1. **It is a class of machine learning techniques that make use of both labelled and unlabelled examples where learning models are called**

A **Semi supervised learning**

B Active learning

C Supervised learning

D Unsupervised learning

   Correct Alternative :- A

2. **The cosine measure and the tanimato coefficient are used for applications involving _____**

A **Sparse numeric data vector**

B Asymmetric binary

C Numerical

D Qualitative

   Correct Alternative :- A

3. **If itemsets X and Y are both frequent but rarely occur together, then itemsets are said to be negatively correlated and indicated as**

A Sup(X∪Y) < Sup(X)

B Sup(X∩Y) < Sup(X)

C **Sup(X∪Y) < Sup(X) x Sup (Y)**

D Sup(X∪Y) < Sup(X) / Sup (Y)

Correct Alternative :- C

4. **Which method quantizes the object space into a finite number of cells?**

A Hierarchical

B **Grid**

C Density based

D Clustering and Evaluation

Correct Alternative :- B

5. **Which interfaces accept request written in some other language to understand them with database?**

A Menu based for web clients

B Form based interface

C Graphical user interface

D **Natural language interface**

Correct Alternative :- D

6. **The casual users access the stored database by _____**

A Executing privileged commands

B Executing DDL statements

C **Executing interactive query**

D Application programs

Correct Alternative :- C

7. **In datamining, one of the objective measures of pattern interestingness where confidence is defined as**

A (X=>Y) = P(X∪Y)

B **(X=>Y) = P(Y/X)**

C (X<=>Y) = P(X∪Y)

D (X/Y) = P(X=>Y)

Correct Alternative :- B

8. **What helps the user to find interesting projections of multi-dimensional data?**

A Hierarchical visualization

B Pixel oriented visualization

C Geometric projection visualization

D Icon based visualization

Correct Alternative :- C

9. **Which one of the measure is not used for computing the dissimilarity of objects described by numeric attributes?**

A Euclidean

B Manhattan

C Minkowski

D Geodesic

Correct Alternative :- D

10. **Dissimilarity between 2 objects 'i' and 'j' can be computed on the ratio, where 'm' is the number of matches and 'p' is the total number of attributes then**

A $d(i,j) = p-m$

B $d(i,j) = m/p$

C $d(i,j) = (p-m)/p$

D   d(i,j) =m/p – 1

Correct Alternative :- C

11. Dimensionality reduction is not applied for

A   Wavelet Transform

B   Removing irrelevant attributes

C   Principal component analysis

D Log linear models

Correct Alternative :- D

12. In datamining, the addition of new attributes from the given set of attributes is called as _____
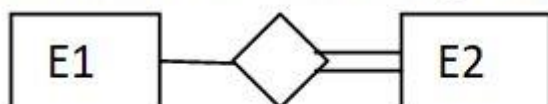
A   Smoothing

B Feature construction

C   Aggregation

D   Normalization

Correct Alternative :- B

What does the following relationship represent?

13.

A   Cardinality ratio 1:N for E1:E2 in R

B   Total participation of E2 in R

C   Partial participation of E2 in R

D   Structured constraint on participation of E1 and E2 in R

Correct Alternative :- B

14. Which one of the following is not the data model for a data warehouse?

A   Star Schema

B   Single dimensional Schema

C   Fact Constellation

D   Snowflake Schema

Correct Alternative :- B

15. Black box testing finds _____

A   interface errors

B   syntax errors

C   coding errors

D   design errors

Correct Alternative :- A

16. **We have a Channel with a 1 MHz bandwidth. The SNR for this channel is 63. What are the appropriate bit rate and signal level?**

A   **C= 6 Mbps and L=4**

B   C= 4 Mbps and L=6

C   C= 6 Kbps and L=4

D   C= 4 Kbps and L=6

Correct Alternative :- A

17. **A code scheme has a hamming distance d_{min}=4. This code guarantees the detection of errors up to _____.**

A   4 bit

B   **3 bit**

C   2 bit

D   1 bit

Correct Alternative :- B

18. **A pure ALOHA network transmits 200 bit frames on a shared channel of 200 Kbps. What is the throughput if the system(all stations together) produces 1000 frames per second?**

A   200 frames

B   **135 frames**

C   1000 frames

D   800 frames

Correct Alternative :- B

19. **Assume that in a stop-and-wait system, the bandwidth of the line is 1 Mbps, and 1 bit takes 20 ms to make a round trip. What is the bandwidth delay product? If the system data packets are 1000 bits in length, what is the utilization percentage of the link?**

A   **20000 bits and 5%**

B   20000 bits and 20%

C   20000 bits and 2%

D   20000 bits and 50%

Correct Alternative :- A

20. **Which of the following uses multiple carrier signals at different frequencies sending some of the bits on each channel?**

A   **Discrete Multitone**

B   SONET

C   POTS

D   ALOHA

Correct Alternative :- A

21. **The use of a set of parity bits for a block of characters such that there is a parity bit for each bit position in the character is called,**

A   Longitudinal Redundancy Check

B   Bit Stuffing

C   CRC

D   Checksum

Correct Alternative :- C

22. **A digital transmission system is capable of transmitting signals with a bandwidth of 8 MHz. It transmits binary data and the data transfer rate is 4 Mbps. Then one bit occurs every _____.**

A   0.5 µsec

B   0.05 µsec

C   0.25 µsec

D   0.15 µsec

Correct Alternative :- C

23. Birthday attack takes_____ operations to subvert m-bit message digest.

A 2^m

B 2^{m+1}

C $2^{(m+1)/2}$

D $2^{m/2}$

Correct Alternative :- A/D

Match the following:

1)	Network Layer	a)	Switch
2)	Physical Layer	b)	Router
3)	Transport Layer	c)	Hub
4)	Data link Layer	d)	Gateway

24.

