1. Ans. B.
6, 8, 13, 23, ?, 56
The series follow double step difference.
8 – 6 = 2
13 – 8 = 5 (5-2 = 3)
23 – 13 = 10 (10-5 = 5)
? – 23 = x (x-10 = 7, i.e. x= 17)
Thus, ? = 17 + 23 = 40

2. Ans. A.
7, 8, 18, 57, 232, ?
8 = 7*1 + 1
18 = 8*2 + 2
57 = 18*3 +3
232 = 57*4 +4
1165 = 232*5 + 5

3. Ans. D.
8, 5, 6, 10, 21, ?
5 = 8*0.5 + 1
6 = 5*1 + 1
10 = 6*1.5 + 1
21 = 10*2 + 1
? = 21*2.5 + 1 = 53.5

4. Ans. C.
4, 18, 46, 102, ?, 438
18 = 4 + (7*2)
46 = 18 + (7*4)
102 = 46 + (7*8)
? = 102 + (7*16), i.e. ? = 214
438 = 214 + (7*32)

5. Ans. B.
109, 110, 102, 129, 65, ?
110 = 109 + 1\(^3\)
102 = 110 – 2\(^3\)
129 = 102 + 3\(^3\)
65 = 129 – 4\(^3\)
? = 65 + 5\(^3\), i.e. ? = 190

6. Ans. B.
Required ratio = 1715: 1250 = 343:250

7. Ans. C.
Required total number of sales = 15.5 + 13.5 + 7.5 + 5.6 + 16.3 + 13.5 = 71900

8. Ans. A.
Shop P’s sales = 91.4
Shop Q’s sales = 65.05
Shop R’s sales = 71.9
Shop S’s sales = 43.8
Shop T’s sales = 46.8

9. Ans. C.
Required difference = 6.3 – 5.9 = 0.4

10. Ans. C.
Required total number of sales = 14.4 + 7.4 + 15.7 = 37.5

11. Ans. B.
Take nearest values
\((15)^2 + (19.99)^2 + (24.001)^2 = 225 + 400 + 576 = 1200\) (approx)

12. Ans. C.
12.25 \times ? \times 21.65 = 3545.64 + 23.36
12 \times ? \times 22 = 3568 + 23
? = 3569/264 = 13

13. Ans. B.
? = (1005/80) = 12.5625 = 13 (Approx)

14. Ans. B.
\frac{605}{100} \times 4 = \frac{218}{5} \times \frac{4}{5}
\frac{605}{5} \times \frac{5}{4} = \frac{872}{4} \times \frac{5}{5}
? = 756.25 – 174.4
? = 930.65
? = 931 (Approx.)

15. Ans. B.
Take nearest values
\sqrt{580} \times \sqrt{510} + 49.999 \times 3.999 = ?
24 \times 8 = 392

16. Ans. C.
4005.33 ÷ 19.89 \times 1.9 = 4005 ÷ 20 \times 2 = 400.5 = 400 (Approx.)

Hence option C is correct

17. Ans. E.
15 \times 12 + 41 \times 21 = ?
180 + 861 = 1041

18. Ans. A.
23 \times 17.5 \approx 403 \& 321 ÷ 52 \approx 6
Then, 403 + 64 – 6 = 466 – 6 = 460

19. Ans. D.
\frac{3}{8} \times 616 \times 12 \div 16 + ? = 323 + 81 + \frac{4}{3} \times ?
539 \times 12 \div 16 + ? = 404 + \frac{4}{3} \times ?
539 \times \frac{3}{4} + ? = 404 + \frac{4}{3} \times ?
\therefore \frac{4}{3} \times ? = \frac{(1617-1616)}{4}
\therefore ? = \frac{3}{4}

20. Ans. C.
Required total number of sales = 14.4 + 7.4 + 15.7 = 37.5
20. Ans. B.
16.007 \times 14.995 \times 6.080 =?
Approx Value = 16 \times 15 \times 6
= 1440

21. Ans. C.
? \% of 780 = ? \times 780/ 100 = 7.8?
Hence \% of 780 - 335 = 250 \rightarrow 7.8? = 250 + 335 = 585
? = 585/7.8 = 75

