Functions of an Operating System?
146.	List some of the Operating Systems?
147.	What is the need of an Operating System?
148.	What are the main uses of Operating System?
149.	What are the types of Operating System?
150.	Define Single Operating System
151.	Define Multi-user Operating System
152.	What is meant by User Interface?
153.	What is GUI?
154.	What are the following points are considered when User Interface is designed for an application?
155.	What is Memory Management?
156.	What are the objectives of Memory Management?

157.	What are the categories of Process Management?
158.	Define FIFO
159.	What is SJF?
160.	What is Round Robin?
161.	Define Based on Priority
162.	What are the levels of Security?
163.	Define FAT
164.	What is parallel processing?
165.	What is Time – Sharing?
166.	What is Distributed Operating System?
167.	What are the Advantages of Distributed Operating System?
168.	What is UNIX?
169.	What is Linux?
170.	What are the few distributions of Linux?
171.	What is Microsoft Windows?
172.	What is Android?
173.	What is iOS?
	CHAPTER – 5 **WORKING WITH TYPICAL OPERATING SYSTEM** **PART – I** **WORKING WITH WINDOWS**
174.	What are the Functions of Operating System?
175.	What are the most popular Operating Systems?
176.	Define Multitasking
177.	What are the Functions of Windows Operating System?
178.	What are the various versions of Windows?
179.	Mention the special features of windows 2000?
180.	Mention the special features of windows 2010?
181.	Mention the special features of windows 8?
182.	Mention the special features of windows 7?
183.	What are the Mouse actions?
184.	Define Desktop
185.	Define Icon
186.	What are called Standard Icons?
187.	What are the standard icons available in the computer?
188.	What is called as Shortcut icon?
189.	Define Disk Drives
190.	What is meant by Window?
191.	What is meant by Application Window?
192.	What is meant by Document Window?
193.	What are the elements of a window?
194.	Define Menu Bar
195.	Define Taskbar
196.	How to start and close the application?

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197.	Define Word pad
198.	Differentiate the Cut and Copy in files and folders?
199.	How to delete the file and folder?
200.	Define Recycle bin
201.	How to create the shortcuts on the Desktop?
202.	How will you Shutdown the Computer?
203.	Define Log Off and Restart
	PART – II **WORKING WITH LINUX**
204.	What is meant by Open Source?
205.	What are the most popular Linux server distributors?
206.	Define Ubuntu
207.	What are the significant features of Ubuntu?
208.	What is Ubuntu Desktop?
209.	What are the icons available in Ubuntu OS?
210.	Define the following Terms
211.	a) Menu Bar b) Text Entry Settings
212.	Define the following Terms
213.	a) Network Indicator b) Message Indicator c) Session Indicator
214.	Define Launcher in Ubuntu OS
215.	Define the following Terms
216.	a) Firefox b) Thunderbird c) Ubuntu Software Icon
217.	How to create Files and Folders in Ubuntu OS?
218.	How to delete Files and Folders in Ubuntu OS?
219.	How will you Shutdown using Ubuntu OS?
	UNIT – II **CHAPTER – 6** **SPECIFICATION AND ABSTRACTION**
220.	Define Algorithm
221.	Difference between Algorithm and a Process?
222.	What is meant by Data?
223.	Define Variables
224.	What is Control Flow?
225.	Define Sequential Control Flow
226.	Define Alternative Control Flow
227.	Define Iterative Control Flow
228.	Define Functions
229.	What is meant by Specification?
230.	What is meant by Abstraction?
231.	What is Composition?
232.	What is Decomposition?
233.	What is Input – Output relation?
234.	Define Double Dash