A 1-b, 2-a, 3-d, 4-c

B 1-c, 2-b, 3-d, 4-a

C 1-b, 2-c, 3-d, 4-a

D   1-c, 2-d, 3-a, 4-b

Correct Alternative :- C

25. Node look up in peer-to-peer networks speedup the lookup process by using

A   **Finger Table**

B   Lookup Table

C   Hashing Table

D   Index Table

Correct Alternative :- A

26. The web has a phenomenon known as _____, in which a website that was previously an unknown and unvisited, all of a sudden becomes the Center of the Known Universe.

A   Cookies

B   **Flash Crowds**

C   Trojan Horse

D   Worms

Correct Alternative :- B

27. **Which of the following is immune to all present and future attacks, no matter how much computational power the intruder has?**

A Quantum Cryptography

B Steganography

C Transposition Cipher

D One Time Padding

   Correct Alternative :- D

28. **Node-to-Node delivery of the data unit is the responsibility of the _____ layer.**

A Physical

B Data link

C Network

D Transport

   Correct Alternative :- B

29. **_____ has filtering capability**

A Repeater

B **Bridge**

C Hub

D Host

Correct Alternative :- B

30. _____ can run for distances of 40 km, making it suitable for wide area applications

A **10GBase – ER**

B 10GBase – SR

C 10GBase – LR

D 10GBase – Cx4

Correct Alternative :- A

31. _____ let the physical topology be divided into different logical topologies

A Wireless LAN

B **Virtual LAN**

C Wired LAN

D Parameterized LAN

Correct Alternative :- B

32. _____ keeps all the old frame format interfaces and procedural rules, but reduce the bit time from 100 nsec to 10 nsec.

A **Fast Ethernet**

B Gigabit Ethernet

C Terabit Ethernet

D Megabit Ethernet

Correct Alternative :- A

33. Digital Signature cannot provide

A Message integrity

B Authentication

C Non Repudiation

D **Confidentiality**

Correct Alternative :- D

34. _____ refers to set of procedures used to restrict amount of data the sender can send before

waiting for acknowledgement.

