

# VIT-2023 ACTUAL PAPER

1. In UNIX system can creates new program by  
(a) Init (b) New (c) Create (d) fork
2. A subset of Network that include all the routers but contains no loop is  
(a) spider tree (b) spider structure  
(c) spanning tree (d) special tree
3. Dirty bit is used in  
(a) Page within the memory  
(b) Page that is being modified  
(c) Page that is less frequently used  
(d) Page with corrupted data
4. The necessary condition for using binary search in an array is  
(a) The array should be sorted  
(b) The array should be not to long  
(c) The array should be less size  
(d) The array should be more size
5. A stack based CPU organization uses \_\_\_\_\_ address instruction  
(a) 2 (b) 3 (c) 1 (d) 0
6. Output of c program  
Main  
{ int a = 1, b = 2, c = 3;  
  printf ("%d", a+ = (a+ = 3, 5, a));  
(a) 8 (b) 6 (c) 9 (d) 12
7. Device that store one bits is called  
(a) Flip-flop (b) Gate  
(c) Register (d) counter
8. In a GP where first term = 20 common ratio = 4 then 5<sup>th</sup> term  
(a) 2560 (b) 10240 (c) 10496 (d) 5120
9. Hamming distance between 001111 & 010011 is  
(a) 1 (b) 2 (c) 3 (d) 4
10. In DBMS cardinality of relationship is defined by  
(a) Number of non null relation  
(b) No's of Rows is relation  
(c) No's of column is relation  
(d) No of tuples in relation
11. A Process is in "Blocked" state waiting for I/O service, when the service is completed then it goes to  
(a) Ready state (b) Suspended state  
(c) Terminate state (d) Running State
12. Which of the following is Not correct about having clause  
(a) Inwke group, attribute & aggregate function  
(b) used before grouping  
(c) used after grouping  
(d) Used in group to eliminate group which does not satisfy the condition
13. Order of differential equation of family of circles with one diameter along line  $y = x$   
(a) 0 (b) 1 (c) 2 (d) 3
14. Eigen value  $\begin{bmatrix} 1 & 8 \\ 2 & 1 \end{bmatrix}$   
(a) 4 (b) 6 (c) -3 (d) 2
15. Automatic repeat request error management mechanism is provided by  
(a) Network Interface control sub layer  
(b) Media cases control sub layer  
(c) Logical link control sub layer  
(d) Application access control sub layers
16. Solve by Gauss Elimination Method  
$$2x + y - 3z = -10$$
$$-2y + z = -2$$
$$z = 6$$
  
(a) 2, 4, 6 (b) 3, 4, 6  
(c) 2, 7, 6 (d) 2, 4, 5
17. If a box A consists of 5 black and 4 green coins, and a box B consists of 6 green and 3 black coins. If a coin is taken from A and transferred to B, and then a coin is drawn from B. Then find the probability that a black coin is transferred to B, given that a green coin is drawn from B ?  
(a)  $\frac{1}{2}$  (b)  $\frac{14}{29}$  (c)  $\frac{15}{29}$  (d)  $\frac{7}{10}$
18. Only one location is reserved for a class variable no matter how many times it is initialized then variable should be  
(a) Extern (b) Static  
(c) Volatile (d) Count
19. Which Scale applied in statistics to distinguish the  
(a) Exponential scale (b) Good Scale  
(c) Ratio Scale (d) Satisfactory scale
20. 4 byte IP address consists  
(a) Network & mac address  
(b) Network & host address  
(c) Network address only  
(d) host address only
21. Minimum Number of stack needed to implement a queue  
(a) 1 (b) 2 (c) 3 (d) 4
22. Condition for second order partial equation to be hyperbolic  
(a)  $b^2 - ac \leq 0$  (b)  $b^2 - ac = 0$   
(c)  $b^2 - ac < 0$  (d)  $b^2 - ac > 0$
23. Which is not a backtrack algorithm  
(a) N-queen algorithm (b) Tower of Hanoi  
(c) M-coloring Algorithm (d) Kinght tour problem
24. When collection of various computer seems a single coherent system to its client then it is called  
(a) Distributed system (b) Networking system  
(c) Mailing System (d) Computer network
25. Number of Arbitrary constant in a particular solution of differential equation of 3<sup>rd</sup> order  
(a) 0 (b) 3 (c) 2 (d) 1
26. Number of real roots of  $(x + 1)^2 - x^2 = 0$  is  
(a) 1 (b) 2 (c) 3 (d) 4
27. MS-Dos reallocatable object files & load module have the extensions  
(a) .exe & .obj (b) .com & .OBJ  
(c) .OBJ & .com or .exe (d) .dos & .exe
28. Which is not done by data link layer  
(a) Error detection & Counter  
(b) Channels coding  
(c) Framing  
(d) Flow control
29. Entity Relationship Model was is proposed by  
(a) Jaiwei HAN (b) Peter P Chen  
(c) Elmaske Nanethe (d) Agrawal & Srikant
30. Djkestra's Banking Algorithm solve the problem of  
(a) Context Switching (b) Deadlock avoidance  
(c) Deadlock recovery (d) Mutual exclusion
31. In Boolean Algebra the word "Literal" Means  
(a) A Product term

