

# Common Entrance Examination-2023 (Admission for M.C.A.)

**Time : 2:00 Hrs.**

**Booklet No.**

**Maximum Marks : 400**

## READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. Do not open the seal of the question booklet until you are asked to do so by the invigilator.
2. OMR answer-sheet will be supplied by the Centre Superintendent for answering the questions.
3. Use blue/black ink ball pen only to darken the appropriate circle/oval in the OMR answer-sheet. No sophisticated pens are allowed.
4. Darken one circle/oval deeply for each question in the OMR answer-sheet, as faintly darkened circle might be rejected by the scanner.  Wrong  Correct
5. This question booklet contains **24** pages including blank pages for rough work. After you are permitted to open the seal, please check all pages and report discrepancies, if any, to the invigilator on duty.
6. There are a total of **100** questions carrying **400** marks. All these questions are of Multiple Choice Questions (MCQs). Each question has only one correct answer.
7. Question **1 to 25** pertain to **Verbal Ability**, questions **26 to 50** pertain to **Quantitative Ability**, questions **51 to 75** belong to **Data Interpretation and Reasoning**, questions **76 to 100** pertain to **Computer Awareness** and each question carries **4** marks.
8. Rough work can be done on the question paper itself. Blank pages are provided at the end of the question booklet for rough work.
9. **Do not fold the OMR answer-sheet and do not put any mark on it to avoid rejection by the scanner.**
10. Write roll number carefully on the OMR answer-sheet and darken the appropriate circle/oval properly.
11. Before opening the question booklet, fill-up the required information with blue/black ball pen correctly both in the question booklet and the OMR answer-sheet.
12. Mobile phones/electronic devices etc. are not allowed inside the examination hall.
13. The question booklet may be retained by the candidate after the entrance test is over.
14. **Four (+4) marks shall be awarded for each correct answer and one (-1) mark shall be deducted for each wrong answer. Un-answered/ un-marked question will be given no mark (0).**
15. Before the start of the examination, write your name and registration number in the space provided below using a blue/black Ink ball point pen.

Name									
Registration Number									

# MCA

## Section A (Verbal Ability)

### [Question No. 1 to 25]

1. Find the correctly spelt words

- |              |              |
|--------------|--------------|
| a. Efficient | b. Treatment |
| e. Beterment | d. Employd   |

2. Which is the exact OPPOSITE of ENORMOUS

- |         |            |
|---------|------------|
| a. Soft | b. Average |
| c. Tiny | d. Weak    |

3. Below passage consists of six sentences. The first and sixth sentence are given in the beginning. The middle four sentences in each have been removed and jumbled up. These are labelled as P, Q, R and S. Find out the proper order for the four sentences.

S <sub>1</sub> :	Calcutta unlike other cities kept its trams.
P:	As a result there was horrendous congestion.
Q:	It was going to be the first in South Asia.
R:	They run down the centre of the road
S:	To ease in the city decided to build an underground railway line.
S <sub>6</sub>	The foundation stone was laid in 1972.

The Proper sequence should be:

- |         |         |
|---------|---------|
| a. PRSQ | b. PSQR |
| c. SQRP | d. RPSQ |

4. Choose the one which can be substituted for the given word/sentence.

That which cannot be corrected.

- |                   |                 |
|-------------------|-----------------|
| a. Unintelligible | b. Indelible    |
| c. illegible      | d. Incurrigible |

5. A person of good understanding knowledge and reasoning power

- |           |                 |
|-----------|-----------------|
| a. Expert | b. Intellectual |
| c. Snob   | d. Literate     |

**Q. 6-7:** Choose the correct meaning of proverb/idiom,

6. To catch a tartar
- To trap wanted criminal with great difficulty
  - To catch a dangerous person
  - To meet with disaster
  - To deal with a person who is more than one's match
7. To have an axe to grind
- A private end to serve
  - To fail to arouse interest
  - To have no result
  - To work for both sides
8. Join these parts to make a meaningful sentence. The correct order of parts is the answer.  
1. I    2. immediately    3. Salary    4. my    5. Want
- 43152
  - 15432
  - 25143
  - 43251
9. Read the sentence to find out whether there is any grammatical error in it.
- I could not put up in a hotel.
  - because the boarding and lodging charges
  - were exorbitant.
  - No error.
10. From the given alternatives, choose the one which best expresses the given sentence in Indirect/Direct speech. "His father ordered him to go to his room and study"
- His father said. "Go to your room and study."
  - His father said to him, "Go and study in your room."
  - His father shouted, "Go right now to your study room".
  - His father said firmly, "Go and study in your room."
11. Find the subject of the sentence. "The boat sank in the river"
- The boat
  - Sank
  - In
  - The river
12. Identify the feminine gender noun from the given sentence.
- All the girls were dolled up for the party.
  - All the students were ready for the party.
  - All the boys were ready for their performance.
  - All the people listened carefully.