A   Buffering

B   Error control

C   Congestion control

D   Flow control

Correct Alternative :- D

35. The type of Ethernet destination address 47:20:1B:2E:08:EE is

A   Unicast address

B   Broadcast address

C   Multicast address

D   IP address

Correct Alternative :- C

36. The bubbles in bubble memory pack are created with the help of

A   Electric field

B   Magnetic field

C   Laser beam

D   Laser rays

Correct Alternative :- B

37. Name the addressing mode which assumes that the operand is in accumulator and has only opcode field

A   Register addressing

B   Immediate addressing

C   Implied addressing

D   Register indirect addressing

Correct Alternative :- C

38. The flags in the flag register does not get affected by _____

A   Data transfer instructions

B   Arithmetic instructions

C   Logic instructions

D   Branch instructions

Correct Alternative :- A

39. Expand PSW

A   Process Status Work

B   Program Status Work

C   Process Status Word

D   Program Status Word

Correct Alternative :- D

40. The transformation of data from main memory to cache memory is referred to as _____

A   Mapping process

B   Transformation process

C   Transfer process

D   Direct process

Correct Alternative :- A

41. The unconditional branching instructions are _____, CALL and RET

A   JC

B   JM

C   JNC

D   JMP

   Correct Alternative :- D

42. Floating point is always interpreted to represent a number in the following form.

A $m + r^e$

B $m \times r^e$

C $m - r^e$

D m / r^e

   Correct Alternative :- B

43. Speed of microprocessor depends on

A   width of data bus

B   width of control bus

C   access time

D   response time

Correct Alternative :- A

44. Compared to CISC processors, RISC processors contain

A   more registers and smaller instruction set

B   less registers and smaller instruction set

C   less registers and large instruction set

D   more registers and large instruction set

Correct Alternative :- A

45. Accumulator is used for

A   Arithmetic and logic operations

B   I/O and load/store operations

C   Arithmetic operations

D   Arithmetic, logic, I/O and load/store operations

Correct Alternative :- D

46. Zero has two representations in _____

A   sign magnitude method

B   five's compliment method

C   two's compliment method

D   nine's compliment method

Correct Alternative :- A

47. The Excess-3 code has _____ invalid codes

A   7

B   4

C   6

D   5

Correct Alternative :- C

48. A _____ gives the output state for each possible input state combinations

A   grid chart

B   K - map

C **truth table**

D tabulation method

Correct Alternative :- C

49. The dual of the switching x + yz is

A
$$x + yz$$

B
$$\bar{x} + \bar{y}\,\bar{z}$$

C
$$x\,(y+z)$$

D
$$\bar{x}\,(\bar{y} + \bar{z})$$

Correct Alternative :- D

50. Which of the following flip flops is free from race around problem?

A D flip flop

B T flip flop

C SR flip flop

D **Master slave JK flip flop**

Correct Alternative :- D

51. **The simplified SOP (Sum of Product) form of the Boolean expression (P+Q'+R').(P+Q'+R).(P+Q+R') is**
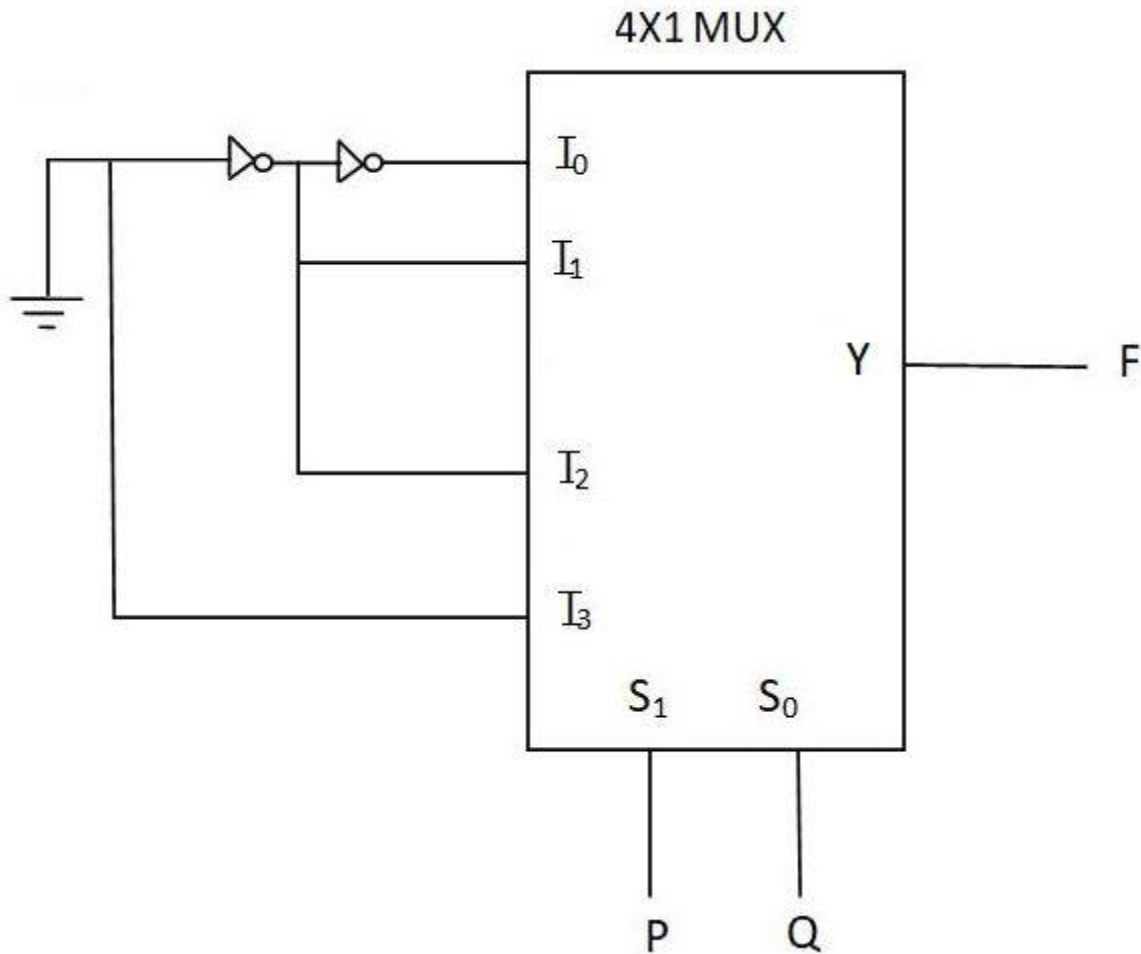
A (P'.Q+R')

B **(P+Q'.R')**

C (P'.Q+R)

D (P.Q+R)

Correct Alternative :- B

52. **Find the logic function implemented by the circuit below (ground implies a logical "0")**

4X1 MUX

A   F=AND (P,Q)

B   F=OR (P,Q)

C   F=XNOR (P,Q)

D   F=XOR (P,Q)

Correct Alternative :- D

53. Determine the base of the numbers for the given operation to be correct.

54/4=13

A 6

B 8

C 11

D 2

Correct Alternative :- B

What is the minimal form of the Karnaugh map shown below? (Assume that x-don't care term)

cd\ab	00	01	11	10
00	1	x	x	1
01	x			1
11				
10	1			x

54.

