SOLUTIONS 1 RRB

1. (d)
Conclusions : I. H > L → True
II. K > T → False

2. (d)
Conclusions : I. V < U → True
II. Z < F → False

3. (b)
Conclusions : **I.** Y < M → False
II. O > S → False

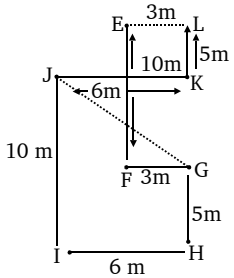
4. (b)
Statement : O ≤ R < P > Q
Conclusions : **I.** Q > R → False
II. Q < R → False

5. (b)
Statement : T = R > P ≤ Q
I. T < Q → False
II. Q ≥ T → False

Ans. (6-10) :

6.(d) ; 7.(b) ; 8.(b); 9. (a); 10(e);

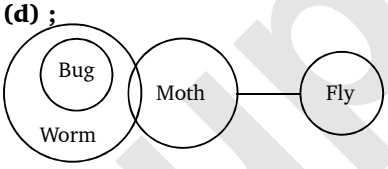
Ans. (11-12) :



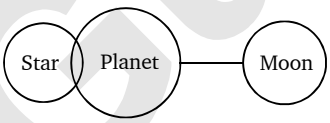
11. (a); 12.(d);

Ans. (13-17) :

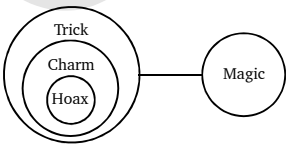
13. (d) ;



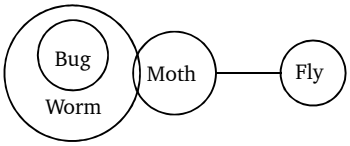
14. (a);



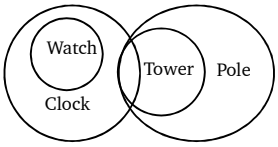
15. (b) ;



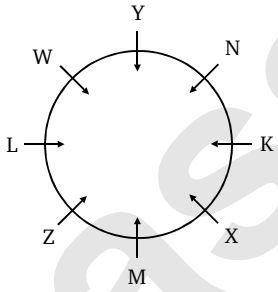
16. (c) ;



17. (b) ;



Ans. (18-22) :



18. (d) ; Z, X
19. (e) ; ZW
20. (b) ; K
21. (d) ;
22. (a) ; 3
23 (e) ;

346 ⇒ 445
815 ⇒ 914
428 ⇒ 527
271 ⇒ 370
732 ⇒ **831**

24. (b);
Ascending order of the numbers
271 < 346 < 428 < 732 < 815
Second from the right = 732
∴Required resultant = 7 × 2 = 14

25. (a) ;

346 ⇒ **366**
815 ⇒ 715
428 ⇒ **448**
271 ⇒ **171**
732 ⇒ 752

26. (d) ;

346 ⇒ **643**
815 ⇒ **851**
428 ⇒ 842
271 ⇒ **721**
732 ⇒ 732

27. (d) ;

346 ⇒ 643
815 ⇒ 518

$428 \Rightarrow 824$
$271 \Rightarrow 172$
$732 \Rightarrow 237$
Highest number $= 824$
Its first digit $= 8$
Lowest number $= 172$
Its third digit $= 2$
$\therefore$ Required resultant $= \frac{8}{2} = 4$

28. (e);

As, H E R S U N
+3 -1 +3 +3 -1 +3
^ R G 6 H T

Similarly,
P A T
+3 -1 +3
W + Y

29. (c) ;

30. (e) ;

$R \xrightarrow{+2} 8 \xrightarrow{-3} Z$
$Y \xrightarrow{+2} @ \xrightarrow{-3} \&$
$5 \xrightarrow{+2} 7 \xrightarrow{-3} U$
$3 \xrightarrow{+2} + \xrightarrow{-3} \#$
$\mathbf{G \xrightarrow{+3} S \xrightarrow{-2} 2}$

31. (a) ;

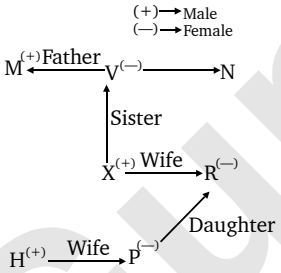
32. (a) ;

$\mathbf{D \xrightarrow{+5} P \xrightarrow{+6} E \xrightarrow{+7} T \xrightarrow{+} H}$
$\# \xrightarrow{+5} W \xrightarrow{+6} 2 \xrightarrow{+7} Y \xrightarrow{+8} \wedge$
$L \xrightarrow{+5} + \xrightarrow{+6} 8 \xrightarrow{+7} 6 \xrightarrow{+8} U$

