

SOLUTION

		21	B	46	C
		22	C	47	D
		23	A	48	B
		24	E	49	D
		25	A	50	C
1	B	26	C	51	D
2	A	27	A	52	D
3	C	28	D	53	B
4	E	29	B	54	C
5	D	30	D	55	C
6	B	31	A	56	D
7	A	32	C	57	B
8	B	33	A	58	B
9	B	34	D	59	D
10	C	35	a	60	D
11	B	36	C	61	B
12	C	37	C	62	B
13	D	38	D	63	D
14	D	39	B	64	A
15	E	40	D	65	d
16	B	41	D	66	D
17	E	42	A	67	A
18	A	43	D	68	C
19	B	44	B	69	D
20	D	45	c	70	B

$$1. \frac{420 \times 36}{100} - \frac{350 \times 56}{100} = ? - 94$$

$$\Rightarrow 151.2 - 196 = ? - 94$$

$$\Rightarrow ? = 151.2 + 94 - 196 = 49.2$$

$$2. ? = 540 \times \frac{75}{100} \times \frac{7}{5} \times \frac{2}{3} = 378$$

$$3. (\sqrt{3^3})^3 \times (\sqrt{3^4})^5 \div (3^3)^2 = 3^?$$

$$\Rightarrow 3^3 \times 3^{2 \times 5} \div 3^6 = 3^?$$

$$\Rightarrow 3^{3+10-6} = 3^?$$

$$\Rightarrow 3^7 = 3^?$$

$$\Rightarrow ? = 7$$

$$4. ? = 36 \times 15 - \frac{56 \times 784}{112}$$

$$= 540 - 392 = 148$$

$$5. \frac{515 \times 22}{100} - 43 \approx \frac{?}{5.5}$$

$$\Rightarrow 113 - 43 = \frac{?}{5.5}$$

$$\therefore ? = 70 \times 5.5 = 385$$

$$\therefore \text{Required answer} = 375$$

$$\frac{1600 \times 200}{100}$$

$$6. ? = \frac{50}{100} \times 1400 + 3900$$

$$\approx 6400 - 1400 + 3900 \approx 8900$$

$$\therefore \text{Required answer} = 9000$$

$$7. ? \approx 4434 - 2212 - 1134 + 3377$$

$$= 4465$$

$$\therefore \text{Required answer} = 4466$$

$$8. ? \approx (14)^2 - (15)^2 + (18)^2 - 33$$

$$\approx 196 - 225 + 324 - 33 \approx 262$$

$$\therefore \text{Required answer} = 264$$

9. The pattern of the number series is

10. the pattern of the number series is

$$39 + 1 \times 13 = 52$$

$$52 + 2 \times 13 = 78$$

$$78 + 3 \times 13 = 169$$

$$169 + 5 \times 13 = 234$$

11. The pattern of the number series is:

$$65 + 5^2 = 62 + 25 = 87$$

$$87 + 10^2 = 87 + 100 = 187$$

$$187 + 15^2 = 187 + 225 = 412$$

$$412 + 20^2 = 412 + 400 = 812$$

$$812 + (25)^2 = 812 + 625 = 1437$$

$$12. \text{I. } 3x^2 + 8x + 4 = 0$$

$$\Rightarrow 3x(x+2) + 2(x+2) = 0$$

$$\Rightarrow (x+2)(3x+2) = 0$$

$$\therefore x = -2 \text{ or } -\frac{2}{3}$$

$$\text{II. } 4y^2 - 19y + 12 = 0$$

$$\Rightarrow 4y^2 - 16y - 3y + 12 = 0$$

$$\Rightarrow 4y(y-4) - 3(y-4) = 0$$

$$\Rightarrow (y-4)(4y-3) = 0$$

$$\therefore y = 4 \text{ or } \frac{3}{4}$$

Clearly, $x < y$

$$13. \text{I. } x^2 + x - 20 = 0$$

$$\Rightarrow x^2 + 5x - 4x - 20 = 0$$

$$\Rightarrow x(x+5) - 4(x+5) = 0$$

$$\Rightarrow (x+5)(x-4) = 0$$

$$\therefore x = -5 \text{ or } 4$$

$$\text{II. } y^2 - y - 30 = 0$$

$$\Rightarrow y(y-6) + 5(y-6) = 0$$

$$\Rightarrow (y-6)(y+5) = 0$$

$$\therefore y = 6 \text{ or } -5$$

Clearly, $x \leq y$

14. I. $x^2 = 365 + 364 = 729$

$\therefore x = \sqrt{729} = \pm 27$

II. $y - \sqrt{324} = \sqrt{81}$

$\Rightarrow y - 18 = 9$

$\Rightarrow y = 27$

Clearly, $x \leq y$

15.I. $4 + 7 = \sqrt{x} \times \sqrt{x}$

$\Rightarrow x = 11$

$y^2 - \frac{11^{5/2}}{\sqrt{y}} = 0$

$\Rightarrow y^{5/2} = 11^{5/2}$

$\Rightarrow y = 11$