A b'd'

B b'd'+b'c'

C b'd'+a'b'c'd'

D b'd'+b'c'+c'd'

Correct Alternative :- B

55. The state of a 12 bit register is 100010010111. What is its content if it represents the three decimal digits in the excess-3 code and in BCD?

A 565, 897

B 564, 879

C 565, 879

D **564, 897**

Correct Alternative :- D

56. C++ provides inline functions to reduce function call overhead, mainly for

A **Small functions**

B Large functions

C Member function

D Sub function

Correct Alternative :- A

57. Functions defined outside the class can be accessed using

A   Scope resolution operator

B   Logical operator

C   Reference

D   Arithmetic operator

Correct Alternative :- A

58. The maximum number of nodes possible in a binary tree of height 'h' is

A 2^h-1

B   2h+1

C   2h

D 2^{h-1}

Correct Alternative :- A

59. The total storage space required in radix sort is

A   S(n)=b*n

B S(n)=(b–1)*n

C S(n)=(b+1)*c

D S(n)=(b*2)*c

Correct Alternative :- A

60. Divide and conquer principle is adopted in

A Bubble sort

B Shell sort

C Bucket sort

D Quick sort

Correct Alternative :- D

The running time of an algorithm is given by
$$T(n)=\begin{cases} T(n-1)+T(n-2)-T(n-3) & \text{if } n>3 \\ 0 & \text{otherwise} \end{cases}$$
61. The order is

A O(n)

B O(log n)
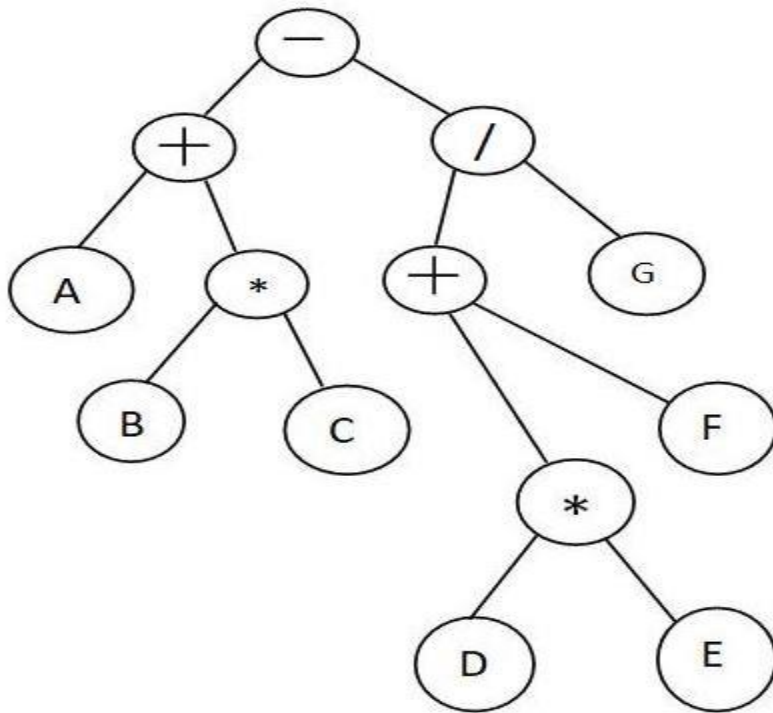
C $O(n^2)$

D $O(n^n)$

Correct Alternative :- A

62. The expression tree shown below indicates the arithmetic expression

A $(A+B*C) - (D*E+FG/)$

B $(D*E+F/G) - (A+B*C)$

C $G/+F*DE - A+*BC$

D $(A+B*C) - ((D*E)+F/G)$

Correct Alternative :- D

63. The following statement

FRONT = (REAR+1) mod LENGTH indicates

A **Circular queue is full**

B Circular queue is empty

C Circular queue is double

D Circular queue is invalid

Correct Alternative :- A

64. The prefix notation of the input:

((A+((B^C)–D)*(E–A/C))) is

A ***+A–^BCD–E/AC**

B ABC^D–+EAC/–*

C AB*C^D–+EAC/*–

D ((+A((^BC)–D))*E–/(AC)))

Correct Alternative :- A

65. A node in a linked list consists of _____ and _____

A   Store, retrieve

B   Data, link

C   Structure, data

D   Insert, delete

Correct Alternative :- B

66. Which of the following sorting method is stable?

A   Insertion sort

B   Binary sort

C   Shell sort

D   Heap sort

Correct Alternative :- A

67. Which one is correct method for declaring doubly linked list using dynamic implementation?

A

```
struct node {
int info;
struct *right, *left;
}
```

B

```
struct node {
struct node *right;
}
struct node *left;
```

C

```
struct node {
struct node *right;
struct node left;
}
typedef struct node;
```

D

```
struct node {
int info;
struct node *left,
            *right;
}
typedef struct node *NODEPTR;
```

Correct Alternative :- D

68. An AVL tree is identical to a binary search tree, except that for every node in the tree, the height of the left
    and right sub-trees can differ by at most

A   0

B   1

C   -1

D   2

Correct Alternative :- B

69. Which of the following is not an inherent application of stack?

A   implementation of recursion

B   Evaluation of post fix expression

C   **Job scheduling**

D   Reverse a string

Correct Alternative :- C

70. Which one of the following array represents a binary max heap?

A   [26,13,17,14,11,9,15]

B   [26,15,14,17,11,9,13]

C   **[26,15,17,14,11,13,9]**

D   [26,15,13,14,11,9,17]

Correct Alternative :- C

71. The Programme for International Students Assessment (PISA) is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge, is a worldwide study by the _____.