33. (a) ; Alphabetical order of word JUNKYARD will be :

A D J K N R U Y
+1 +1
B V

Ans. (34-35) :



34. (e) ; 35. (d);

36. (e) ;

avoid (going) △(out) → 3 (1) 9
(going) for party → 6 (1) 2
△(out) for party → 3 6 2

37. (a) ;

5 7 2 8 3 9 2 7 3 8 5 7
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
D % $ Q G F $ % **G Q D %**

38. (a) ;

8 6 **3** 1 2 7 4 **9**
1 2 **3** 4 6 7 8 **9** $\rightarrow$ Ascending order

39. (d) ; As,

As, B L U N T
-1 -1 -2 +1 +1
A K S O U

and C O I N S
-1 -1 -2 +1 +1
B N G O T

Similarly, T R U S T
-1 -1 -2 +1 +1
S Q S T U

40. (b) ; Arranging 'HALFTIME' in alphabetical order,
A E F H I L M T
now, replacing the vowel by next alphabet,
B F **F** H J L M T

41. (e) ;

Let the five consecutive odd numbers be $x, x+2, x+4, x+6$ and $x+8$.
According to question,
Average = 95

$$\therefore \frac{x + x + 2 + x + 4 + x + 6 + x + 8}{5} = 95$$
$$5x + 20 = 95 \times 5$$
$$5x = 475 - 20$$
$$x = \frac{455}{5} = 91$$

$\therefore$ Fourth number in descending order
$= x + 2 = 93$

42. (b) ;

5120 1280 320 80 **20**
÷4 ÷4 ÷4 ÷4

43. (d) ;

8 17 42 91 **172**
$+3^2$ $+5^2$ $+7^2$ $+9^2$

44. (a) ;

8 7 12 33 128 **635**
×1-1 ×2-2 ×3-3 ×4-4 ×5-5

45. (e) ;

982 977 952 827 822 **797**
$-(5)^1$ $-(5)^2$ $-(5)^3$ $-(5)^1$ $-(5)^2$

46. (d) ;

11 23 47 95 191 **383**
×2+1 ×2+1 ×2+1 ×2+1 ×2+1

47. (c) ;

Mixture = 120 litre, Water = 25%

$\therefore$ Water $= \frac{25}{100} \times 120 = 30$ litre

And milk $= 120 - 30$

$= 90$ litre

After selling 20 litre of mixture, remaining mixture $= 100$ litre

In 100 litre of mixture, amount of milk and water will remain in same percent

$\therefore$ water $= \frac{25}{100} \times 100 = 25$ litre

And milk $= 75$ litre

Now, he added 16.2 litre of milk and 3.8 litre of water.

$\therefore$ Milk $= 75 + 16.2 = 91.2$ litre

And water $= 25 + 3.8 = 28.8$ litre

Total new mixture $= 120$ litre

$\therefore$ Required percentage $= \left(\frac{28.8}{120} \times 100\right)\% = 24\%$

48. (e) ; Let the speed of boat B be $x + 2$ km/hr

$\therefore$ The speed of boat A is x km/hr.

Speed of the current $= \frac{1}{3} \times x$

$= \frac{x}{3}$ km/hr

According to question,

$$\frac{20}{x + \frac{x}{3}} - \frac{20}{(x+2) + \frac{x}{3}} = \frac{30}{60}$$

$$\frac{20 \times 3}{4x} - \frac{20 \times 3}{4x + 6} = \frac{1}{2}$$

$$\frac{4x + 6 - 4x}{4x(4x + 6)} = \frac{1}{120}$$

$$\frac{6}{16x^2 + 24x} = \frac{1}{120}$$

$$\therefore 16x^2 + 24x - 720 = 0$$

$$2x^2 + 3x - 90 = 0$$

$$2x^2 + 15x - 12x - 90 = 0$$

$$x(2x + 15) - 6(2x + 15) = 0$$

$$(x - 6)(2x + 15) = 0$$

$$x \neq -\frac{15}{2} = -7.5$$

Hence, the speed of boat B $= x + 2$

$= 6 + 2 = 8$ km/hr

49. (d) ; According to question,

Share of A : Share of B : Share of C

$= 18000 \times 12 : 8 + 24000 \times 2$

$: 15000 \times 4 + 18000 \times 4$

$= 18 \times 12 : 24 \times 8 + 24 \times 2 : 15 \times 4 + 18 \times 4$

$= 18 : 20 : 11$

$\therefore$ B's share of profit $= \frac{20}{49} \times 12005$

$=$ Rs. $4,900/-$

50. (a) ; Let the monthly salary be Rs. x,

According to question,

$$x \times \frac{70}{100} \times \frac{70}{100} = 18963$$

$x =$ Rs. $38,700/-$

51. (e) ; Let the price of one trousers be Rs. x and the price of one shirt be Rs. y.