13. Find the correctly spelt word.
- |                 |                |
|-----------------|----------------|
| a. Reannaisance | b. Renaissance |
| c. Rennaissance | d. Renaissance |
14. She lived \_\_\_\_\_ the expectations
- |           |         |
|-----------|---------|
| a. As per | b. Upto |
| c. On     | d. At   |
15. The Himalayas are located \_\_\_\_\_ the northern frontier of India.
- |          |          |
|----------|----------|
| a. Along | b. Aside |
| c. In    | d. Above |
16. The boy was frightened by the \_\_\_\_\_ of elephants that came running towards him.
- |           |          |
|-----------|----------|
| a. Herd   | b. Group |
| c. Number | d. Bunch |
17. In the sentence given below, replace the underlined phrase to make the sentence grammatically correct. "The woman to who I sold my house was a criminal".
- |                     |                            |
|---------------------|----------------------------|
| a. to whom I selled | b. to whom I sell          |
| c. to whom I sold   | d. no correction required. |
18. After the heavy rains, the river overflowed its ..... and flooded the nearby villages.
- |            |          |
|------------|----------|
| a. Surface | b. Edges |
| c. Corners | d. Banks |
19. Alice dances very well and ..... does Maria.
- |         |         |
|---------|---------|
| a. Too  | b. So   |
| c. Even | d. Also |
20. Rearrange the following parts (1, 2, 3 and 4) in proper sequence to obtain a correct sentence.
1. India is a
  2. cannot be denied
  3. and this fact
  4. developing country
- |               |               |
|---------------|---------------|
| a. 3, 2, 4, 1 | b. 1, 4, 3, 2 |
| c. 1, 2, 4, 3 | d. 4, 3, 1, 2 |
21. Identify the type of sentence. "What are you doing?"
- |                           |                         |
|---------------------------|-------------------------|
| a. Assertive sentence     | b. Imperative sentence  |
| c. Interrogative sentence | d. Exclamatory sentence |



29. P, Q and R are in a cycle race of 4500 meters. P cycles twice as fast as Q. R cycles  $\frac{1}{3}$ rd as fast as Q. R completes the race in 45 minutes. Then where was Q from the finishing line when P finished the race?
- a. 300 m      b. 1500 m      c. 2250 m      d. 3000 m
30. In an Arithmetic Progression, if  $a = 28$ ,  $d = -4$ ,  $n = 7$ , then  $a_n$  is:
- a. 4      b. 5      c. 3      d. 7
31. The missing terms in AP: \_\_\_\_, 13, \_\_\_\_, 3 are:
- a. 11 and 9      b. 17 and 9      c. 18 and 8      d. 18 and 9
32. The set O of odd positive integers less than 10 can be expressed by \_\_\_\_\_
- a. {1, 2, 3}      b. {1, 3, 5, 7, 9}      c. {1, 2, 5, 9}      d. {1, 5, 7, 9, 11}
33. The members of the set  $S = \{x \mid x \text{ is the square of an integer and } x < 100\}$  is \_\_\_\_\_
- a. {0, 2, 4, 5, 9, 58, 49, 56, 99, 12}      b. {0, 1, 4, 9, 16, 25, 36, 49, 64, 81}      c. {1, 4, 9, 16, 25, 36, 64, 81, 85, 99}      d. {0, 1, 4, 9, 16, 25, 36, 49, 64, 121}
34. What will be the probability of getting odd numbers if a dice is thrown?
- a.  $\frac{1}{2}$       b. 2      c.  $\frac{1}{4}$       d.  $\frac{2}{5}$
35. The probability that it will rain tomorrow is 0.85. What is the probability that it will not rain tomorrow
- a. 0.25      b. 0.145      c.  $\frac{3}{20}$       d. none of these
36. Two girls and five boys are to be seated in a row such that the girls do not sit together. How many ways are possible?
- a. 3600      b. 5040      c. 1200      d. 7240
37.  $(\sin 30^\circ + \cos 60^\circ) - (\sin 60^\circ + \cos 30^\circ)$  is equal to:
- a. 0      b.  $1 + 2\sqrt{3}$       c.  $1 - \sqrt{3}$       d.  $1 + \sqrt{3}$
38. The value of the expression  $[\operatorname{cosec}(75^\circ + \theta) - \sec(15^\circ - \theta) - \tan(55^\circ + \theta) + \cot(35^\circ - \theta)]$  is
- a. -1      b. 0      c. 1      d.  $\frac{3}{2}$
39. If a complex number  $z$  lies in the interior or on the boundary of a circle of radius 3 units and centre  $(-4, 0)$ , the greatest value of  $|z + 1|$  is
- a. 4      b. 6      c. 3      d. 10
40. Find the coefficient of the  $x^2$  term in  $(2x - 3)^9$
- a.  $41472x^2$       b. 41472      c.  $-314928x^2$       d. -314928
41. A boy increases his speed to  $\frac{9}{5}$  times of his original speed. By this he reaches his school 30 minutes before the usual time. How much time does he take usually?
- a. 70.50min      b. 54min      c. 66.67min      d. 67.50min