A   UNICEF

B   World Bank

C   UNESCO

D   **OECD**

Correct Alternative :- D

72. The individual reveals himself very frankly because he does not know that he is revealing himself. Which personality test does this indicate?

A   Personality inventory

B   Case history

C   Questionnaire

D   **Projective test**

Correct Alternative :- D

73. Which one of the following terms is not a part of the acronym 'POSDCORB' widely used in the field of educational management and administration?

A   **Supervision**

B   Budgeting

C   Coordinating

D   Directing

Correct Alternative :- A

74. In a classroom a student falls sick often due to which his grades are discouraging. Which of the following should be focused to achieve better results?

A Classroom climate

B Factors affecting attention

C Group behaviour

D Role of rewards

Correct Alternative :- D

75. Which one of the following disability is not mentioned in the National Trust (1999) Act?

A Autism

B Hearing Impairment

C Cerebral Palsy

D Mental Retardation

Correct Alternative :- B

76. When an apple is offered to a child, he thinks for a moment and at once refuses to take it, his thinking at that point of time is _____ thinking.

A Conceptual

B Reflective

C Creative

D **Perceptual**

Correct Alternative :- D

77.The individual's attention always remains on track and the activity proceeds systematically without any serious distraction, this is termed as _____.

A **Sustained attention**

B Split attention

C Span of attention

D Division of attention

Correct Alternative :- A

78. In Thorndike's test of intelligence, emphasizing of performance of complex tasks and selecting carefully the items, four types of items were included namely, vocabulary, arithmetical problems, sentence completion and _____.

A Spatial relations

B Logical reasoning

C Critical thinking

D **Following directions**

Correct Alternative :- D

79. In Rorschach ink blot test when excessive reaction upon colour is expressed by the subject it represents the subject's _____.

A Subtlety of thought

B Impulsiveness

C Compulsion Neurosis

D Spontaneity of emotional expression

Correct Alternative :- B

80. Everyone of us have an inherent desire to get an opportunity to dominate others, it may vary in intensity but it is surely exhibited by all of us in one or other situation, this is the need for _____.

A Self - assertion

B Social approval

C Self - expression

D Gaining Independence

Correct Alternative :- A

81. 'O' Blood group man gets married with 'AB' Blood group woman. What are the impossible blood group for their child.

A   'A' and 'B' Blood group

B   Blood group 'B' only

C   **'O' and 'AB' Blood group**

D   'AB' and 'B' Blood group

Correct Alternative :- C

82. Match the Following
    1. Public sector - a. Banking
    2.Private sector - b. Poultry
    3. Primary sector - c. Profit motive
    4. Tertiary sector - d. Service motive

A   1 - a, 2 - b, 3 - d, 4 - c

B   1 - b, 2 - c, 3 - a, 4 - d

C   **1 - d, 2 - c, 3 - b, 4 - a**

D   1 - c, 2 - a, 3 - b, 4 – d

Correct Alternative :- C

83. In 2016 at the Rio Paralympic, Mariappan from Tamilnadu won gold medal in the men's high jump T- 42 event with a leap of _____

A   **1.89 m**

B   1.88 m

C   1.87 m

D   1.90 m

Correct Alternative :- A

Match the Column - I with Column – II and select the correct answer

Column – I	Column – II
(Vitamin)	(Symptoms)

1. Vitamin – D
2. Vitamin – B_{12}
3. Vitamin – B_5
4. Vitamin – E

(a) Inability to reproduce
(b) Defective calcification of bones
(c) Destruction of RBC
(d) Dementia, Dermatitis, diarrhoea

84.

A   1-(c), 2-(a), 3-(b), 4-(d)

B   1-(c), 2-(b), 3-(d), 4-(a)

C   1-(b), 2-(c), 3-(d), 4-(a)

D   1-(b), 2-(c), 3-(a), 4-(d)

Correct Alternative :- C

85. Identify the wrong pair

   I. The President of India is elected by the Members of an electoral college consisting of the elected members of both Houses of Parliament

   II. The elected members of the Legislative Assemblies of all the States and Union Territories in India

   III. The members nominated to either House of Parliament or the Legislative Assemblies of States are eligible to be included in the electoral college

A   II only

B   I only

C   **III only**

D   I and II only

   Correct Alternative :- C

86. The Preamble of the Indian Constitution adopted on 26ᵗʰ November, 1949 did not include the terms.

   1. Socialist
   2. Secular
   3. Integrity
   4. Republic

   Select the correct answer using the code given below.