22. Ans. A.
\sqrt{?} - 21 = \sqrt{1521} + \sqrt{576} \rightarrow \sqrt{?} - 21 = 63
\sqrt{?} = 84 \rightarrow 7056

23. Ans. E.
(2\sqrt{2 \times 2 \times 2 \times 7 \times 7 - 21}) + (\sqrt{2 \times 2 \times 2 - 7}) = (a)^2

28\sqrt{2 - 21} + 8 + 49 - 28\sqrt{2} = (a)^2

28\sqrt{2 - 21} + 57 - 28\sqrt{2} = (a)^2

36 = (a)^2
a = 6

24. Ans. C.
\frac{8.5 + 4.4}{0.25 + 0.2} = \frac{x}{100} \times 80
34 + 22 = 0.8x
56 = 0.8x
x = 70

25. Ans. B.
1456 \div 16 \times 14 + 22 = (?)^2
91 \times 14 + 22 = (?)^2
1274 + 22 = (?)^2
(?)^2 = (36)^2
? = 36

26. Ans. D.
Let the speed of stream be x kmph. Therefore,
Downstream speed = 16 kmph
Upstream speed = 11 kmph
Thus, the speed of stream = (16 - 11)/2 = 2.5 kmph
Hence, option D is correct.

27. Ans. A.
Principal = \frac{1200 \times 100}{4 \times 8} = Rs. 3750
New principal = 3 \times 3750
Simple Interest = \frac{3 \times 3750 \times 6 \times 3}{100} = Rs. 2025
Hence option A is correct
35. Ans. A.

Required days = \( \frac{5}{8 \times 20} + \frac{8}{32 \times 8} \)

\( = \frac{2}{32} \)

\( = 16 \) days

36. Ans. B.

Perimeter of the square = 72 cms
Side of the square = 72/4 = 18 cms
Perimeter of the rectangle = 72/2 = 36 cms
Breadth of the rectangle = 36/2 – 12 = 6 cms
Required difference = 18 – 6 = 12 cms
Hence Option B is correct

37. Ans. A.

There are total 12 balls in a bucket. Required Probability .

\[ P(E) = \frac{n(E)}{n(S)} \]

\[ = \frac{4}{12} \times \frac{6}{11} \times \frac{2}{10} \times 3! \]

\[ = \frac{4}{12} \times \frac{6}{11} \times \frac{2}{10} \times 6 = \frac{12}{55} \]

38. Ans. E.

ARMOUR = 6 letters whereas R repeated twice

\[ \frac{6!}{2!} = \frac{6 \times 5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = 360 \]

39. Ans. A.

Suppose cost price = \( \text{₹} \) \( x \)

90% of 15000 = 108% of \( x \)

\[ 15000 \times \frac{90}{100} = x \times \frac{108}{100} \]

\[ 150 \times 90 = x \times \frac{108}{100} \]

\[ x = \frac{150 \times 90 \times 100}{108} \]

\[ x = \text{₹} \ 12500 \]

40. Ans. B.

\[ \frac{x + y}{2} = 27 \]

\[ \Rightarrow x + y = 54 \] \( \text{(i)} \)

\[ \Rightarrow x - y = 30 \] \( \text{(ii)} \)

So, \( x = 42 \) and \( y = 12 \)

41. Ans. D.

After arranging,

GHC LAT MKU BGP SRW

GHC, BGP and SRW have more than two different consonants.

42. Ans. B.

After arranging,

HGB SLA TMK OGB VSR

Only SLA ends with vowel.

43. Ans. A.

Second letter of the last word from the left is ‘R’.
Third letter of the fourth word from the right is ‘S’.
So between R and S there is no letter in English alphabetical series.

44. Ans. B.

After arranging,

SRV MKT LAS GHB BGO

LAS is third from right.

45. Ans. B.

After arranging,

HIC MAT NLU CHO TSW

In TSW have no vowels.

46. Ans. D.

Explanation
The number after rearrangement will be 832690714435
Third from the left end after the rearrangement is = 2

47. Ans. D.

Explanation
There are four such pairs

48. Ans. A.

Given statement-

\[ K > P > Q > T, K = Y, K < Z \]

for conclusion

I. \( Y > T \)

\( Y = K > P > Q > T \)

\( Y > T \) ---- True

for conclusion

II. \( T > Z \)

\( Z > K > P > Q > T \)

\( T > Z \) ---- False

Hence, only conclusion I is true.

49. Ans. D.

Given statement - \( A \geq Q, B \leq T, A = B \),

for conclusion

I. \( B = Q \)

\( B = A \geq Q \)

\( B = Q \) is false

II. \( A > Q \)

\( A > Q \) is false

Hence, neither conclusion I nor II is true.
50. Ans. D.
Given Statement:
Z ≤ A, A > R, A = W
for the conclusion I
Z ≤ A > R
I. R < Z --- is false
for the conclusion II
Z ≤ A = W
II. Z < W --- is false
Hence, neither conclusion I nor II is true.

51. Ans. C.
Given statement:
A = Y ≤ C > W
for the conclusion I
A = Y ≤ C
A ≤ C
I. C = A --- is false
for the conclusion II
A = Y ≤ C
A ≤ C
II. C > A --- is false
But this forms complementary pairs, hence either conclusion I or II is true.