42. Expand the expression.  $(2x + 5)^4$
- $2x^4 + 40x^3 + 300x^2 + 1000x + 625$
  - $16x^4 + 160x^3 + 600x^2 + 1000x + 625$
  - $16x^4 + 1000x^3 + 600x^2 + 160x + 625$
  - None of the above.
43. If the 2<sup>nd</sup> term of an AP is 13 and the 5<sup>th</sup> term is 25, then its 7<sup>th</sup> term is
- 30
  - 33
  - 37
  - 38
44. If the probability that a bomb dropped from a plane will strike the target is 70% and if 10 bombs are dropped, find mean and variance?
- 4, 1.6
  - 0.4, 0.16
  - 7, 2.1
  - 0.7, 0.21
45. Four small squares of side  $x$  are cut out of square of side 12cm to make a tray by folding the edges. What is the value of  $x$  so that the tray has the maximum volume?
- 1 cm
  - 2 cm
  - 3 cm
  - 4 cm
46. Pairs of natural numbers whose least common multiple is 78 and the greatest common divisor is 13 are
- 58 and 13 or 16 and 29
  - 68 and 23 or 36 and 49
  - 18 and 73 or 56 and 93
  - 78 and 13 or 26 and 39
47. There are 312, 260 and 156 students in class X, XI and XII respectively. Buses are to be hired to take these students to a picnic. Find the maximum number of students who can sit in a bus if each bus takes equal number of students.
- 52
  - 56
  - 48
  - 63
48. A man borrows ₹ 4000 at 8% per annum on compound interest. At the end of every year, he pays ₹ 1500 as part payment of the loan and interest. How much does he still owe to the bank after 3 such annual payments?
- ₹ 1799
  - ₹ 169.25
  - ₹ 2000
  - ₹ 234.13
49. The amount on ₹ 25000 in 2 years at annually compound interest, if the rate for the successive years be 4% and 5% per annum respectively, is
- ₹ 28500
  - ₹ 30000
  - ₹ 26800
  - ₹ 27300
50. If the dimensions of a room are 2 m, 3 m and 4 m then which of the following is the number of cubes of size  $\frac{1}{2} \text{ m} \times \frac{1}{3} \text{ m} \times \frac{1}{4} \text{ m}$  which can be placed in the room?
- 960
  - 672
  - 676
  - 576

