

**194/2023**

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Which of the following is not considered as a peripheral device?  
(A) Keyboard (B) Mouse  
(C) USB (D) CPU
2. What are the canonical forms of Boolean Expressions?  
(A) XOR and OR (B) XNOR and NOR  
(C) POM and SOM (D) MIN and MAX
3. Which of the following memories must be refreshed many times per second?  
(A) Static RAM (B) Dynamic RAM  
(C) USB (D) HDD
4. Which of the following is considered as the brain of the computer?  
(A) CPU (B) Mother Board  
(C) HDD (D) BIOS Chip
5. Which of the following is not an input device?  
(A) Mouse (B) Keyboard  
(C) VDU (D) Microphone
6. What is the permanent memory built into your computer called?  
(A) ROM (B) CPU  
(C) Motherboard (D) RAM
7. Which part of the computer helps to store information?  
(A) Keyboard (B) Mouse  
(C) Disk Drive (D) Scanner
8. What is the minimum number of two input NAND gates used to perform the function of two input OR gates?  
(A) 2 (B) 3  
(C) 5 (D) 7

9. Who is the father of C language?  
(A) Dennis Ritchie (B) James Gosling  
(C) Sundar Pichai (D) Tim Cook
10. Which of the following is not a valid C variable name?  
(A) Int a (B) \$a  
(C) Float a (D) Char a
11. Which of the following is an exit controlled loop?  
(A) Do – While Loop (B) While Loop  
(C) For Loop (D) Next Loop
12. How many types of constructors in C++ are?  
(A) 1 (B) 2  
(C) 3 (D) 4
13. What is the number of parameters that a default constructor requires?  
(A) 0 (B) 1  
(C) 2 (D) 3
14. Who developed object-oriented programming?  
(A) Adele Goldberg (B) Alan Kay  
(C) Dennis Ritchie (D) Sundar Pichai
15. Which of the following shows the Operator overloading feature in C++?  
(A) Encapsulation (B) Abstraction  
(C) Polymorphism (D) Inheritance
16. Which of the following operator cannot be overloaded?  
(A) Division (B) Addition  
(C) Multiplication (D) Scope resolution operator
17. Which of the following is an abstract data type?  
(A) String (B) Int  
(C) Class (D) Double
18. How many keywords are there in C++?  
(A) 80 (B) 85  
(C) 90 (D) 95

19. In MS Office Format Painter is in which group?  
(A) Font (B) Clipboard  
(C) Alignment (D) Styles
20. The maximum spacing applied on before and after a paragraph is :  
(A) 1582 pt (B) 1583 pt  
(C) 1584 pt (D) 1585 pt
21. Which one of the following is not a template extension in MS Word?  
(A) .Doc (B) .Dot  
(C) .Dotm (D) .dotx
22. Which is the shortcut key for inserting Macros in MS Word?  
(A) Ctrl + F8 (B) Alt + F8  
(C) Shift + F8 (D) Ctrl + alt + F8
23. The ghosted text behind the content of a page known as :  
(A) Word Art (B) Clip Art  
(C) Watermark (D) Object
24. Which one of the following in Excel allows to transform rows into columns and columns to rows and can also make advanced calculations?  
(A) Chart (B) Formulas  
(C) Pivot Table (D) Filter
25. Which chart type is the best for comparing multiple values?  
(A) Pie (B) Bar  
(C) Column (D) Line
26. While using Excel formulas, which reference adjusted automatically as per the corresponding rows and columns?  
(A) Absolute cell reference (B) Mixed cell reference  
(C) Unique cell reference (D) Relative cell reference
27. PDF stands for :  
(A) Printed document format (B) Portable document format  
(C) Portrait document format (D) Pointed document format