According to question,

$$5y + 6x = 2340 \quad \ldots(i)$$

$$7y - 3x = 540 \quad \ldots(ii)$$

On multiplying equation (ii) by 2 and adding in equation (i), we get

$$19y = 3420$$

$\therefore$ $y = 180$

$\therefore$ The price of 4 shirts = 4 × 180 = Rs. 720/-

52. (b) ;

Villagers belong to lower economic class = 6860

Villagers belong to middle economic class

$= \frac{3}{2} \times 6860 = 10290$

Let the population of village be x.

According to question,

$$\frac{30}{100}x + 10290 + 6860 = x$$

$$17150 = x - \frac{3}{10}x$$

$$\frac{17150 \times 10}{7} = x$$

$\therefore$ $x = 24500$

53. (d) ; If the tank is $\frac{3}{5}$th full, then remaining empty tank will be $= 1 - \frac{3}{5} = \frac{2}{5}$ th

A and B can fill the empty tank in $= \frac{5 \times 8}{8 - 5}$

$= \frac{40}{3}$ hour

Then $\frac{2}{5}$th tank fill in $= \frac{40}{3} \times \frac{2}{5}$

$= 5\frac{1}{3}$ hour

54. (b) ; Let the length of rectangle be l m and breadth be b m.

According to question,

$$l - b = 5$$

Perimeter of rectangle $= 2(l + b)$ $\quad \ldots(i)$

$\therefore$ $2(l + b) = 86$

$l + b = 43$

On solving equation (i) and (ii) we get,

$l = 24$ m

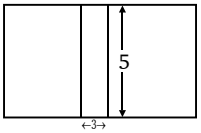
$\therefore$ $b = 19$ m

Height of triangle = Length of rectangle = 24 m

and base of triangle = Breadth of rectangle = 19 m

$\therefore$ Area of triangle $= \frac{1}{2} 19 \times 24 = 228 m^2$

55. (a) ;



$$\text{Area of path} = L \times B = 5 \times 3 = 15\,m^2$$
$$\text{Total area of plot} = 240 + 15$$
$$= 255\,m^2$$

56. (e) ; Let the four consecutive even numbers be $x, x+2, x+4$ and $x+6$
According to question,
Average = 91
$$\therefore \frac{x + x + 2 + x + 4x + 6}{4} = 91$$
$$4x + 12 = 91 \times 4$$
$$4x = 364 - 12$$
$$x = \frac{352}{4} = 88$$
$\therefore$ Lowest number $= x = 88$

57. (a) ; The average number of pendants sold by store M in all months
$$= \frac{156 + 179 + 211 + 259 + 230}{5}$$
$$= \frac{1035}{5} = 207$$

58. (c) ;
Total number of pendants sold by store N in March, April and May = 215 + 181 + 163 = 559
Ratio of gold and silver pendants = 7 : 6
Number of silver pendants = $559 \times \frac{6}{13}$
$$= 258$$

59. (d) ;
$$\text{Increased percentage} = \frac{231 - 180}{180} \times 100$$
$$= \frac{51}{180} \times 100$$
$$= 28\frac{1}{3}\%$$

60. (c) ; Total number of pendents sold by store O in September
$$= 250 \times \frac{108}{100} \times \frac{120}{100} = 324$$

61. (d) ;
Total number of pendents sold by all stores in August $= \frac{7}{9} \times$ (Total number of pendents sold in June)
$$= \frac{7}{9} \times 1008 = 784$$

62. (e) ;
$$9^2 \times 7^2 \div \sqrt{441} = 5^?$$
$$\Rightarrow 81 \times 49 \div 21 - 64 = 5^?$$
$$\Rightarrow 3969 \div 21 - 64 = 5^?$$
$$\Rightarrow 189 - 64 = 5^?$$
$$\Rightarrow 125 = 5^?$$
$$\Rightarrow 5^3 = 5^?$$
$$\Rightarrow ? = 3$$

63. (d) ;
$$\left(\frac{4}{5} + 1\frac{7}{8} + \frac{5}{8}\right) \text{of } ? = 759$$
$$\Rightarrow \left(\frac{4}{5} + \frac{15}{8} + \frac{5}{8}\right) \times ? = 759$$
$$\Rightarrow \left(\frac{32 + 75 + 25}{40}\right) \times ? = 759$$
$$\Rightarrow \frac{132}{40} \times ? = 759$$
$$\Rightarrow ? = \frac{7590}{33}$$
$$\Rightarrow ? = 230$$

64. (a) ;
$$(0.6 \times 450) \div 5 = 2 \times 3^?$$
$$\Rightarrow 270 \div 5 = 2 \times 3^?$$
$$\Rightarrow 27 = 3^?$$
$$\Rightarrow 3^3 = 3^?$$
$$\Rightarrow ? = 3$$