A   **1, 2 and 3**

B   2, 3 and 4

C   1, 2 and 4

D   3 and 4

   Correct Alternative :- A

87. Arrange the following in chronological order.
   1) Battle of Kanwah
   2) First battle of Panipat
   3) Battle of Ghagra
   4) Battle of Chanderi

A 2 1 4 3

B 2 4 1 3

C 2 3 4 1

D 2 1 3 4

   Correct Alternative :- A

88. Who remarked "The light has gone out of our lives and there is darkness everywhere"?

A Jawaharlal Nehru

B Gandhiji

C Subash Chandra Bose

D Vallabhai Patel

   Correct Alternative :- A

89. The book 'Castes and Tribes of Southern India' was written by

A Charles Mason

B Alexander Burnes

C   Alexander Cunningham

D   Edgar Thurston

Correct Alternative :- D

90. Choose the correct match of the following one

A   Thyroxine - Diabetes

B   Adrenaline - Breathing rate

C   Pituitary - Metabolism

D   Pancreas - Master gland

Correct Alternative :- B

91. Optimal algorithm uses the concept of

A   Replacing a page that has not been used for longest period of time.

B   Replacing a page that has not been used for shortest period of time

C   Replacing a page that will not be used for shortest period of time

D   Replacing a page that will not be used for longest period of time

Correct Alternative :- D

92. Associative registers used to implement page tables are also called as _____

A   Association registers

B   Page table length registers

C   Buffer registers

D   Translation look-aside buffers

Correct Alternative :- D

93. Compaction is possible only if _____

A   Relocation is dynamic and done at execution time

B   Relocation is dynamic and done at load time

C   Relocation is static and done at execution time

D   Relocation is static and done at load time

Correct Alternative :- A

94. Name the malware computer program that replicates itself in order to spread to other computers

A   Trojan horse

B   Virus

C   Trap door

D   Worm

Correct Alternative :- D

95. Fork system call is used for,

A   A dispatching of a task

B   Creation of a new job

C   Creation of a new process

D   A dispatching of a job

Correct Alternative :- C

96. Which one of the following algorithm will never suffer from Belady's anomaly?

A   FIFO page replacement

B   Optimal page replacement

C   LRU page replacement

D   LRU approximation page replacement

Correct Alternative :- B/C

97. Overlay is _____

A   A part of an operating system

B   A single memory location

C   **A single contiguous memory that is used in olden days for running large programs by swapping**

D   A single contiguous memory overloaded with many files.

Correct Alternative :- C

98. If all resources have only a single instance, then we can define a deadlock detection algorithm that uses a variant of the resource allocation graph called

A   **Wait-for graph**

B   Directed acyclic graph

C   Cyclic graph

D   Notation graph

Correct Alternative :- A

99. Throughput of a system is

A Number of programs processed by it per unit time

B   Number of times the program is invoked by the system

C   Number of requests made to a program by the system

D   Number of i/o requests completed per unit time

Correct Alternative :- A

100. Thrashing

A   Reduces page I/O

B Implies excessive page I/O activity

C   decreases the degree of multiprogramming

D   improves the system performance

Correct Alternative :- B

What is the output of the following code segment?
int a=5
Cout <<"FIRST"<<(a<<2)<<"SECOND"
101.

A FIRST 52 SECOND

B FIRST 20 SECOND

C SECOND 25 FIRST

D error message

Correct Alternative :- B

102. Which of the following remarks about the difference between constructors and destructors are correct?

A Constructors can take arguments but destructors cannot take arguments

B Constructors can be overloaded but destructors cannot be overloaded

C Destructors can take arguments but constructors cannot take arguments

D Destructors can be overloaded but constructors cannot be overloaded

Correct Alternative :- A/B

103. If the language has the capability to produce new data types, it is called as _____

A Reprehensible

B Encapsulated

C Overloaded

D Extensible

Correct Alternative :- D

104. The directive required in any C++ program that uses either cin or cout is

A <iomanip.h>

B <iostream.h>

C <locale.n>

D <output.h>

Correct Alternative :- B

105. The function abort() in C++ is declared in the header file _____

A <math.h>

B <stdlib.h>

C <iostream.h>

D <stdio.h>

Correct Alternative :- B

106. The keyword void is used to

A   declare a member function that is defined in a sub class

B   indicate that the function does not return anything

C   declare objects that can be modified outside of program control

D   declare a synonym for an existing type

Correct Alternative :- B

107. Coroutines in python,

A   suspended by using a function suspend()

B   process a sequence of inputs send to it

C   takes a single set of input arguments

D   created by create()

Correct Alternative :- B

108. Overloading the function operator

A   Requires a class with an overloaded operator

B Requires a class with overloaded [ ] operator

C Use of the constructor always that takes arguments

D Use of the destructor always that takes arguments

Correct Alternative :- A

109. Run time polymorphism is achieved by

A Friend function

B **Virtual function**

C Operator overloading

D Function overloading

Correct Alternative :- B

110. Which statement gets affected when i++ is changed to ++i ?

A i=20; i++

B for(i=0;i<=20;i++){ }

C a=i + i++;

D   while(i++=20) cout <<i;

Correct Alternative :- A

Match list I and II and select the correct answer.

List I	List II
P. Public members	1. grants access to the private members of the class to the non-member function
Q. Friend function	2. are accessible only within the class
R. Private members	3. are similar to private members but inheritable
S. Protected members	4. are accessible throughout the program

111.