28. Which option in Excel will find the right input when you know the result you want?  
(A) Goal seek (B) Data validation  
(C) Consolidate (D) Scenario Manager
29. Which option is used for making all content visible within a cell by displaying it on multiple lines?  
(A) Merge and Center (B) Wrap Text  
(C) Justified alignment (D) Center alignment
30. Which preview allows you to manually move page breaks and reorganize a worksheet into pages for printing?  
(A) Print Preview (B) Column Break Preview  
(C) Page Break Preview (D) Live Preview
31. In Power Point Slides, Handouts and Notes are included in which view?  
(A) Reading View (B) Master View  
(C) Slide show view (D) Presenter View
32. A text that temporarily hold a place in a document for the purpose of typesetting and layout is called :  
(A) Notes (B) Comment  
(C) Text Box (D) Placeholder
33. In Power Point which Smart Art Graphic Types shows non-sequential informations :  
(A) List (B) Pyramid  
(C) Process (D) Hierarchy
34. 'Shred' come under which tab in Power Point?  
(A) Animation (B) Design  
(C) Transition (D) Review
35. Which of the following asymptotic notations is used to provide lower bound constraints?  
(A)  $X$  (B)  $\Theta$   
(C)  $O$  (D)  $\Omega$
36. Identify the two types of efficiency that are important for computer algorithms :  
(A) Time Efficiency and High Power efficiency  
(B) High power efficiency and Computational efficiency  
(C) Computational efficiency and space efficiency  
(D) Space efficiency and Time Efficiency

37. Which of the following data structure is non linear type?  
 (A) Graph (B) Stacks  
 (C) Lists (D) None of the above
38. There is an extra element at the head of the list called a :  
 (A) Sentinel (B) Antinel  
 (C) List head (D) List header
39. The property of binary tree is :  
 (A) The root cannot contain NULL  
 (B) The first subset is called left subtree  
 (C) The second subtree is called right subtree  
 (D) The right subtree can be empty
40. What is the worst case complexity of bubble sort?  
 (A)  $O(n \log n)$  (B)  $O(\log n)$   
 (C)  $O(n)$  (D)  $O(n^2)$
41. Linear search is also called :  
 (A) Random search (B) Sequential search  
 (C) Perfect search (D) Common search
42. Which of the following is not a type of queue?  
 (A) Priority queue (B) Circular queue  
 (C) Ordinary queue (D) Single ended queue
43. What is the time complexity of the greedy algorithm for the coin change problem?  
 (A)  $O(n \log n)$  (B)  $O(\log n)$   
 (C)  $O(n)$  (D)  $O(n^2)$
44. The travelling salesman problem can be solved using :  
 (A) A spanning tree (B) A minimum spanning tree  
 (C) Bellman-Ford algorithm (D) DFS traversal
45. Which of the following structure represent the entity sets?  
 (A) Rectangle (B) Diamond  
 (C) Ellipse (D) Circle

46. The number of entities to which another entity can be related through a relationship set is called :
- (A) Cardinality (B) Entity  
(C) Schema (D) Attributes
47. In SQL, which of the following is not a data definition language commands?
- (A) GRANT (B) UPDATE  
(C) RENAME (D) REVOKE
48. Which command allows the removal of all rows from a table but flushes a table more efficiently since no rollback information is retained?
- (A) Create command (B) TRUNCATE command  
(C) Drop table command (D) Alter table command
49. What does SQL stand for?
- (A) Simple Query Language (B) Standard Query Language  
(C) Solution Query Language (D) Structured Query Language
50. Which SQL command is used to get data from a table?
- (A) GET (B) SELECT  
(C) DELETE (D) UPDATE
51. Which SQL command is used to change data from a table?
- (A) GET (B) SELECT  
(C) DELETE (D) UPDATE
52. In practical applications, how many types of Normal Forms are there?
- (A) 3 (B) 4  
(C) 5 (D) 6
53. In TCP/IP which addressing scheme is used?
- (A) 128 bit (B) 32 bit  
(C) 64 bit (D) 256 bit
54. Leaky bucket algorithm can be used for :
- (A) Traffic shaping and policing  
(B) Enable communication between networks with different protocols  
(C) Establish connections between remote networks  
(D) Protocol compatibility