235.	Write the parts of the Specification format?
236.	Write the specification of an algorithm to compute the quotient and remainder after dividing an integer A by another integer B?
237.	Write the specification of the algorithm to find the square root of the number?
238.	Write the specification of the algorithm to find the minimum of two numbers?
239.	Write the specification of the algorithm to find the addition of three numbers?
240.	What is meant by State?
241.	What is Assignment Statement?
242.	Difference between Assignment Operator and Equality Operator?
243.	How state is represented in algorithms?
	CHAPTER – 7 **COMPOSITION AND DECOMPOSITION**
244.	What is Programming Language?
245.	Define Pseudo code
246.	What is meant by Flowchart?
247.	What are the Symbols in Flowchart?
248.	What are the Disadvantages of Flowchart?
249.	What is Conditional Statement?
250.	What is Refinement?
251.	Define Compound Statements
252.	What is Decomposition?
253.	Distinguish between a condition and a statement?
254.	Draw a flowchart for conditional statement?
255.	What is difference between algorithm and a program?
256.	What is case analysis?
	CHAPTER – 8 **ITERATION AND RECURSION**
257.	What is Invariant?
258.	What is Loop invariant?
259.	What is Iteration?
260.	Define Recursion
261.	What is meant by Loop Invariant?
262.	How to construct a loop?
263.	What is meant by Recursive Problem Solving?
264.	What is Invariant of the Assignment?
265.	Define factorial of a natural number recursively

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LIST OF 2 MARKS & 3 MARKS QUESTIONS
UNIT – III
INTRODUCTION TO C++

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Q.NO.	QUESTION
	CHAPTER – 9 C++
266.	What is Hybrid Language?
267.	Who is Bjarne Stroustrup?
268.	Say some words about C++?
269.	What are the benefits of learning C++?
270.	What is Character Set?
271.	Define Lexical Elements or Tokens
272.	Define Keywords
273.	What is Identifier?
274.	What are the Rules for Naming Identifier?
275.	What are Literal and its types?
276.	Define Integer Constants
277.	What are the types of Integer Constants?
278.	What is Floating – Point Constant?
279.	What is Exponent form?
280.	What is Boolean Literals?
281.	Define Character Constant
282.	What is Escape Sequence or Non – Graphic Characters or Non – Printable Characters?
283.	Define String Constant
284.	List some Escape Sequences?
285.	Define Operator and Operand
286.	What are the types of Operators? (Or) Based on the Operands how many types of operators are there?
287.	What is the Classification of Operators?
288.	What is Arithmetic Operator? Give Examples?
289.	What is Increment and Decrement Operator? Give Examples?
290.	What is Relational Operator? Give an Example?
291.	Define Logical Operators. Give example
292.	What are Logical Bitwise Operators?
293.	What are Bitwise Shift Operators?
294.	What is One's Compliment Operator?
295.	What is Assignment Operator?
296.	List the Short – Hand Assignment Operator?
297.	List the Other Operators in C++?
298.	Define Association
299.	Define Conditional Operator
300.	What is Punctuator?
301.	What is the use of Modulus Operator?
302.	What is Stream Extraction or Get from Operator?
303.	What is Cascading of Operator?
304.	Define Stream Insertion or put to operator

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305.	How will you cascade I/O Operators?
306.	How will you execute the C++ Program?
307.	What are the familiar C++ compilers in IDE?
308.	What are the Types of Errors?
309.	What is the difference between “Run time error” and “Syntax error”?
310.	What are the differences between “Logical error” and “Syntax error”?
311.	What is the use of a header file?
312.	Why is main function special?
313.	Write two advantages of using include compiler directive.
314.	What are the categories in the Data types?
315.	Define Variable with example
316.	Write the Syntax for declaring the variable?
317.	What are the Fundamental Data types?
318.	Define int data type
319.	Define char data type
320.	What are the Advantages of float type?
321.	Define double data type
322.	What is void data type?
323.	List the memory allocation of fundamental data types?
324.	Define Qualifier or Modifier and list the modifiers
325.	Define sizeof () operator
326.	What is Garbage or Junk value?
327.	What is Initialization? Give an example?
328.	What is Dynamic Initialization?
329.	Define the const Modifier
330.	What is meant by Reference?
331.	Define endl
332.	What is the difference between endl and ‘\n’?
333.	Define setw()
334.	Write the syntax for setw() and give an example?
335.	Define setfill()
336.	Write the syntax for setfill() and give an example?
337.	Define setprecision()
338.	Write the syntax for setprecision() and give an example?
339.	Define Expression
340.	What are the types of Expression?
341.	Define Constant Expression with an example
342.	Define Integer Expression with an example
343.	Define Float Expression with an example
344.	Define Relational Expression with an example
345.	Define Logical Expression with an example
346.	Define Bitwise Expression with an example
347.	Define Pointer Expression with an example
348.	What are Type Conversion and its types?