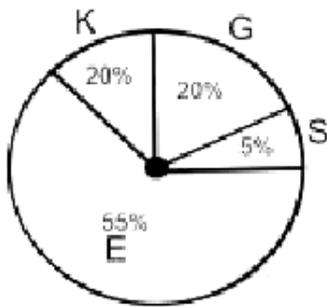
- (b) All the variable  
(c) A Variable and its Complement  
(d) Inverse function
32. Actual data stored in DBMS at a particular moment of time is called  
(a) Database schedules  
(b) Database Schema  
(c) Metadata  
(d) Database Independence
33. Which of the following is Lowest in computer hierarchy  
(a) CPU Register (b) RAM  
(c) Cache (d) Secondary Memory
34. If A is any Square matrix then  $AA^T$  is  
(a) Diagonal matrix  
(b) Skew symmetric matrix  
(c) Unit Matrix  
(d) Symmetric Matrix
35. If there are 32 Segment each of size 1 KB, then the logical address should have  
(a) 14 bits (b) 15 bits  
(c) 16 bits (d) 13 bits
36. Number of vertices of odd degree in a graph equals to  
(a) Always Even  
(b) Zero  
(c) Either Even even or odd  
(d) Always odd
37. In c programming, pointer variable to be integer can be created by the declaration \_\_\_\_\_  
(a) int P\* (b) int \*p  
(c) int - p (d) int&p
38. Complete binary tree with the property that the value of each node is atleast as large as the values of its children is  
(a) Binary search tree  
(b) Completely balanced tree  
(c) AVL tree  
(d) HEAP
39. Lowest level of abstraction that describes how the data are stored in a database is  
(a) Physical schema (b) E R Schema  
(c) External Schema (d) Conceptual Schema
40. In CISC Architecture most of the complex instruction are stored in  
(a) Diodes (b) Transistors  
(c) Register (d) CMOS
41. The function  $x^3 - 12x^2 + 45x + 8 = 0$  is maximum at  
(a) 3 (b) 1 (c) 2 (d) 4
42. Algorithm to sort n-integer having range 0 to  $(n^2 - 1)$  is ascending order in  $O(n)$  time is  
(a) Bubble sort (b) Insertion sort  
(c) Selection sort (d) Radix sort
43. Which one of the following is false  
(a) A tree is a continuous graph  
(b) A tree with n nodes contain  $(n - 1)$  edge  
(c) A tree has bipartite graph  
(d) Tree contains cycle
44. Which one of the following is false  
(a) Virtual memory is used only in multiuser system  
(b) Segmented memory can be paged  
(c) Segmentation suffer from external fragmentation  
(d) Paging suffer from internal fragmentation
45. Which of the following is true