55. What is the key feature of the decentralized channel allocation method?
- (A) Optimize network traffic by reducing packet overhead
  - (B) Time is divided into discrete intervals for transmission
  - (C) Each machine decides for itself whether to transmit
  - (D) Enable communication between networks with different protocols
56. What is the maximum number of slave devices that can be supported in a Bluetooth network?
- (A) 15
  - (B) 10
  - (C) Unlimited
  - (D) 7
57. Which category of Ethernet cable is suitable only for voice communication?
- (A) CAT 6
  - (B) CAT 5e
  - (C) CAT 2
  - (D) CAT 1
58. What is the role of TCP in the client-server model of communication?
- (A) Reliable data delivery
  - (B) Fragmentation and reassembly
  - (C) Packet forwarding
  - (D) Path determination
59. What is the purpose of a jam signal in the CSMA/CD protocol?
- (A) Terminates the Transmission
  - (B) Synchronize adapter clock signals
  - (C) Make other adapters aware of collision
  - (D) Indicates successful transmission
60. Which encoding method does Ethernet use to ensure clock synchronization between sending and receiving hosts?
- (A) Phase-shift keying
  - (B) Manchester
  - (C) Bipolar
  - (D) Amplitude modulation
61. Which of the following is the one-way communication system where information is transmitted from one device to another, but the receiving device cannot send information back to the transmitting device?
- (A) Half Duplex
  - (B) Simplex
  - (C) Full Duplex
  - (D) All of the above
62. Which modulation scheme uses different tones or frequencies to represent symbols?
- (A) Binary Phase Shift Keying (BPSK)
  - (B) Quadrature Phase Shift Keying (QPSK)
  - (C) Frequency Shift Keying (FSK)
  - (D) Amplitude Shift Keying (ASK)

63. Where does the Visual Basic MsgBox function belong within the namespace hierarchy?
- (A) System.Collections (B) System.Window.Forms  
(C) Microsoft.VisualBasic.Interation (D) Microsoft.DotNet.Interaction
64. In Visual Basic .NET which category of types minimizes memory overhead and maximizes speed of access?
- (A) Value types (B) Interface types  
(C) Primitive types (D) Reference types
65. Which keyword is used to write comments in VisualBasic.NET that will not be considered by the compiler?
- (A) Optional (B) REM  
(C) RemoveHandler (D) IsNot
66. How can you declare a variable of type Integer using identifier type character in VisualBasic.NET?
- (A) Dim L As Integer Type (B) Dim L\$  
(C) Dim L% (D) Dim L:Integer
67. What principle is used to order the items in the stack data structure in VisualBasic.NET?
- (A) Last-In, First-Out (LIFO) (B) First-In, First-Out (FIFO)  
(C) Alphabetical order (D) Last-In, Last-Out (LILO)
68. Which function is used to convert string to numerical value in VisualBasic?
- (A) ParseInt() (B) Int()  
(C) Val() (D) CStr()
69. How can allocate an array of a specific type using the 'New' keyword in VisualBasic.NET?
- (A) Dim numbers() As Integer numbers = New Integer(4) {}  
(B) Dim numbers() As Integer numbers = NewArray Integer(4) {}  
(C) Dim numbers() As integer numbers = NewArray Integers(4) {}  
(D) Dim numbers() As Integer numbers = New ArrayInteger(4) {}
70. How can local declarations store data in VisualBasic.NET programming?
- (A) Both constant data using the Static keyword and variable data using Const keyword  
(B) Only using the Dim keyword for variable data  
(C) Only using the Static keyword for variable data  
(D) Both constant data using the Const keyword and variable data using the Dim or Static keyword.



71. Which looping construct is most commonly used to iterate through each element or subscript of an array or collection in VisualBasic.NET?
- (A) For Each.....Next (B) Do.....Loop  
(C) While.....Wend (D) For.....Next
72. In VisualBasic.NET which access modifier is used to define a type that is accessible from within the program in which it is declared?
- (A) Friend (B) Protected  
(C) Private (D) Public
73. Which of the following statement is/are correct about The Waterfall Model?
- (i) The waterfall model is the oldest paradigm for software engineering.  
(ii) The waterfall model, sometimes called the classic life cycle.  
(iii) Work flows from communication through deployment in a reasonably nonlinear fashion.  
(iv) A variation in the representation of the waterfall model is called the V-model.
- (A) Only (i), (ii) and (iii) (B) Only (i), (ii) and (iv)  
(C) All of the above (i), (ii), (iii) and (iv) (D) Only (ii), (iii) and (iv)
74. Which one of the following is not a generic process framework activity?
- (A) Planning (B) Modeling  
(C) Measurement (D) Deployment
75. In a requirement analysis phase, use cases and user stories used in which model?
- (A) Behavioral models (B) Class models  
(C) Flow models (D) Scenario-based models
76. In software engineering, MVC means
- (A) Model-View-Controller (B) Model-View-Communication  
(C) Model-View-Class (D) Message-Version-Control
77. Among the following statements, which one is/are not correct?
- (i) Alpha testing, Beta testing, Acceptance testing are the three different types of user testing.  
(ii) Unit testing should focus on testing component interfaces.  
(iii) System testing checks that components are compatible, interact correctly and transfer the right data at the right time across their interfaces.
- (A) Only (i) and (iii) (B) All of the above (i), (ii) and (iii)  
(C) Only (iii) (D) Only (ii)