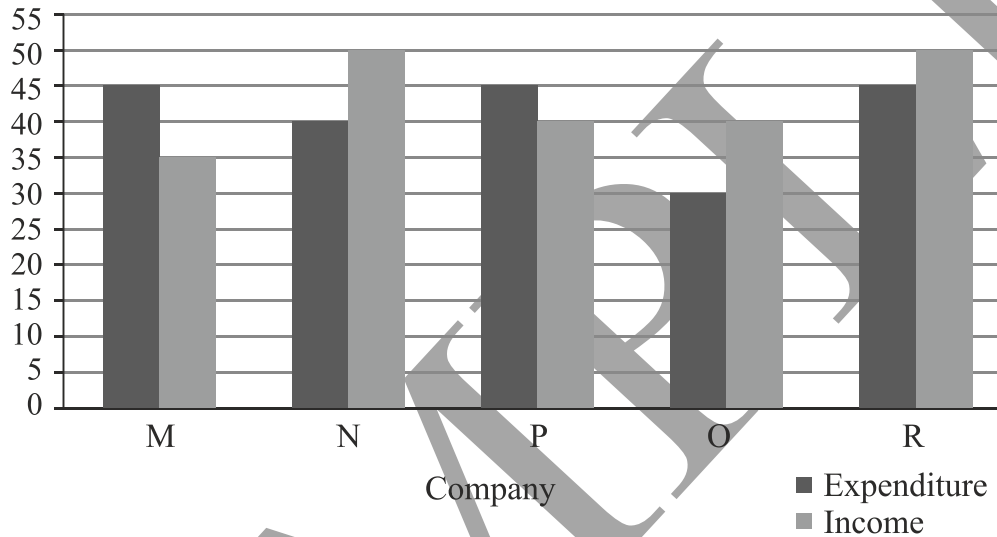
## Section-C (Data Interpretation and Reasoning)

### [Question No. 51 to 75]

**Q. 51-54:** The following bar graph shows the Income and Expenditures (in million US \$) of five companies in the year 2021. The percent profit or loss of a company is given by

$$\% \text{ Profit/Loss} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100$$

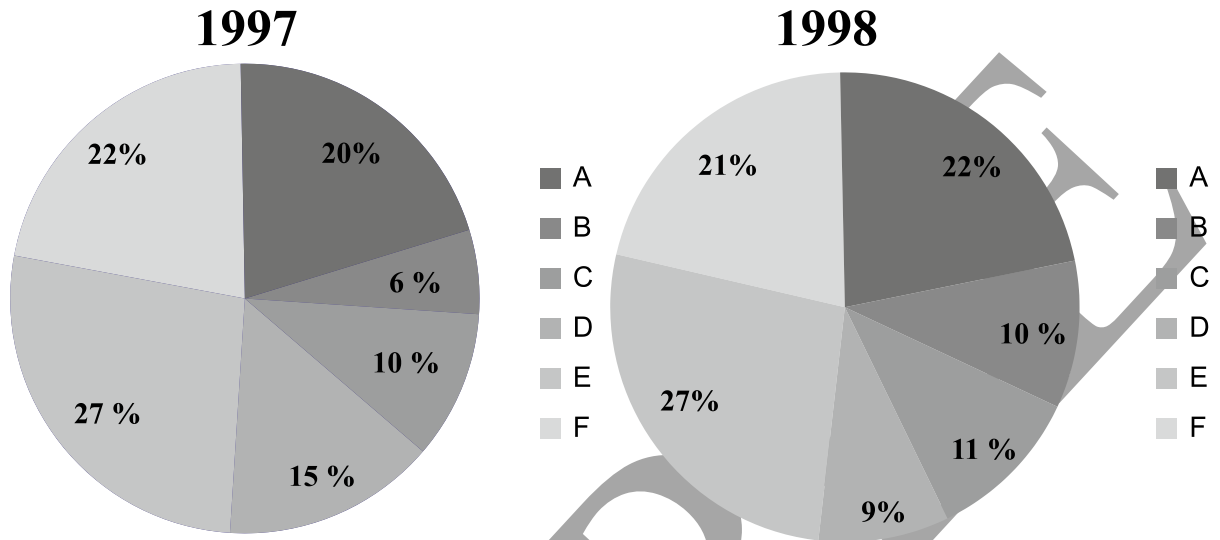
**Income and Expenditure (in million US \$) of five companies in the year 2021.**



51. The companies M and N together had a percentage of profit/loss of?
  - a. 12% loss
  - b. 10% loss
  - c. 10% profit
  - d. There was no loss or profit
52. In 2021, what was the approximate percentage of profit/loss of all the five Companies taken together?
  - a. 5% profit
  - b. 6.5% profit
  - c. 4% loss
  - d. 7% loss
53. If the income of Company Q in 2021 was 10% more than its income in 2020 and the Company had earned a profit of 20% in 2020, then its expenditure in 2020 (in million US \$) was?
  - a. 28.28
  - b. 30.30
  - c. 32.32
  - d. 34.34
54. For Company R, if the expenditure had increased by 20% in year 2021 from year 2020 and the company had earned profit of 10% in 2020, what was the Company's income in 2020 (in million US \$)?
  - a. 35.75
  - b. 37.25
  - c. 38.5
  - d. 41.25

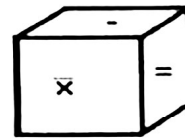
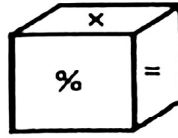
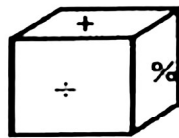
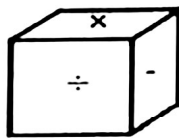


**Q. 55-58:** Study the following graphs carefully and answer the questions given below: Percentage of different types of employees in a company in two successive years. Total number of employees in 1997 and 1998 is 42,980 and 48,640 respectively.