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349.	Define Implicit Conversion
350.	Define Explicit Conversion
351.	What are Manipulators?
352.	What is meant by Declaration?
	CHAPTER – 10 FLOW OF CONTROL
353.	What is meant by Control Flow?
354.	What is meant by Statement?
355.	What are the kinds of statements are there in C++?
356.	What is Null Statement?
357.	What is Compound or Block Statement?
358.	Define Control Statement
359.	Define Selection Statement
360.	Define Sequential Statement
361.	Define Iteration Statement
362.	What is meant by Condition and Body of the Loop?
363.	What is If Statement?
364.	What is If – else Statement?
365.	How many forms are there in Nested If?
366.	Define Switch Statement
367.	What are the Key differences between switch vs if – else?
368.	What are the things we want to know about switch?
369.	Define Nested – Switch
370.	Define Iteration Statement
371.	What are types of Iteration Statement?
372.	Define Initialization Expression
373.	Define Test Expression
374.	Define Update Expression
375.	Define Body of the Loop
376.	Define For Loop
377.	Write the Syntax for Entry Controlled Loop?
378.	What is Infinite Loop?
379.	What is Empty Loop?
380.	Define While Loop
381.	Define Do – while Loop
382.	What are the different types of Jump Statements?
383.	Define Goto Statement
384.	Define Break Statement
385.	Define Continue Statement
386.	What is the difference between Continue and Break Statement?
387.	What are the different kinds of Iteration Statements?
388.	Compare if and conditional operator?
389.	Define Nested Loop
390.	Write the Syntax and purpose of Switch Statement?

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CHAPTER – 11 FUNCTIONS	
391.	Define Function
392.	What are the different types of Function?
393.	What is the Need for Function?
394.	Define Pre-defined Function
395.	Define User defined Function
396.	Define Header File with example
397.	Define getchar() and putchar() function
398.	Define gets() and puts() function
399.	Write the syntax for isalnum() with example?
400.	Define isalpha() function with Syntax?
401.	Write the syntax for isdigit() with example?
402.	Write the syntax for islower() with example?
403.	Write the syntax for isupper() with example?
404.	Define toupper() with syntax and example
405.	Define tolower() with syntax and example
406.	What are the string manipulators are there in C++?
407.	Define strcpy() with example
408.	Define strlen() with example
409.	Define strcmp() with example
410.	Define strcat() with example
411.	Define strupr() with example
412.	Define strlwr() with example
413.	What is cos() function with example?
414.	What is sqrt() function with example?
415.	What is sin() function with example?
416.	What is pow() function with example?
417.	What is Generating Random Numbers?
418.	What is Function Definition?
419.	What is Function Prototyping?
420.	What is the prototyping information provided to the compiler?
421.	What is the use of Void Command?
422.	What is the example of Void Command?
423.	How to access a function?
424.	What is meant by Parameter? What are the types of Parameters?
425.	Write a note on Default Arguments?
426.	Define const arguments
427.	Write the syntax for const arguments with example?
428.	Difference between Call by Value and Call by Reference Method?
429.	Define Inline Function
430.	Write the Syntax for Inline Function with Example?
431.	Write the Advantages of Inline Function?
432.	Define Return Statement

