

# **Solutions**

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.

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<sup>3</sup> 102 = 110 - 2<sup>3</sup> 129 = 102 + 3<sup>3</sup> 65 = 129 - 4<sup>3</sup> ? = 65 + 5<sup>3</sup>, 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 a 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 × ? × 21.65 = 3545.64 + 23.36 12\*?\*22= 3546+23 ? = 3569/264 = 13

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

 $? = 605 \times \frac{125}{100} + 218 \times \frac{4}{5}$ 

 $? = 605 \times \frac{5}{4} + 218 \times \frac{4}{5}$  2 = 3025 + 872

? = 756.25 + 174.4

? = 930.65

? = 931 (Approx.)

15. Ans. B. Take nearest values  $\sqrt{580} \times \sqrt[3]{510} + 49.999 \times 3.999 = ?$  24 x 8 + 200 = 392

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

Hence option C is correct

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

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



$$\frac{7}{8} \times 616 \times 12 \div 16 + ? = 323 + 81 + \frac{4}{3} \times ?$$

$$539 \times 12 \div 16 +? = 404 + \frac{4}{3} \times?$$

$$539 \times \frac{3}{4} + ? = 404 + \frac{4}{3} \times ?$$

$$\therefore \frac{4}{3} \times ? - ? = \frac{(1617 - 1616)}{4}$$

$$\therefore ? = \frac{3}{4}$$

$$16.007 \times 14.995 \times 6.080 = ?$$

Approx Value = 
$$16 \times 15 \times 6$$

= 1440

# 21. Ans. C.

? % of 
$$780 = ? \times 780 / 100 = 7.8$$
?

Hence ?% of 780 - 335 = 
$$250 \rightarrow 7.8$$
? =  $250 + 335 = 250$ 

585

$$\sqrt{?}$$
 - 21 =  $\sqrt{1521}$  +  $\sqrt{576}$  --->  $\sqrt{?}$  - 21 =63

$$\sqrt{?}$$
 = 84 ---> 7056

$$(2\sqrt{2\times2\times2\times7\times7}-21)+(\sqrt{2\times2\times2}-7)^2=(a)^2$$

$$(2\times14\sqrt{2}-21)+(2\sqrt{2}-7)^2=(a)^2$$

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

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

$$36 = (a)^2$$

$$a=6$$

$$\frac{8.5}{0.25} + \frac{4.4}{0.2} = \frac{x}{100} \times 80$$

$$34 + 22 = 0.8x$$

$$56 = 0.8x$$

$$x = 70$$

$$1456 \div 16 \times 14 + 22 = (?)^2$$

$$91 \times 14 + 22 = (?)^2$$

$$1274 + 22 = (?)^2$$

$$(?)^2 = (36)^2$$
  
? = 36

## 26. Ans. D.

Let the speed of stream be 
$$x$$
 kmph. Therefore,

Thus, the speed of stream = 
$$(16-11)/2=2.5$$
 kmph

# 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

# 28. Ans. A.

$$CI = 1800 \left[ \left( 1 + \frac{4}{100} \right)^2 - 1 \right] = 1800 \times \left( \frac{676}{625} - 1 \right)$$

$$=1800 \times \frac{51}{625} = Rs.146.88$$

#### 29. Ans. B.

C.P. of 20 kg of rice = 
$$(672/14) \times 20 = Rs.960$$

C.P. of 15 kg of wheat = 
$$(432/12) \times 15 = Rs.540$$

C.P. of 16kg of sugar = 
$$(504/18) \times 16 = Rs.448$$

Total cost = 
$$960 + 540 + 448 = Rs.1948$$

Hence option B is correct

# 30. Ans. A.

Capital of A is employed in business for 10 months = Rs

Capital of B is employed for 8 months =  $5/8 \times 16000 =$ Rs 10000

Capital of C is employed for 6 months = Rs 8000

Thus the ratio of distribution of profit = A : B : C

 $= 16000 \times 10 : 10000 \times 8 : 8000 \times 6 = 160:80:48$ = 10:5:3

Therefore the share of B =  $5/18 \times 6336 = Rs 1760$ Hence Option A is correct

# 31. Ans. E.

Let Samir's monthly salary be Rs. x.

According to the question,

x - (52+23)% of x = 4500

x - 75% of x = 4500

$$X = \frac{4500 \times 100}{25} = Rs. 18000$$



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32. Ans. D.

Suppose the ages of Nishi and Vinnee are 6x and 5x yr.

$$\frac{6x+9}{5x+9} = \frac{9}{8}$$

$$48x + 72 = 45x + 81$$

$$48x - 45x = 81 - 72$$

$$3x = 9$$

$$x = 3$$

Required difference,

$$6x - 5x = x = 3yr$$

33. Ans. B.

Let cost price = cp

$$=> 7200 = CP(100-25)/100$$

CP = 9600

Selling price to gain 25% profit

=> 9600+9600\*25/100

= Rs.12000

34. Ans. C.

Speed of the Car = 
$$\frac{540}{9}$$
 =  $60 \text{km / hr}$ 

Speed of train =  $2 \times 60 = 120 \text{ km/hr}$ 

Speed of bike =  $2/3 \times 120 = 80 \text{ km/hr}$ 

Distance covered by bike in 5 h = 80 x 5 = 400 km

Hence option C 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 buckets.