55. The number of A type employees in 1998 was approximately what percentage of A type employees in 1997?
- a. 115                      b. 140                      c. 125                      d. 130
56. If there were 5,000 D type employees in 1998, what would have been its approximate percentage in the company?
- a. 8                              b. 12                              c. 14                              d. 10
57. In the case of which of the following type of employees was there maximum change in the number from 1997 to 1998?
- a. B                              b. D                              c. C                              d. A
58. Approximately, what was the difference in the number of B type employees between 1997 and 1998?
- a. 2285                      b. 2325                      c. 2085                      d. 2620
59. A man said to a lady, "Your mother's husband's sister is my aunt". How is the lady related to the man?
- a. Mother                      b. Sister                      c. Daughter                      d. Aunt
60. Pointing to a man, Rohan said, "His only brother is the father of my daughter's father." How is the Rohan related to the man?
- a. Father                      b. Grandson                      c. Uncle                      d. Nephew

61. Assertion (A): Till now, no vaccine has been invented that can cure AIDS.  
Reason(R): The genetic code of AIDS changes very frequently.
- Both A and R are true and R is the correct explanation of A.
  - Both A and R are true but R is not the correct explanation of A.
  - A is true but R is false.
  - A is false but R is true.
62. Assertion (A): Ebonite handles are used in the pressure cookers.  
Reason(R): Materials like Ebonite is very strong.
- Both A and R are true and R is the correct explanation of A.
  - Both A and R are true but R is not the correct explanation of A.
  - A is true but R is false.
  - A is false but R is true.
63. Assertion (A): During the night time, the breeze from the sea does not blow.  
Reason(R): Land of beach gets cold faster than water of sea.
- Both A and R are true and R is the correct explanation of A.
  - Both A and R are true but R is not the correct explanation of A.
  - A is true but R is false.
  - A is false but R is true.
64. Which of the following is NOT an example of a partial measure of quality?
- Customer query time
  - Warranty claims
  - Scrap level
  - Number of defects per unit
65. Which symbol will be opposite to symbol “%”?



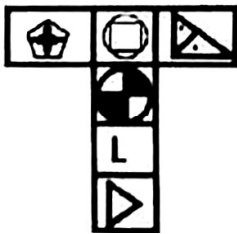
a. +

b. -

c. ×

d. ÷

66. Which figure is opposite to  ?



a.



b.

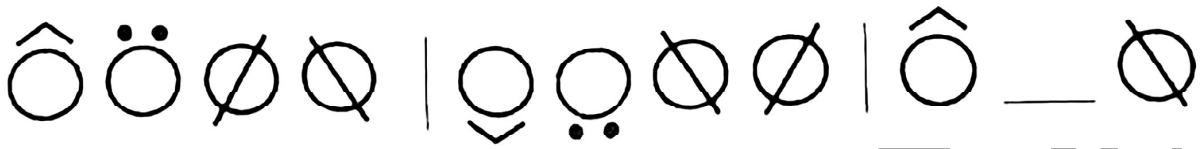






c.



d. None of these

67. If \* stands for 'addition', / stands for 'subtraction', + stands for 'multiplication', and – stands for 'division', then  $20 * 8 / 8 - 4 + 2 = ?$
- a. 80                      b. 25                      c. 24                      d. 5

68. 
- a.       b.       c.       d. 

69. Statement: Fashion is a form of ugliness so intolerable that we have to alter it every six months.

Conclusions:

- I. Fashion designers do not understand the public mind very well.  
 II. The public by and large is highly susceptible to novelty.