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433.	Write the Syntax for Return Statement with Example?
434.	Define Recursive Function
435.	What are the types of Scope Variables are there?
436.	What is meant by Global Variable?
437.	Define Class with Example
438.	What is Scope Resolution Operator?
439.	What are the different forms of User – Defined Function Declaration?
	CHAPTER – 12 **ARRAYS AND STRUCTURES**
440.	Define Array with Example
441.	What are the types of Array?
442.	Define One – Dimensional Array
443.	Write down the Syntax for declaring one – dimensional Array?
444.	How the Memory is allocated for One – Dimensional Array?
445.	How the Initialization is done for One – Dimensional Array?
446.	How the values are accepted to an array during run time?
447.	How to access the Array Elements?
448.	What is meant by Subscript?
449.	What is Traversal?
450.	What is meant by Strings?
451.	What is get() ?
452.	Define Two – Dimensional Array with Example
453.	How the 2 – D array is declared?
454.	How the 2 – D array is initialized?
455.	How the Memory is allocated for Two – Dimensional Array?
456.	What are Row Major Order and Column Major Order?
457.	What is Array of Strings?
458.	How the Arrays of Strings is Initialized?
459.	Define Structure
460.	What is the Purpose of the Structure?
461.	Write the Syntax with example for the Structure?
462.	How to initialize the structure elements?
463.	What are Structure Assignments?
464.	What is meant by Global Objects?
465.	What is Nested Structure? Give example?
466.	What is Array of Structures?
467.	What is Anonymous Structure? Give Example?
468.	Differentiate between Array and Structure?
469.	How will you pass a structure to a function?
470.	How to access members of a structure? Give Example?
	CHAPTER – 13

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INTRODUCTION TO OBJECT ORIENTED PROGRAMMING TECHNIQUES	
471.	What is Paradigm? Mention the different types of Paradigm?
472.	Define Procedural Programming
473.	List some important features of Procedural Programming?
474.	Define Modular Programming
475.	List some important features of Modular Programming?
476.	What is the difference between Modular Programming and Procedural Programming?
477.	Define Object Oriented Programming
478.	Define Class
479.	What is Object?
480.	Differentiate Classes and its Objects?
481.	List some important features of Object Oriented Programming?
482.	What are the Main Features of Object Oriented Programming?
483.	Define Encapsulation or Data Binding
484.	What is meant by Information Hiding?
485.	What is Data Abstraction
486.	Define Data Member and Member Function
487.	Define Inheritance
488.	Define Polymorphism
489.	What are the Advantages of OOP?
490.	What are the Disadvantages of OOP?
491.	What is Modularity?
CHAPTER – 14 CLASSES AND ITS OBJECTS	
492.	What are called Members?
493.	What is the Need for the Class?
494.	How to Declare the Class?
495.	Write the Syntax for declaring the Class?
496.	How many access specifiers are there in Class?
497.	Define the Public Access Specifier
498.	Define the Private Access Specifier
499.	Define the Protected Access Specifier
500.	How many methods are there to define the Methods of a Class?
501.	What is Outline Member Function?
502.	Write the Syntax for defining the Outline Member Function?
503.	How to Create Objects in C++ program?
504.	How many methods are there to create the Objects in C++?
505.	What is Global Object?
506.	How the Memory Allocation of Objects is done?
507.	Write the General Syntax for Calling the Member Function?
508.	Define Nesting of Member Functions
509.	Define Containership
510.	Define Nested Class and Enclosing Class
511.	What is Constructor?

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512.	What is the Need for Constructor?
513.	What are the Functions of Constructor?
514.	Define Default Constructor
515.	Define Parameterized Constructor
516.	What is the Significance of Default Constructors?
517.	How many ways are there to create an object using parameterized constructor?
518.	Define Implicit Call
519.	Define Explicit Call
520.	What is meant by Copy Constructor?
521.	When the Copy Constructor is Called?
522.	What are the Characteristics of Constructor?
523.	Define Destructor
524.	What is the Need of Destructor?
525.	What are the Characteristics of Destructor?
526.	What is the difference between the class and object in terms of OOP?
	CHAPTER – 15 **POLYMORPHISM**
527.	Define Polymorphism
528.	What is meant by Function Overloading?
529.	What is the Need for Function Overloading?
530.	What are the Rules for Function Overloading?
531.	Define Operator Overloading
532.	List the Operators that cannot be Overloaded in C++?
533.	What is the Syntax for Operator Overloading?
534.	What is the use of overloading a Function?
	CHAPTER – 16 **INHERITANCE**
535.	Define Inheritance
536.	What is the Need for Inheritance?
537.	What are the Advantages of Inheritance?
538.	Define Base Class and Derived Class
539.	What are the following points should be observed for defining the derived class?
540.	Write the Syntax for defining the derived class with example?
541.	What are called Accessibility or Visibility Modes in C++ program?
542.	Define Private Visibility Mode
543.	Define Protected Visibility Mode
544.	Define Public Visibility Mode
545.	Write some facts about the execution of constructor in inheritance?
546.	What is meant by Overriding?
547.	What is this pointer?
548.	Define Single Inheritance
549.	Define Multiple Inheritance
550.	Define Multi-level Inheritance
551.	Define Hierarchical Inheritance