78. \_\_\_\_\_ checking whether new features break or degrade functionality.
- (A) Functional testing (B) Performance testing  
(C) Regression testing (D) Integration testing
79. Find the statement that not related to three core steps in The Six Sigma methodology :
- (i) Improve the process by eliminating the root causes of defects  
(ii) Define customer requirements and deliverables and project goals via well-defined methods of customer communication  
(iii) Measure the existing process and its output to determine current quality performance (collect defect metrics)  
(iv) Analyze defect metrics and determine the vital few causes.
- (A) Only (ii) (B) Only (i)  
(C) Only (iii) (D) Only (ii) and (iv)
80. Which of the following is the correct level of maturity in the Software Engineering Institute's Capability Maturity Model (CMM)?
- (A) Level 4, Managed (B) Level 4, optimized  
(C) Level 4, Defined (D) Level 4, Repeatable
81. Number of primitive datatypes in Java :
- (A) 8 (B) 7  
(C) 6 (D) 5
82. `int[] nums = {4, 2, 5, 3, 1, 0};` How would you access the third element in `nums`?
- (A) `nums[4]` (B) `nums[3]`  
(C) `nums[2]` (D) `nums(3)`
83. The command used to run a Java program :
- (A) `javac` (B) `cjava`  
(C) `javacc` (D) `java`
84. Arrays in Java are :
- (A) Objects (B) Primitive datatypes  
(C) Object References (D) None
85. When is object created with `new` keyword?
- (A) At run time (B) At compile time  
(C) At execution time (D) Depends on the code

86. \_\_\_\_\_ makes a variable belong to a class, rather than being defined for each instance of the class.
- (A) Volatile (B) Final  
(C) Static (D) Abstract
87. In which of the following is toString() method defined?
- (A) java.lang.util (B) java.lang.String  
(C) java.lang.Object (D) None of these
88. Identify the output of the following  
String str="vwxyz"  
System.out.println(str.substring(1,3));
- (A) vwx (B) wxy  
(C) wx (D) xy
89. Which of the following is a type of polymorphism in Java Programming?
- (A) Compile time polymorphism  
(B) Multilevel polymorphism  
(C) Multiple polymorphism  
(D) Execution time polymorphism
90. \_\_\_\_\_ method of Thread class is used to find out the priority given to a thread?
- (A) ThreadPriority() (B) getPriority()  
(C) getThreadPriority() (D) All of the above
91. Who is the father of HTML?
- (A) Brendan Eich (B) Rasmus Lerdorf  
(C) Sergey Brin (D) Tim Berners-Lee
92. In which part of the HTML metadata is contained?
- (A) html tag (B) head tag  
(C) title tag (D) body tag
93. Which element is used to get highlighted text in HTML5?
- (A) <u> (B) <b>  
(C) highlight (D) <mark>

94. HTML is a subset of :
- (A) SGML (B) SGMT  
(C) SGME (D) XHTML
95. Which HTML element is used for short quote?
- (A) <quote> (B) <abbr>  
(C) <blockquote> (D) <q>
96. What will be the output, if the javascript code is executed?
- ```
var a = 5678;
var b = new Number(5678);
if(a === b)
alert("Yes");
else
alert("No");
```
- (A) Infinity (B) Error  
(C) No (D) Yes
97. Which method removes the first array element?
- (A) Join() (B) Pop()  
(C) Push() (D) Shift()
98. Which single character escape sequence represents "line feed" in javascript?
- (A) \b (B) \n  
(C) \f (D) \t
99. Which of the following variables takes precedence over the others if the names are the same?
- (A) The local element (B) Global variable  
(C) Both (A) and (B) (D) None of the above
100. Which of the following option is used as hexadecimal literal beginning?
- (A) 00 (B) 0x  
(C) 0X (D) Both (B) and (C)

**SPACE FOR ROUGH WORK**

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