A   P-2, Q-4, R-3, S-1

B   P-4, Q-1, R-2, S-3

C   P-2, Q-1, R-3, S-4

D   P-3, Q-4, R-2, S-1

Correct Alternative :- B

112. In C++, late binding is implemented through

A   **Virtual functions**

B   Overloading

C   Single inheritance

D   Multiple inheritance

Correct Alternative :- A

113. **Which of the following is false?**

A   A pointer variable contains the address of a variable in memory

B   You should declare a pointer variable before you use it

C   **Pointers are typically initialized to the empty string**

D   A pointer's data type must match the data type of the variable to which it points

Correct Alternative :- C

114. **Which of the following is not correct for virtual function in C++?**

A   Must be declared in public section of class

B   **Virtual function can be static**

C   Virtual function should be accessed using pointers

D   Virtual function is defined in base class

Correct Alternative :- B

115. Consider the following two statements
I. A publicly derived class is a sub class of its base class.
II. Inheritance provides code reuse.
Which of the following statement is correct?

A   **Both the statement I and II are correct**

B   Neither the statement I and II are correct

C   Statement I is correct and II is incorrect

D   Statement I is incorrect and II is correct

Correct Alternative :- A

116. If a data item is declared as a protected access specifier then it can be accessed

A   Anywhere in the program

B   **By the base and derived classes**

C   Only by base class

D   Only by derived class

Correct Alternative :- B

117. Which of the following is used to make an Abstract class?

A   Making at least one member function as virtual function

B   Making at least one member function as friend function

C   Declaring as Abstract class using virtual keyword

D   Declaring as Abstract class using static keyword

Correct Alternative :- A

118. The library function isalpha() requires the _____ header file

A   <ctype.h>

B   <math.h>

C   <time.h>

D   <string.h>

Correct Alternative :- A

119. Which of the following statement is true?

A Can change the precedence of the C++ operators

B Can change the associativity of the C++ operators

C Cannot change operator templates

D Can create new C++ operators

Correct Alternative :- C

120. Exception handling is targeted at

A Run time error

B Compile time error

C Logical error

D Dynamic time error

Correct Alternative :- A

```
INSERT
INTO students (sid, name, login, age, gpa)
VALUES (null, 'Mike', 'mikeey', 17, 3.4)
in a database of 50 records
```

121.

A
Will insert the record
       null, 'Mike', 'mikeey', 17, 3.4

B
Will insert the record
       , 'Mike', 'mikeey', 17, 3.4

C
Will generate error

D
Will insert the record
       51, 'Mike', 'mikeey', 17, 3.4

Correct Alternative :- C

122. Consider a schema R (A,B,C,D) and functional dependencies A->B and C->D. Then the decomposition
of R into R₁(A,B) and R₂(C,D) is

A   Dependency preserving and loss less join

B   Loss less join but not dependency preserving

C   **Dependency preserving but not loss less join**

D   Not dependency preserving and not loss less join

Correct Alternative :- C

123. Which of the following regarding basic ER and relational models is INCORRECT?

A   An attribute of an entity can have more than one value

B   An attribute of an entity can be composite

C   **In a row of relational table, an attribute can have more than one value**

D   In a row of relational table, an attribute can have exactly one value or Null value

Correct Alternative :- C

124. Suppose ($\underline{A}$, B) and ($\underline{C}$, D) are two relation schemas. Let r_1 and r_2 be the corresponding relation instance.
B is a foreign key that refers to C in r_2. If data in r_1 and r_2 satisfy referential integrity constraints, which
of the following is always TRUE?

A $\prod_B (r_1) - \prod_C (r_2) = \emptyset$

B $\prod_C (r_2) - \prod_B(r_1) = \emptyset$

C $\prod_B (r_1) = \prod_C(r_2)$

D $\prod_B (r_1) - \prod_C(r_2) \neq \emptyset$

Correct Alternative :- A

125. Consider the following two tables
Emp (name, dept, salary, city)
Department(dept, designation, city)
Which of the following query will display the department of employee earning the higher salary?

A **Select dept from Emp where salary >= all (select salary from emp);**

B Select max(salary) from Emp;

C Select dept from Department where dept = (select dept from emp where max(salary));

D Select salary from Emp;

Correct Alternative :- A

126. Consider a schema R(A B C D E) and FDS { AB->C, C->D, B-> EA} find the super key?

A **AB and B**

B EA and D

C   CD

D   ED

Correct Alternative :- A

127. Consider the following relation
     Cinema (theater, address, capacity)
     Which of the following options will be needed at the end of the SQL query
     SELECT P1.address FROM Cinema P1
     Such that it always finds the addresses of theaters of theaters with maximum capacity?