- (a)  $A^T = A$  (b)  $A * I = I$   
(c)  $(AB)^{-1} = B^{-1}A^{-1}$  (d)  $AB = BA$
46. A combinational circuit can be designed using  
(a) XOR gates (b) NOR gates  
(c) AND gates (d) OR gates
47. While calculating standard deviation the deviation of a series is taken from  
(a) Mean value of the series  
(b) Mode value of the series  
(c) Median value of the series  
(d) Quartile value of the series
48. Order of the partial differentiation  
 $\frac{\partial^2 z}{\partial x^2} - \left(\frac{\partial z}{\partial y}\right)^5 + \frac{\partial^2 z}{\partial x \partial y} = 0$   
(a) 5 (b) 4 (c) 2 (d) 1
49. Probability of a obtaining number greater than 6 on an unbiased die  
(a)  $\frac{5}{6}$  (b)  $\frac{3}{6}$  (c) 1 (d) 0
50. Error correction & detection is done in computer network by  
(a) Passing it through equalizer  
(b) By amplifying  
(c) Adding redundancy bits  
(d) Passing through filter
51. What is the main purpose of questionnaire?  
(a) To provide information to people  
(b) To make recommendation  
(c) To gather information from respondents  
(d) To share the findings
52. I \_\_\_\_\_ that movie twenty times  
(a) have seen (b) was seeing  
(c) had been seeing (d) has seen
53. While preparing a questionnaire, the researcher should avoid,  
(a) Writing question respondents, do not understand  
(b) Writing question respondents, are willing to answer  
(c) Writing question respondents are able to answer  
(d) Writing question with filters & routers Ans. (a)
54. \_\_\_\_\_ we had parked our car in the parking lot the traffic police issued us a parking ticket.  
(a) Since (b) Because  
(c) Although (d) As
55. Study the following table, showing monthly sales of mobile phones of five models by the shops to answer the question that follows :

Model	P	Q	R	S	T
A	1750	3850	2340	2380	310
B	3100	2160	4700	2490	1820
C	3670	6530	4700	5600	3660
D	800	586	780	8500	800
E	1150	1320	1180	2000	305

- Which mobile shop has the lowest sales of both model A & E as compared to the other shops  
(a) Q (b) S (c) R (d) T
56. \_\_\_\_\_ English professor who taught us, is retiring today  
(a) No article (b) An  
(c) The (d) A
57. The meteorological department (a) / predicted that the (b) / rains & thunderstorm may (c)/ continue throughout today (d)

- (a) a (b) b (c) d (d) c
58. Given four steps to operate a fire extinguisher. Arrange them in order  
 A. Squeeze the lever slowly  
 B. Aim low towards the base of fire  
 C. Pull the pin while holding the extinguisher away from you to unlock the mechanism  
 D. Sweep the nozzle from side to side at the base of fire  
 (a) CBDA (b) CBAD  
 (c) BCAD (d) CABD
59. Spot grammatical error :  
 Instead laying off (a) / the workers, the company (b) / decided to ask them (c) / to avail voluntary retirement (d).  
 (a) a (b) c (c) b (d) d
60. The purpose of pre-testing the questionnaire is to determine the following except  
 (a) Whether the question have been placed in the best order.  
 (b) Whether the question as they are asked will achieve the desired results  
 (c) Whether the question are difficult  
 (d) Whether the instruction to respondents are adequate
61. Prof. Suman with his students \_\_\_\_\_ a project on latest trend in technology  
 (a) done (b) are doing  
 (c) is doing (d) were doing
62. Spot the grammatical error in the given sentence :  
 Sarita will go to the (a) / dance class tomorrow (b) / if she had recovered (c) / from the cold (d)  
 (a) b (b) a (c) d (d) c
63. Shravan is not smarter (a) / then my brother (b) / when it comes (c) / to playing chess (d)  
 (a) d (b) a (c) b (d) c
64. Prof. Navin \_\_\_\_\_ this institute since, 2004  
 (a) has been serving (b) will leave  
 (c) served (d) had been serving
65. Which language is spoken by majority of the students



- (a) English (b) Spanish  
 (c) French (d) Germany
66. My uncle is \_\_\_\_\_ MLA  
 (a) a (b) an (c) the (d) None
67. Preeti sleeping in the morning and work \_ night.  
 (a) in (b) at (c) for (d) on
68. The work by the workers in a day.  
 (a) will be finished (b) is being finished  
 (c) has finished (d) will finish
69. We congratulated him \_\_\_\_\_ his success.  
 (a) for (b) on (c) at (d) in
70. Which one among the following is not a purpose of a minute writing :  
 (a) Meeting minutes is a record for future reference.

