

Pre-Test - AI/ML - Madduri, VenkateshReddy

For Chennai & Bangalore

Points: 22/24

1. Let A be a square matrix of size $n \times n$. Consider the following program. What is the expected output?

(1/1 Points)

```
C = 100
for i = 1 to n do
  for j = 1 to n do
  {
    Temp = A[i][j] + C
    A[i][j] = A[j][i]
    A[j][i] = Temp - C
  }
for i = 1 to n do
  for j = 1 to n do
    Output(A[i][j]);
```

- ☐ Transpose of matrix A
- ☐ Identity Matrix
- ☒ The matrix A itself ✓
- ☐ None of the Above

2. Matrix A when multiplied with Matrix C gives the Identity matrix I, what is C?
(1/1 Points)

- ☒ Inverse of A ✓
- ☐ Identity matrix
- ☐ Transpose of A
- ☐ Norm of A

3. If input to a XOR gate are 1 and 1; then what is the output
(1/1 Points)

- ☒ 0 ✓
- ☐ 1
- ☐ Error
- ☐ None of the above

4. Number of subsets of a set of 4 elements
(1/1 Points)

- ☐ 8
- ☐ 4
- ☒ 16 ✓
- ☐ 6

5. The result evaluating the postfix expression $10\ 5\ +\ 60\ 6\ /\ *8\ -$ is
(1/1 Points)

- ☐ 213
- ☐ 284

☒ 142 ✓

☐ 70

6. "If occurrence of one event does not affects or explains occurrence of other event then events are classified as"?

(1/1 Points)

☐ Dependent events

☐ Known events

☒ Independent events ✓

☐ Unknown events

7. The best data structure to check whether an arithmetic expression has balanced parenthesis is a

(1/1 Points)

☐ Queue

☒ Stack ✓

☐ Tree

☐ List

8. If $P(E) = 0.37$, then $P(\text{not } E)$ will be?

(1/1 Points)

☐ 0.37

☒ 0.63 ✓

☐ 0.57

☐ None of these

9. What is the mode of the following data?

(1/1 Points)

10,10,11,11,11,11,12,12,12,13,13,14,14,15

- ☒ 11 ✓
- ☐ 12
- ☐ 11.5
- ☐ None of the above

10. What is the output?

(1/1 Points)

```
#include <stdio.h>
int main()
{
    int i = 3;
    while (i--)
    {
        int i = 100;
        i--;
        printf("%d ", i);
    }
    return 0;
}
```

- ☐ Infinite Loop
- ☒ 99 99 99 ✓
- ☐ 2 2 2
- ☐ 99 97 95

11. The number of leaf nodes in a rooted tree of n nodes, with each node having 0 or 3 children is:

(1/1 Points)

- ☐ $n/2$

- ☐ $(n-1)/3$
- ☐ $n/3$
- ☒ $(2n+1)/3$ ✓

12. What are the advantages of arrays?
(1/1 Points)

- ☐ Easier to store elements of same data type
- ☐ Used to implement other data structures like stack and queue
- ☐ Convenient way to represent matrices as a 2D array
- ☒ All of the mentioned ✓

13. What does the following function do for a given Linked List with first node as head?
(1/1 Points)

```
void fun1(struct node* head)
{
    if(head == NULL)
        return;

    fun1(head->next);
    printf("%d ", head->data);
}
```

- ☒ Prints all nodes of linked list in reverse order ✓
- ☐ Prints alternate nodes of Linked List
- ☐ Prints all nodes of linked lists
- ☐ None of the above

14. Two matrices A and B are multiplied to get AB if
(1/1 Points)

- ☐ both are rectangular
- ☐ both have same order
- ☒ no of columns of A is equal to columns of B ✓
- ☐ no of rows of A is equal to no of columns of B

15. Which among the following data structures is best suited for storing very large numbers (numbers that cannot be stored in long long int). Following are the operations needed for these large numbers
(1/1 Points)

- ☐ Array
- ☐ Hash
- ☐ Binary Tree
- ☒ Linked List ✓

16. What is the output?
(1/1 Points)

```
#include<stdio.h>
int main()
{
    int n;
    for (n = 9; n!=0; n--)
        printf("n = %d", n--);
    return 0;
}
```

- ☐ 9 7 5 3 1
- ☐ 9 8 7 6 5 4 3 2 1
- ☐ 9 8 7 6 5 4 3 2 1 0
- ☒ Infinite Loop ✓

17. Which one of the following is not an example of statistics?

(1/1 Points)

- ☒ The sweet smell of success ✓
- ☐ Monthly housing prices in a city
- ☐ Traffic noise at a busy intersection
- ☐ Annual unemployment rate in a country

18. Which of these numbers cannot be a probability?

(1/1 Points)

- ☐ 0.23
- ☐ 0.3
- ☒ 1.34 ✓
- ☐ All of the above

19. How many stacks are needed to implement a queue. Consider the situation where no other data structure like arrays, linked list is available to you

(1/1 Points)

- ☐ 1
- ☒ 2 ✓
- ☐ 3
- ☐ None of the above

20. A Card is drawn from a pack of 52 playing cards, find the probability that the drawn card is an ace or a red color card.

(1/1 Points)

- ☐ None of these

☒ 7/13 ✓

☐ 30/52

☐ 26/52

21. Immutable objects

(1/1 Points)

☐ are static

☐ have fields that can be changed after the object is created

☒ have no fields that can be changed after the object is created ✓

☐ None of the above

22. If price of a 1000 square feet house is 50Lakhs and price of 1500sq feet house is 70Lakhs, what is the price of 1200 Sq. feet house assuming cost depends only on size?

(1/1 Points)

☐ 60Lakhs

☐ 62Lakhs

☐ 55Lakhs

☒ None of the above ✓



23. Find the probability of getting either a number multiple of 3 or a prime number when a fair die is thrown.

(0/1 Points)

☒ 5/6

☐ 2/3 ✓

- ☐ 2/5
- ☐ None of the above



24. Which of the following property does not hold for matrix multiplication?
(0/1 Points)

- ☐ Associative
- ☐ Distributive
- ☐ Commutative ✓
- ☒ Additive Inverse

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