1. A hollow iron pipe is 21 cm long and its external diameter is 8 cm. If the thickness of the pipe is 1 cm and iron weighs 8 g/cm^3, then the weight of the pipe is:

   - A. 3.6 kg
   - B. 3.696 kg
   - C. 36 kg
   - D. 36.9 kg

2. The product of two numbers is 120 and the sum of their squares is 289. The sum of the number is:

   - A. 20
   - B. 23
   - C. 169
   - D. None of these

3. A two-digit number is such that the product of the digits is 8. When 18 is added to the number, then the digits are reversed. The number is:

   - A. 18
   - B. 24
   - C. 42
   - D. 81

4. A can contains a mixture of two liquids A and B is the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?

   - A. 10
   - B. 20
   - C. 21
   - D. 25

5. To fill a tank, 25 buckets of water is required. How many buckets of water will be required to fill the same tank if the capacity of the bucket is reduced to two-fifth of its present ?

   - A. 10
   - B. 35
   - C. 62.5
   - D. Cannot be determined

6. Which of the following statements is not correct?

   - A. $\log_{10} 10 = 1$
   - B. $\log (2 + 3) = \log (2 \times 3)$
   - C. $\log_{10} 1 = 0$
   - D. $\log (1 + 2 + 3) = \log 1 + \log 2 + \log 3$

7. A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is:

   - A. 45 km/hr
   - B. 50 km/hr
   - C. 54 km/hr
   - D. 55 km/hr

8. A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds. If the speed of the train is 54 km/hr, what is the length of the platform?

   - A. 120 m
   - B. 240 m
   - C. 300 m
   - D. None of these

9. The cost price of 20 articles is the same as the selling price of *x* articles. If the profit is 25%, then the value of *x* is:

- A. 15
- B. 16
- C. 18
- D. 25

10. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?

- A. 3
- B. 4
- C. 5
- D. 6

11. If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:

- A. 50 km
- B. 56 km
- C. 70 km
- D. 80 km

12. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

- A. 4 years
- B. 8 years
- C. 10 years
- D. None of these

13. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?

- A. 12 days
- B. 15 days
- C. 16 days
- D. 18 days

14. What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?

- A. 1
- B. 14
- C. 20
- D. 21

15. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:

- A. 588 apples
- B. 600 apples
- C. 672 apples
- D. 700 apples

16. Which of the following statements should be used to obtain a remainder after dividing 3.14 by 2.1 ?

- A. rem = 3.14 % 2.1;
- B. rem = modf(3.14, 2.1);
- C. rem = fmod(3.14, 2.1);
- D. Remainder cannot be obtain in floating point division.

17. The keyword used to transfer control from a function back to the calling function is

- A. switch
- B. goto
- C. go back
- D. return

18. What are the types of linkages?

- A. Internal and External
- B. External, Internal and None
- C. External and None
- D. Internal

19. Which of the following correctly shows the hierarchy of arithmetic operations in C?

- A. / + * -
- B. * - / +
- C. + - / *
- D. / * + -

20. Which of the following is the correct usage of conditional operators used in C?

- A. a>b ? c=30 : c=40;
- B. a>b ? c=30;
- C. max = a>b ? a>c?a:c:b>c?b:c
- D. return (a>b)?(a:b)

21. What will happen if in a C program you assign a value to an array element whose subscript exceeds the size of array?

- A. The element will be set to 0.
- B. The compiler would report an error.
- C. The program may crash if some important data gets overwritten.
- D. The array size would appropriately grow.

22. Which of the following function sets first n characters of a string to a given character?

- A. strinit()
- B. strnset()
- C. strset()
- D. strcset()

23. If the two strings are identical, then `strcmp()` function returns

- A. -1
- B. 1
- C. 0
- D. Yes

24. How will you print \n on the screen?

- A. printf("\n");
- B. echo "\\n";
- C. printf('\n');
- D. printf("\\n");

25. Which of the following function is used to find the first occurrence of a given string in another string?

- A. strchr()
- B. strrchr()
- C. strstr()
- D. strnset()