- (b) Meeting minutes helps us to understand what progression has taken place  
 (c) Meeting minutes provides historical record of the company is discuss & discussion  
 (d) Meeting minutes provides all the information about the company.
71. In a complete K-ary tree, every internal node has exactly K-children then no. leaves in such a tree with n internal nodes  
 (a)  $n(k - 1)$  (b)  $(n - 1)k + 1$   
 (c)  $nk$  (d)  $n(k - 1) + 1$
72. Quick sort takes in 2 input  
 $C_1 = 1, 2, 3, 4, \dots, N$   
 $C_2 = n(n - 1)(n - 2) \dots \dots \dots 2.1$   
 Comparison for  $C_1$  and  $C_2$   
 (a)  $C_1 = C_2$  (b)  $C_1 > C_2$  (c)  $C_1 < C_2$   
 (d) Any value for arbitrary n.
73. In DBMS, having clause doesn't perform function  
 (a) having clause performed after grouping  
 (b) having clause performed before grouping  
 (c) having clause perform after grouping perform test of grouping & eliminates group which are not satisfied function  
 (d) None of these
74. A B-tree is used to store as an index for a larger database table that has four levels including the roots nodes. If a new key is inserted in this index, then the maximum number of nodes that would be newly created in the process are  
 (a) 4 (b) 2 (c) 5 (d) 1
75. Which of the following command in DBMS is sued to remove a rout from a table, yet keeping the structure of row ?  
 (a) Truncate (b) Remove  
 (c) Drop (d) None Ans. (a)
76. Which of the following is not a logical operator of c language  
 (a) ! (b) II (c) I (d) &&
- 77.

0	
1	
2	42
3	23
4	34
5	52
6	46
7	33
8	
9	

- If 6 values are to be in se ted in a 10-bit hashing. Using haling function  $10(\text{mod } k)$  Then which of the following could be possible sequence.  
 (a) 34, 42, 23, 52, 33, 46 (b) 42, 46, 33, 23, 34, 52  
 (c) 46, 42, 34, 52, 23, 33 (d) 46, 34, 42, 23, 52, 33
78. What is the degree of freedom from an independent chi-squared test that uses a  $5 \times 3$  contingency table :  
 (a) 2 (b) 3 (c) 8 (d) 12
79. What is output of following program :  

```
# include <stdio.h>
int main ( )
{
    int p = 1;
    int q = 2;
    p = p + q;
```

```
Printf ("%d%d", p,q)
return 0;
```

- (a) 2 2 (b) 0 2  
(c) 1 2 (d) compilation error

80. What will be output of 'c' language :

```
#include <stdio.h>
int main ()
{
    int x, y = 5, z = 5
    x = y == z;
    Print f ("%d"x);
    Getchar 0;
    Return 0;
}
```

- (a) 5 (b) 1  
(c) 1 (d) compilation error

81. Suppose the number 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into initially empty binary search tree. The binary search tree uses the usual ordering on natural number. What is the in-order transversal sequence of the resultant tree

- (a) 0 2 4 3 1 6 5 9 8 7  
(b) 7 5 1 0 3 2 4 6 8 9  
(c) 9 8 6 4 2 3 0 1 5 7  
(d) 0 1 2 3 4 5 6 7 8 9

82. What is the output of following c programming ?

```
# include <stdio.h>
int main ()
{
    int i = 3;
    print f ("%d", (++i)++);
    return ();
}
```

- (a) 3 (b) 5  
(c) 4 (d) Compilation error

83. Which of the following standard algorithms is not dynamic programming based :

- (a) Floyd was shall Algorithm for all pairs shortest paths  
(b) 0 - 1 knapsack problem  
(c) Prim's minimum spanning tree  
(d) Bellman - ford algorithm for single source shortest path

84. In comparison to Gauss Seidel, Newton Raphson method taken

- (a) less of iterations and more time per iteration  
(b) more of iterations and less time per iteration  
(c) more of iterations and more time per iteration  
(d) less of iteration and less time per iteration

85. How many bit of data can transfer by parallel port

- (a) 4 (b) 16 (c) 2 (d) 8

86. Find which of the following is continuous random variable

- (a) Number of planets around the sun  
(b) number of tales tossing a coin four times  
(c) life of an electric fan  
(d) Number of kids in family