552.	Define Hybrid Inheritance
553.	What is the difference between the Public and the Private Visibility Mode?
554.	Why derived class is called power packed?
555.	In what multilevel and multiple inheritance differ though both contains many base class?
	CHAPTER – 17 COMPUTER ETHICS AND CYBER SECURITY
556.	What is Cyber Crime?
557.	What is ETHICS?
558.	What is Computer Ethics?
559.	What are the General Guidelines of Ethics?
560.	Define Ethical Issue with some ethical issues
561.	List some of the Ethical Issues?
562.	Define Malware
563.	What is meant by Scam and Spam?
564.	Define Spoofing
565.	What is meant by Software Piracy?
566.	Define Warez
567.	What is meant by Unauthorized Access?
568.	Define Hacking
569.	Define Cracking
570.	What is Cyber Security?
571.	What are the Types of Cyber Attacks?
572.	Define Virus and Worms
573.	Define Spyware and Ransom ware
574.	What is meant by Phishing?
575.	What is meant by Pharming?
576.	Define MITM
577.	Define Cookies
578.	What is Firewall?
579.	What is Proxy Servers?
580.	Define Encryption and Decryption
581.	What is Symmetric Key Encryption?
582.	What is Public Key Encryption?
583.	What is Asymmetric Key Encryption?
584.	What is meant by Digital Signature?
585.	How to create a Digital Signature?
586.	How to Prevent the Cyber Crime Problems?
587.	What is Harvesting?
588.	What is the Role of Firewalls?
	CHAPTER – 18 TAMIL COMPUTING
589.	What is meant by Search Engine?
590.	List the Search Engines supporting Tamil?
591.	What is E-Governance?

592.	What is E-Library?
593.	List the Tamil Keyboard Interface?
594.	What is the Tamil Office Automation Applications?
595.	What is Tamil Translation Applications?
596.	Define TSCII
597.	Define ISCII
598.	Define Unicode
599.	Define Tamil Operating System
600.	What is Tamil Virtual Academy?
601.	What are the Keyboard Layouts used in Android?
602.	Write a Short note about Tamil Programming Language?

11TH STANDARD NEW SYLLABUS
LIST OF 5 MARKS QUESTIONS
UNIT – I
FUNDAMENTALS OF COMPUTER AND WORKING WITH TYPICAL OPERATING SYSTEMS (WINDOWS & LINUX)

Q.NO.	QUESTION
	CHAPTER – 1 INTRODUCTION TO COMPUTERS
1.	Explain the basic components of a computer with a neat diagram?
2.	Discuss the various generations of computers.
3.	Explain the Various Input Devices?
4.	Explain the Various Output Devices?
5.	Describe the Impact and Non – Impact Printers?
6.	Explain the different types of Mouse?
	CHAPTER – 2 NUMBER SYSTEMS
7.	a) Write the procedure to convert fractional Decimal to Binary b) Convert (98.46)10 to Binary
8.	Find 1's Complement and 2's Complement for the following Decimal number a) -98 b) -135
9.	a) Add 11010102+1011012 b) Subtract 11010112 - 1110102
10.	Explain the different encoding systems used for computer?