Required Probability .

$$P(E) = \frac{n(E)}{n(S)}$$
$$= \frac{4}{12} \times \frac{6}{11} \times \frac{2}{10} \times 3!$$

$$=\frac{4}{12}\times\frac{6}{11}\times\frac{2}{10}\times6=\frac{12}{55}$$

38. Ans. E.

ARMOUR = 6 letters whereas R repeated twice

$$\therefore \frac{6!}{2!} = \frac{6 \times 5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = 360$$

39. Ans. A.

Suppose cost price = ₹ x

90% of 15000 = 108% of *x* 

$$15000 \times \frac{90}{100} = x \times \frac{108}{100}$$

$$150 \times 90 = x \times \frac{108}{100}$$

$$x = \frac{150 \times 90 \times 100}{108}$$

40. Ans. B.

$$\frac{x+y}{2} = 27$$

$$\Rightarrow$$
 x + y = 54....(i)

$$\Rightarrow$$
 x - y = 30.....(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 832690714435Third from the left end after the rearrangement is = 2

47. Ans. D. Explanation

4	<u>-^h</u>	ıuı	ıaı	1011					
	R	E	С	0	V	Е	R	E	D
	18	5	3	15	22	5	18	5	4

There are four such pairs

48. Ans. A. Given statement-  $K > P > Q \ge T$ , K = Y,  $K \le Z$  for conclusion I. Y > T  $Y = K > P > Q \ge T$ 

Y >T ---- True for conclusion

II. T>Z  $Z \ge K > P > Q \ge T$ T>Z ---- false

Hence, only conclusion I is true.

49. Ans. D.

Given statement -  $A \ge Q$ ,  $B \le T$ , A = B,

for conclusion I. B = Q

B=A<u>></u>Q

B=Q is false

II. A>Q

A<u>></u>Q

A>Q is false

Hence, neither conclusion I nor II is true.

50. Ans. D.

Given Statement:

 $Z \leq A$ , A > R, A = W

for the conclusion I

 $Z \leq A > R$ 

I. R<Z --- is false

for the conclusion II

 $Z \leq A=W$ 

A <u><</u> C

II. Z < W --- is false

Hence, neither conclusion I nor II is true.

51. Ans. C. Given statement:  $A = Y \le C > W$  for the conclusion I  $A = Y \le C$ 

I. C=A --- is false for the conclusion II

 $A = Y \leq C$ 

 $A \leq C$ 

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.

Floor	Person		
7	I		
6	L N K		
5			
4			
3			
2	)		
1	0		

I lives on 7th floor

54. Ans. A.

Floor	Person
7	I
6	L
5	N
4	к
3	м
2	J
1	0

None person lives between L and N

55. Ans. B.

Floor	Person		
7	I		
6	L N		
5			
4	K		
3	М		
2	J		
1	0		

J lives on floor numbered 2



ATTEMPT NOW



56. Ans. C.

Floor	Person
7	I
6	L
5	N
4	K
3	М
2	J
1	0

Five person lives between I and O.

## 57. Ans. A.

Person	
N	
K	
М	
3	
0	

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 - 158421523456789514156874 9<sup>th</sup> from the left 21<sup>st</sup> from left means: 21 - 9 =12<sup>th</sup> 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.

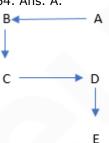
If all the even digit are deleted from the above arrangement, therefore, new arrangement 1 5 1 5 3 5 7 9 5 1 1 5 7 tenth from the right end of the arrangement is 5 Hence, option A is correct.

## 63. Ans. B.



Position of B from the left end = Total students – Right end + 1 = 54 - 20 + 1 = 35No of students between A and B = 35 - 15 - 1 = 19 students

#### 64. Ans. A.



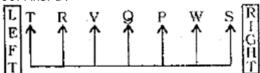
Prakash started at A and walked 30 metres towards West and reached at B, now he took left turn and walked 20 m and reached C, now he took left turn and walked 30m to reach at D, now he turned into right, therefore he was facing south after stopping.

### 65. Ans. B.

## L, Q

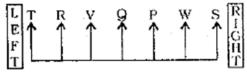
If P is taller than only Q we can infer that Q is the shortest. Similarly if S is shorter than only L, we get to know that L is the tallest.

#### 66. Ans. D.



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.



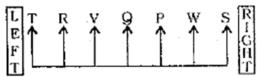
Two persons R and P Hence option C is correct



ATTEMPT NOW

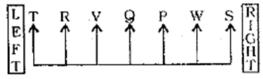






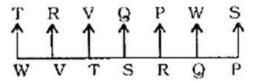
T and S sit at the extreme corners of the line

#### 69. Ans. A.



T is second to the left of V

# 70. Ans. A.



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)

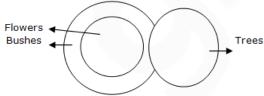
# 75. Ans. E.

9%8\$\*6 - FKUQBS

(condition 3 applicable)

### 76. Ans. A.

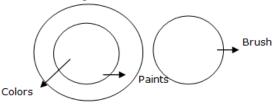
The Venn Diagram for the above relation is as follows:



Thus only Conclusion I follow. Hence Option A is correct

#### 77. Ans. B.

The Venn Diagram for the above relation is as follows:

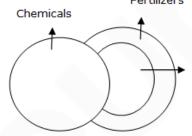


Clearly only Conclusion II follows. Hence Option B is correct

#### 78. Ans. A.

The Venn Diagram for the above relation is as follows:

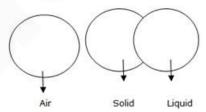
Fertilizers



Thus only Conclusion I follows. Hence Option A is correct

#### 79. Ans. B.

The Venn Diagram for the above relation is as follows:

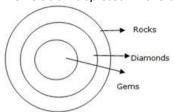


Thus only Conclusion II follows.

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

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