52. Ans. D.
Given statement:
K < M, Y = X < Z, K < Y
Conclusions:
for conclusion I
Y > K < M
I. Y > M --- false
for conclusion II
Z > X = Y > K < M
II. M > Z --- false
Hence, neither conclusion I nor II is true.

53. Ans. D.

54. Ans. A.

55. Ans. B.

56. Ans. C.

57. Ans. A.

If K interchanges his floor with the one who lives on floor number two, then N lives exactly between L and J.

58. Ans. C.
Given arrangement -
1 5 8 4 2 1 5 2 3 4 5 6 7 8 9 5 1 4 1 5 6 8 7 4
9th from the left 21st from left means: 21 - 9 = 12th from the left end of the arrangement, i.e, 6.
Hence, option C is correct.

59. Ans. D.
Given arrangement -
1 5 8 4 2 1 5 2 3 4 5 6 7 8 9 5 1 4 1 5 6 8 7 4
There are only three pairs -
158, 152 and 156
60. Ans. B.
Given arrangement -
1 5 8 4 2 1 5 2 3 4 5 6 7 8 9 5 1 4 1 5 6 8 7 4
There is only pairs -
14

61. Ans. C.
Given arrangement -
1 5 8 4 2 1 5 2 3 4 5 6 7 8 9 5 1 4 1 5 6 8 7 4
There are only two such combination -
84 and 7 4

62. Ans. A.
If all the even digit are deleted from the above arrangement, therefore, new arrangement
1 5 1 5 3 5 7 9 5 1 1 5 7
tenth from the right end of the arrangement is 5
Hence, option A is correct.

63. Ans. B.
\[
\begin{array}{c}
A \\
B
\end{array}
\]
15th
20th
Position of B from the left end = Total students – Right end + 1
= 54 – 20 + 1 = 35
No of students between A and B = 35 – 15 – 1 = 19 students

64. Ans. A.
\[
\begin{array}{c}
B \\
A \\
C \\
D \\
E
\end{array}
\]
Prakash started at A and walked 30 metres towards West and reached at B, now he took left turn and walked 20 m and reached C, now he took left turn and walked 30m to reach at D, now he turned into right, therefore he was facing south after stopping.

65. Ans. B.
L, Q
If P is taller than only Q we can infer that Q is the shortest. Similarly if S is shorter than only L, we get to know that L is the tallest.

66. Ans. D.
\[
\begin{array}{c}
L \\
T \\
R \\
V \\
Q \\
P \\
W \\
S
\end{array}
\]
Except in VW, in all others first person is second to the left of the second person
Hence option D is correct

67. Ans. C.
\[
\begin{array}{c}
L \\
T \\
R \\
V \\
Q \\
P \\
W \\
S
\end{array}
\]
Two persons R and P
Hence option C is correct

68. Ans. B.
\[
\begin{array}{c}
L \\
T \\
R \\
V \\
Q \\
P \\
W \\
S
\end{array}
\]
T and S sit at the extreme corners of the line

69. Ans. A.
\[
\begin{array}{c}
T \\
S \\
R \\
Q \\
P \\
W \\
T \\
S
\end{array}
\]
T is second to the left of V

70. Ans. A.
\[
\begin{array}{c}
T \\
S \\
R \\
Q \\
P \\
W \\
T \\
S
\end{array}
\]
Hence option A is correct

71. Ans. E.
3%85#6 = FKUDVT (Condition 3 is applicable)

72. Ans. C.
#8@7$9 = VUXPXS (Condition 2 is applicable)

73. Ans. B.
7%96*5 = FKSPBD (None of the condition is applicable. Hence, the code will be coded as given in the question)

74. Ans. B.
4&86%7 = ANGGKP (Condition 1 is applicable)

75. Ans. E.
9%8*$6 - FKUQBS
(condition 3 applicable)

76. Ans. A.
The Venn Diagram for the above relation is as follows:

Flowers
Bushes
Trees

Thus only Conclusion I follow.
Hence Option A is correct
77. Ans. B.
The Venn Diagram for the above relation is as follows:

Clearly only Conclusion II follows.
Hence Option B is correct

78. Ans. A.
The Venn Diagram for the above relation is as follows:

Thus only Conclusion I follows.
Hence Option A is correct

79. Ans. B.
The Venn Diagram for the above relation is as follows:

Thus only Conclusion II follows.
Hence Option B is correct, as no air is solid and some solid are liquids. So, some airs are definitely not liquids.

80. Ans. E.
The relation depicted in the above question is as follows:

Thus both the conclusion follows.
Hence Option E is correct