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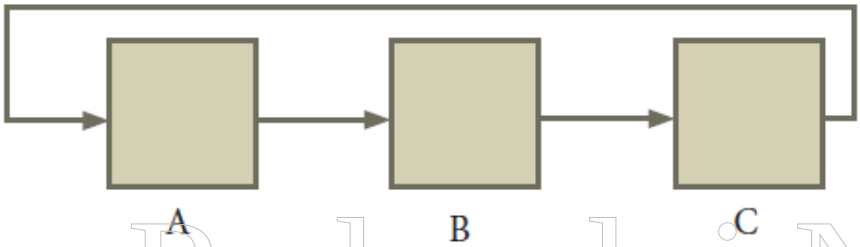
	PART – II **BOOLEAN ALGEBRA**
11.	Explain the AND, OR, NOT Operator with Truth Table?
12.	Explain the NAND and NOR Operator with Truth Table?
13.	Explain the Fundamental Gates with Truth Table and Symbol?
14.	Explain the Universal Gates with Truth Table and Symbol?
15.	Explain the XOR and XNOR Gate with Truth Table and Symbol?
16.	Explain the Bubbled OR and Bubbled AND Gate with Truth Table and Symbol?
	CHAPTER – 3 **COMPUTER ORGANIZATION**
17.	Explain the Characteristics of Microprocessor?
18.	Explain the Types of Microprocessor?
19.	Explain RAM and its types?
20.	What are the different types of ROM?
21.	Explain the Secondary Storage Devices?
22.	Explain the Ports and Interfaces?
23.	How the read and write operations are performed by a processor? Explain?
	CHAPTER – 4 **THEORETICAL CONCEPTS OF OPERATING SYSTEM**
24.	Explain the Need and Uses of Operating System?
25.	Define User Interface and write the points to be considered when user interface is designed?
26.	Explain the Algorithms that are used to allocate the Job?
27.	Explain the concept of a Distributed Operating System
28.	Explain the Prominent Operating Systems?
	CHAPTER – 5 **WORKING WITH TYPICAL OPERATING SYSTEM** **PART – I** **WORKING WITH WINDOWS**
29.	Describe the Various Versions of Windows?
30.	What are the Elements of a Window? Explain it briefly?
31.	What are the methods are there to create a New Folder?
32.	What are the methods to Rename the Files or Folders?
33.	Explain how to Copying Files and Folders to removable disk?
	PART – II **WORKING WITH LINUX**
34.	Describe the Icons that are available in the Ubuntu OS?
	UNIT – II **CHAPTER – 6** **SPECIFICATION AND ABSTRACTION**
35.	Write the specification of an algorithm hypotenuse whose inputs are the lengths of the two shorter sides of a right angled triangle, and the output is the length of the third side.
36.	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.
37.	What are the Algorithm Design Techniques? Explain it?
	CHAPTER – 7 **COMPOSITION AND DECOMPOSITION**
38.	Explain the Sequential Statement?
39.	Explain the Alternative Statement?
40.	Explain the Iterative Statement?
41.	Explain the Case Analysis?
42.	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.
43.	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. 
44.	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.
45.	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 := $f \times i$, i+1
	CHAPTER – 8 **ITERATION AND RECURSION**
46.	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.)
47.	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?
48.	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.)
49.	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|).
50.	A single-square-covered board is a board of 2n x 2n squares in which one square is covered with a single square tile. Show that it is possible to cover the this board with triominoes without overlap.

UNIT – III
INTRODUCTION TO C++

Q.NO.	QUESTION
	CHAPTER – 9 **C++**
51.	Write about the Binary Operators used in C++?
52.	Explain the Bitwise Operators with example?
53.	Describe the I/O Operator with Cascading?
54.	What are the basic elements of the C++ program?
55.	What are the main steps to create and execute the C++ program?
56.	How to work with Dev C++?
57.	What are the different types of Errors in Dev C++?
58.	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)
59.	**Write a C++ Program to find the Curved Surface Area of a cylinder (CSA) (CSA = 2 pi r * h)?**
60.	Write a C++ Program to Calculate Net Salary?
61.	Write a C++ program to find the perimeter and area of a quadrant.
62.	Write a C++ program to find the area of triangle.
63.	Write a C++ program to convert the temperature from Celsius to Fahrenheit.
64.	Write a C++ to find the total and percentage of marks you secured from 10th Standard Public Exam. Display all the marks one-by-one along with total and percentage. Apply formatting functions.
	CHAPTER – 10 **FLOW OF CONTROL**
65.	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
66.	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
67.	Write the Syntax and Flowchart for if-else-if ladder?
68.	Explain Switch Statement with an example?
69.	Explain the Rules for Switch Statement?