87. What will be output of following program.

```
# include <stdio.h>
int main ()
{
    int i = 2;
    {
```

```
int i = 4, j = 5
printf ("%d%d", i, j)
```

```
}
printf ("%d%d", i, j);
```

- (a) 4545 (b) 2525 (c) 4525 (d) 2545

88. Number of edges present in a complete graph having n vertices

- (a) n (b) n/2  
(c)  $\frac{n(n+1)}{2}$  (d)  $\frac{n(n-1)}{2}$

89. The minimum number of stack needed to implement of queue is :

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

90. For sliding window (n - 1) (x sequence number) there can be maximum of how many fram sent but unacknowledged

- (a) 0 (b) (n - 1) (c) n (d) (n + 1)

91. How many bits of data can be transfer by parallel port

- (a) 8 (b) 4 (c) 2 (d) 16

92. Which of these characters does the second - order Runge - Kutta - method use

- (a) forward rule corrector  
(b) Mid point rule corrector  
(c) Backward rule corrector  
(d) Trapezoidal corrector

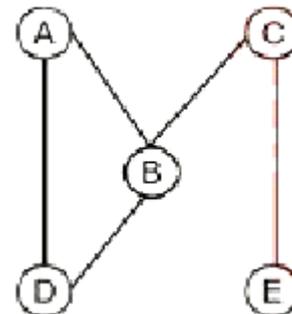
93. A partial differential equation requires :

- (a) Move then one dependent variable  
(b) Exactly one independent variable  
(c) Two or more independent variable  
(d) Exactly one dependent variable

94. Given that x = 7.5, j = -1.0. n = 1.0, m = 2.0 value of  $-x + j == x > n >= m$  is

- (a) 2 (b) 0 (c) 1 (d) 3

95.



In the given graph identify at cut curves

- (a) A & E (b) C & B (c) B & E (d) C & D

96. Arrange the steps given below in correct order to form a differential equation

1. Eliminate the arbitrary constant
2. Find in the form of dy/dx, x, y
3. Differentiate the given equation with respect to x as many times the number of arbitrary element given

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

97. If  $z = 3xy + 4x^2$ , what is the value of  $\frac{dz}{dx}$

- (a)  $3y + 3x + 8y^2$  (b)  $3x + 8y$   
(c)  $3y + 8x$  (d)  $3x + 4x^2$

98. A register capable of shift its binary information either information either to the right or to the left •  
 (a) Storage (b) Series Register  
 (c) Parallel Register (d) Shift Register
99. There are 5 strawberries, 4 apples, 3 banana & 1 fruit of each three kind are there. Then how many way one fruit from each kind is to be selected  
 (a) 45 (b) 43 (c) 60 (d) 35
100.  $3x \log x + 5e^x x^6$  is derivative with respect to x is:  
 (a)  $3 + 3 \log x + 30 e^x x^5 + 5e^x \cdot x^6$   
 (b)  $3e \log x$   
 (c)  $5ex + 5x^6$   
 (d)  $3 \log x + 5e^x x^6$

**VIT-2023 ACTUAL PAPER**

1	2	3	4	5	6	7	8	9	10
c	c	a	a	d	c	a	d	b	d
11	12	13	14	15	16	17	18	19	20

a	b	c	c	b	a	c	b	c	b
21	22	23	24	25	26	27	28	29	30
b	d	b	a	a	a	c	cd	c	c
31	32	33	34	35	36	37	38	39	40
c	a	d	d	c	a	b	d	a	b
41	42	43	44	45	46	47	48	49	50
a	b	d	a	c	b	a	c	d	c
51	52	53	54	55	56	57	58	59	60
c	a	a	a	d	c	c	c	a	c
61	62	63	64	65	66	67	68	69	70
c	d	c	d	a	b	b	b	a	d
71	72	73	74	75	76	77	78	79	80
d	b	a	b	a	b	abcd	c	b	a
81	82	83	84	85	86	87	88	89	90
d	c	c	b	d	c	c	d	c	c
91	92	93	94	95	96	97	98	99	100
a	b	b	b	c	c	c	d	c	a