A   **WHERE P1.capacity >= All (select P2.capacity from Cinema P2)**

B   WHERE P1.capacity >= Any (select P2.capacity from Cinema P2)

C   WHERE P1.capacity > All (select max(P2, capacity) from Cinema P2)

D   WHERE P1.capacity > Any (select max(P2, capacity) from Cinema P2)

Correct Alternative :- A

128. For a database relation R(a,b,c,d) where the domains of a, b, c, d include only atomic values, only
     the following functional dependencies and those that can be inferred from them hold.
     a --->c
     b --->d
     This relation is

A   **In First Normal Form but not in Second Normal Form**

B   In Second Normal Form but not in Third Normal Form

C   In Third Normal Form

D   None of these

Correct Alternative :- A

129. Which of the following is/are correct

A   An SQL query automatically eliminates duplicates

B   An SQL query will not work if there are no indexes on the relation

C   SQL permits attributes names to be repeated in the same relation

D   DISTINCT keyword is used to remove duplicates

Correct Alternative :- D

Match list I and II and select the correct answer using the codes given below the lists.

List I	List II
P. Determinants	1. No attribute can be added
Q. Candidate key	2. Uniquely identified a row
R. Non-redundancy	3. A constraint between two attributes
S. Functional dependency	4. Group of attributes on the left hand side of arrow of functional dependency

130.

A P-4, Q-2, R-1, S-3

B   P-2, Q-4, R-1, S-3

C   P-4, Q-3, R-2, S-1

D   P-1, Q-2, R-3, S-4

Correct Alternative :- A

131. Which of the following html tag uses absolute URL?

A   <img src = "pluto.gif" >

B   <A href = "http://www.rupert.com/rup.html>

C   <A href = "rupert.html">

D   <A href = www.rup.com/rup.html

Correct Alternative :- B

What does the asterisk indicates in the frameset tag?

< frameset cols = " 240, * ">

132.

A   50% of pixels

B   240 pixels

C   Remainder of available viewing space

D   Syntax error in html code

Correct Alternative :- C

133. **Which of the following way is not used to authoring/publishing the web pages?**

A   Through ISP

B   Own server

C   Corporate Information Services department

D   Local desktop without connectivity

Correct Alternative :- D

134. **Which of the following is not true about virtual domain?**

A   Consistent address even if ISP changed

B   Server name cannot be changed

C   Easy expansion of website as the need grows

D   Changes the address to eliminate the special folder

Correct Alternative :- B

135. Any alignment specified at the cell level overrides

A Any default alignments

B Any alignments specified in a <TR> tag

C Any default alignments and any alignments specified in a <TR> tag

D None of the above

Correct Alternative :- C

136. Main container for <td> <th> <tr> is

A <Caption>

B <Data>

C <Group>

D <Table>

Correct Alternative :- D

137. The web standard allows programmers on many different computer platforms to dispersed format and display the information. These programs are called

A   HTML

B   Browser

C   Protocols

D   Tags

Correct Alternative :- B

138. The directive used to make variable declaration compulsory in ASP is

A   option implicit

B   option explicit

C   option implicit and option explicit

D   none of these

Correct Alternative :- B

139. Instr function returns zero

A   if string1 is empty

B   if string2 is not found in string1

C   if start is greater than the length of string2

D   all of these

Correct Alternative :- D

140. The driver used in OLE DB is called as _____

A   Provider

B   ODBC

C   DSN

D   ADO

Correct Alternative :- B

141. In JavaScript , what does NaN function do?

A   Return false, if the argument is not a number

B   Return true, if the argument is not a number

C   Return true, if the argument is a number

D   None of these

Correct Alternative :- B

142. A family of graphic characters that usually includes many type sizes and styles is called

A   **typeface**

B   font

C   point

D   Link

Correct Alternative :- A

143. TIFF stands for

A   Transitional Image File Format

B   Total Inclusion File Format

C   **Tagged Interchange File Format**

D   Transposition Interchange File Format

Correct Alternative :- C

144. The file format that uses a shorthand representation of musical notes and duration stored in numeric form is

A   AIFF

B   DSP

C   **MIDI**

D   QuickTime

Correct Alternative :- C

145. The process of recording sound, stored in the form of thousands of individual measurements, each at a discrete point in time is called

A   Sampling

B   **Synthesizing**

C   Sizing

D   Quantizing

Correct Alternative :- B

146. The focus and blur events are also part of

A   **Element events**

B   Handler events

C   **Window events**

D   Scroll events

Correct Alternative :- A/C

147. In general, the animation may appear jerky and slow if each frame is displayed for more than about

A   1/30 of a second

B   **1/15 of a second**

C   1/4 of a second

D   1/2 of a second

Correct Alternative :- B

Predict the output of the following javascript code
```
< script type="text/javascript">
Var  a="computerengineering";
Var  x=a.lastIndexOf("e");
document.write(x);
</script>
```
148.

A 6

B 7

C 14

D 15

Correct Alternative :- C

149. What is the correct syntax for referring to an external script called "sample.js"?

A <script src="sample.js">

B <script href="sample.js">

C <script ref="sample.js">

D <script name="sample.js">

Correct Alternative :- A

Predict the output of the following:
var a1={"mass", "weight", "volume"};
var a2=a1;
a2[0]= "density";
alert(a1);

150.

A **density, weight, volume**

B mass, weight, volume

C undefined, weight, volume

D mass, density, weight, volume

Correct Alternative :- A