- a. conclusion I follows.                      b. conclusion II follows.  
 c. I or II follows.                              d. I nor II follows.
70. Statement: I know nothing except the fact of my ignorance.  
 Conclusions: I. Writer's knowledge is very poor.  
 II. The world of knowledge is too vast to be explored by a single person.
- a. conclusion I follows.                      b. conclusion II follows.  
 c. I or II follows.                              d. I nor II follows.
71. Statement: The New Zealand cricket team scored 240 runs out of which Daniel Vettori scored 94 runs.  
 Conclusion: I. Daniel Vettori scored the highest runs.  
 II. The New Zealand team will win the match.
- a. conclusion I follows.                      b. conclusion II follows.  
 c. I or II follows.                              d. I nor II follows.

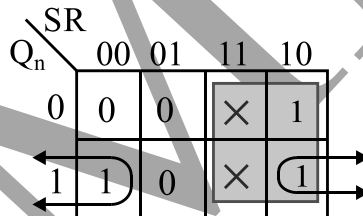
72. Find the missing letter from the following:

B	G	N
D	J	R
G	N	?

- a. X                      b. W                      c. V                      d. U



82. The octal equivalent of 1100101.001010 is \_\_\_\_\_
- a. 624.12      b. 145.12      c. 154.12      d. 145.21
83. Which of the following is not a type of computer code?
- a. EDIC      b. ASCII      c. BCD      d. EBCDIC
84. Which of the following is known as the interval between the instant a computer makes a request for the transfer of data from a disk system to the primary storage and the instance the operation is completed?
- a. Disk utilization time      b. Drive utilization time  
c. Disk access time      d. Disk arrival time
85. Which of the following is the first neural network computer?
- a. AN      b. AM      c. RFD      d. SNARC
86. What is the standard form of S-R flip flop?
- a. Set Reset      b. Simple-Reset  
c. Single-Reset      d. None of the above
87. What would be the characteristic equation of SR latch corresponding to the K-map schematic shown below?



- a.  $S + RQ_n$       b.  $S + \overline{R}Q_n$       c.  $\overline{S} + RQ_n$       d.  $\overline{S} + \overline{R}Q_n$
88. In Operating Systems, which of the following is/are CPU scheduling algorithms?
- a. Priority      b. Round Robin  
c. Shortest Job First      d. All of the mentioned
89. Where is the operating system placed in the memory?
- a. Either low or high memory (depending on the location of interrupt vector)  
b. In the low memory  
c. In the high memory  
d. None of the mentioned
90. BIOS is used?
- a. By operating system      b. By compiler  
c. By interpreter      d. By application software

91. Banker's algorithm is used?
- a. To prevent deadlock
  - b. To deadlock recovery
  - c. To solve the deadlock
  - d. None of these
92. The operating system and the other processes are protected from being modified by an already running process because \_\_\_\_\_
- a. Every address generated by the CPU is being checked against the relocation and limit registers
  - b. They have a protection algorithm
  - c. They are in different memory spaces
  - d. They are in different logical addresses
93. Which of the following cannot be a variable name in C?
- a. volatile
  - b. true
  - c. friend
  - d. export
94. What is the output of C Program with Functions.?
- ```
int main()
{
    void show()
    {
        printf("HIDE");
    }
    show();
    return 0;
}
```
- a. No output
  - b. HIDE
  - c. Compiler error
  - d. None of the above
95. What is the output of a C program with functions.?
- ```
void show();
void main()
{
    show();
    printf("RAINBOW");
    return;
}
void show()
{
    printf("COLOURS");
}
```
- a. RAINBOW COLOURS
  - b. COLOURS RAINBOW
  - c. COLOURS
  - d. Compiler error

96. Which of the following function can be used to write an entire array or a structure in a single call?
- a. writeblock()      b. write()      c. fwrite()      d. WRITE()
97. How can you catch a computer virus?
- a. Sending e-mail messages      b. Using a laptop during the winter  
c. Opening e-mail attachments      d. Shopping on-line
98. What is the output of C Program with functions.?
- ```
int show();  
void main()  
{  
    int a;  
    printf("PISTA COUNT=");  
    a=show();  
    printf("%d", a);  
}  
int show()  
{  
    return 10;  
}
```
- a. PISTA COUNT=  
b. PISTA COUNT = 0  
c. PISTA COUNT=10  
d. Compiler error
99. Which of the following declaration is not supported by C language?
- a. String str;  
b. char \*str;  
c. float str=3e2;  
d. Both "String str," and "float str = 3e2;"
100. Ctrl, Shift and Alt are called \_\_\_\_\_ keys.
- a. Function      b. Modifier  
c. Alphanumeric      d. Adjustment

**Rough Work**

SAMPLE