70.	Describe the Key Differences between if – else and switch?
71.	Describe the Nested Switch with Syntax and Example?
72.	What are the parts of the Loop in the Iteration Statement?
73.	Explain the For Loop with Syntax and Example?
74.	Explain the While Loop with Syntax and Example?
75.	Explain the Do – While Loop with Syntax and Example?
76.	Explain the Jump Statements with Syntax and Example?
77.	Write a C++ Program to find the LCM and GDC of two numbers?
78.	Write a C++ Program requires the user to enter two numbers and an operator. It then carries out the specified arithmetical operation: addition, subtraction, multiplication or division of the two numbers. Finally, it displays the result.
79.	Write a C++ Program to print whether a given character is an uppercase or a lowercase character or a digit or any other character. use ASCII codes for it. The ASCII codes are as given below: **Characters ASCII Range** '0' - '9' 48 - 57 'A' - 'Z' 65 - 90 'a' - 'z' 97 - 122 other characters 0- 255 excluding the above mentioned codes.
80.	Write a C++ Program to calculate the factorial of an integer.
81.	Write a C++ Program that print 1 2 4 8 16 32 64 128.
82.	Write a C++ Program to generate divisors of an integer.
83.	Write a C++ Program to print Fibonacci series i.e., 0 1 1 2 3 5 8.....
84.	Write a C++ Program to get the following output A A B A B C A B C D A B C D E A B C D E F
85.	Write a C++ Program to get the following output 5 4 3 2 1 5 4 3 2 5 4 3 5 4 5
86.	Write a C++ Program to get the following output # # # # # # # # # # # # # # # #
87.	Write a C++ Program to check whether square root of a number is prime or not.
88.	Write a C++ Program to find sum of the series S = 1 + x + x2 +..... + xn
	CHAPTER – 11 **FUNCTIONS**
89.	Explain the String Manipulations in C++ with example?
90.	Explain the Methods of Calling functions with Program?

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91.	Explain the Call by Value method with Program?
92.	Explain the Call by Reference method with Program?
93.	Describe the Inline Function with Syntax, Advantages and program?
94.	What are the different forms of User – Defined function declaration?
95.	What is Recursion? Write a program to find GCD using recursion.
96.	Define Scope? Explain the various types of scopes in C++ language?
	CHAPTER – 12 **ARRAYS AND STRUCTURES**
97.	Explain array of structures with example?
98.	Explain call by value with respect to structure
99.	How call by reference is used to pass structure to a function .Give an Example
100.	Write a C++ program to find the difference between two matrixes?
101.	How will you pass two dimensional array to a function explain with example.
	CHAPTER – 13 **INTRODUCTION TO OBJECT ORIENTED PROGRAMMING TECHNIQUES**
102.	Describe the main features of Object Oriented Programming?
103.	Write the differences between Object Oriented Programming and procedural programming
	CHAPTER – 14 **CLASSES AND ITS OBJECTS**
104.	Explain the Nested Class with example?
105.	Explain the Characteristics of Constructors?
106.	Explain the Characteristics of Destructors?
107.	Mention the differences between constructor and destructor
	CHAPTER – 15 **POLYMORPHISM**
108.	What is Function overloading? Explain with an example?
109.	What are the Rules of Operator Overloading?
110.	Define Operator Overloading. What is the Process of Operator Overloading with Example?
	CHAPTER – 16 **INHERITANCE**
111.	Define Inheritance. Explain the different types of inheritance?
112.	Explain the different visibility mode through pictorial representation
	CHAPTER – 17 **COMPUTER ETHICS AND CYBER SECURITY**
113.	What are the general guidelines of Computer Ethics?
114.	What are the various crimes happening using computer?
115.	What is piracy? Mention the types of piracy? How can it be prevented?
116.	Write the different types of cyber attacks?
117.	What are the different types of Encryption?