65. (a) ;
$$\sqrt{2601} + \sqrt{169} = 8^{12-?}$$
$$\Rightarrow 51 + 13 = 8^{12-?}$$
$$\Rightarrow 64 = 8^{12-?}$$
$$\Rightarrow (8)^2 = 8^{12-?}$$
$$\Rightarrow 2 = 12 - ?$$
$$\Rightarrow ? = 10$$

66. (a) ;
$$(125.5 + 242.75 + ?) \times \frac{6}{7} = 480$$
$$\Rightarrow 368.25 + ? = 80 \times 7$$
$$\Rightarrow ? = 560 - 368.25$$
$$\Rightarrow ? = 191.75$$

67. (e) ;
$$\sqrt{121 \times 5 + 133 - 657} = ?$$
$$\Rightarrow \sqrt{605 + 133 - 657} = ?$$
$$\Rightarrow \sqrt{738 - 657} = ?$$
$$\Rightarrow \sqrt{81} = ?$$
$$\Rightarrow 9 = ?$$

68. (b) ;
45% of 360 + 288 = ?% of 750
$$\Rightarrow \frac{45}{100} \times 360 + 288 = \frac{?}{100} \times 750$$
$$\Rightarrow 162 + 288 = ? \times \frac{15}{2}$$
$$\Rightarrow 450 = ? \times \frac{15}{2}$$
$$\Rightarrow ? = 60$$

69. (e) ;
$$? + \left(8\frac{1}{7} \times 6\frac{5}{19}\right) = 5^3$$
$$\Rightarrow ? + \left(\frac{57}{7} \times \frac{119}{19}\right) = 5^3$$

$$?+17\times3=125$$
$$?=125-51$$
$$?=74$$

70. (b) ; 35% of 580 + 70% of ? = 441

$$\Rightarrow \frac{35}{100}\times580+\frac{70}{100}\times?=441$$
$$\Rightarrow 203+\frac{7}{10}\times?=441$$
$$\Rightarrow \frac{7}{10}\times?=238$$
$$\Rightarrow ?=34\times10$$
$$\Rightarrow ?=340$$

71. (b) ; (11) (10.4) = ?

$$\therefore ?=114.4$$

72. (d) ;

$$?=74+9-6$$
$$=77$$

73. (d) ;

$$?=\frac{2432}{\sqrt{23104}}$$
$$=\frac{2432}{152}$$
$$=16$$

74. (a) ;

$$?=8888+848-7337-737$$
$$=1750$$

75. (a) ;

$$?=515.15-15.51-1.51-5.11-1.11$$
$$=491.91$$

76. (c) ;

$$(?)^2=(246)^2-(99)^2-2462-(123)^2$$
$$=(250-4)^2-(100-1)^2$$
$$-2462-(100+23)^2$$
$$=62500+16-2000-10000-1$$
$$+200-2462$$
$$-10000-529-4600$$
$$=33124$$
$$\Rightarrow ?=182$$

77. (a) ; Suppose, A left the work after x days.
According to question,

$$\frac{x}{36}+\frac{x+36}{45}=1$$
$$\Rightarrow \frac{5x+4x+144}{180}=1$$
$$\Rightarrow \frac{5x+4x+144}{180}=1$$
$$\Rightarrow 9x+144=180$$
$$\Rightarrow 9x=180-144$$
$$\Rightarrow 9x=36$$
$$\Rightarrow x=4 \text{ days}$$

78. (b) ;
Let the side of the triangle = $9x$ metre
Side of the square = $5x$ metre
According to question,

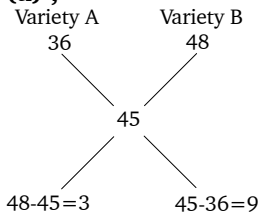
$$3\times9x-4\times5x=21$$
$$\Rightarrow 27x-20x=21$$
$$\Rightarrow 7x=21$$
$$\Rightarrow x=3$$
$$\therefore \text{Area of the square}=(5x)^2=25x^2$$
$$=25\times(3)^2$$
$$=25\times9$$
$$=225 \text{ m}^2$$

79. (e) ; Let the breadth of the rectangle = x cm
Length of the rectangle = $(x+26)$ cm
According to question,

$$2\times\pi\times35=2(x+x+26)$$
$$\Rightarrow 2\times\frac{22}{7}\times35=2(2x+26)$$
$$\Rightarrow 110=2x+26$$
$$\Rightarrow 2x=84$$
$$\Rightarrow x=42$$

$\therefore$ Length of the rectangle = 42 + 26 = 68 cm

80. (a) ;



$\therefore$ Required ratio $=3:9=1:3$