Clearly, $x = y$

16. Monthly salary of Raj

$\frac{1.44 \times 60}{12 \times 100} = \text{Rs. } 0.072$

Now, 20% of Anuj's salary = 75% of Raj's salary

$\therefore \text{Anuj's monthly salary} \times \frac{1}{5}$

$= \text{Raj's monthly salary} \times \frac{3}{4}$

$\Rightarrow \text{Anuj's monthly salary}$

$= \text{Rs. } \left(0.072 \times \frac{3}{4} \times 5 \right) \text{ lakh}$

$= \text{Rs. } 27000$

17. Present age of Ram's son = x years

$\therefore \text{Ram's percentage} = 3x$ years

Ram's father's percentage = $\frac{15x}{2}$ years

$\therefore x + 3x + \frac{15x}{2} = 46 \times 3$

$\Rightarrow 23x = 46 \times 3 \times 2$

$\Rightarrow x = 12$

\therefore Required difference

$= \frac{15x}{2} - x = \frac{13x}{2}$

$\frac{13 \times 12}{2} = 78$ years

48. Speed of the bus = $\frac{480}{8} = 60$ kmph

\therefore Speed of the train

$= 60 \times \frac{4}{3} = 80$ kmph

\therefore Speed of the car = $\frac{15}{16} \times 80$

$= 75$ kmph

\therefore Required distance = speed \times time

$= 75 \times 6 = 450$ km

19. If the side of the square be x cm then,

$\pi \times 35 \times 35 + x^2 = 5450$

$\Rightarrow \frac{22}{7} \times 35 \times 35 + x^2 = 5450$

$\Rightarrow x^2 = 5450 - 3850 = 1600$

$\therefore x = 40$ cm

\therefore Required sum = $\pi + 4 + 4x$

$= \left(\frac{22}{7} \times 70 + 4 \times 40 \right) \text{ cm}$

$= 380$ cm

20. If the largest and the second largest angles be $3x^\circ$ and $2x^\circ$, respectively, then,

The smallest angle

$= (3x + 2x) \times \frac{1}{5} = x$

$\therefore x + 2x + 3x = 180^\circ$

$\Rightarrow x = 30^\circ$

\therefore Required sum = $x + 2x$

$= 3x = 90^\circ$

Calculations (51-55):

Number of girls = $\frac{1200 \times 45}{100} = 540$

Number of girls = $1200 - 540 = 660$

Number of girls visiting Mumbai

$\frac{660 \times 30}{100} = 198$

Number of girls visiting Jodhpur

$\frac{264}{2} = 132$

Number of girls visiting Kolkata

$\frac{2}{3} (660 - 198 - 264 - 132)$

$= \frac{2}{3} \times 66 = 44$

Number of girls visiting Varanasi

$= 660 - 198 - 264 - 132 - 44$

$= 22$

Number of boys visiting Mumbai

$= 300 - 198 = 102$

Number of boys visiting Delhi

$= 540 \times \frac{1}{5} = 108$

Number of boys visiting Jodhpur

$= 540 \times \frac{40}{100} = 216$

Number of boys visiting Kolkata

$= \frac{1}{2} \times (540 - 102 - 108 - 216)$

$= \frac{114}{2} = 57$

Number of boys visiting Varanasi

$= 57$

21. Required number of girls
= 198 + 264 + 22 = 484

22. Required percentage
 $\frac{216 + 132}{264} \times 100 \approx 132$
= 132

23. Required average
 $\frac{57 + 57 + 216}{3} = \frac{330}{3} = 110$

24. Required number of students
= 22 + 57 = 79

25. Required ratio = 44 : 102 = 22 : 51

26. Average number of students in 2006
 $\left(\frac{2.5 + 3 + 3.5}{3} \right) \times 1000$
= 2000

27. Required percentage
 $\frac{3 + 2.5}{3 + 3.5} \times 100$
= 85%

28. The total number of students was equal in 2005, 2006 and 2007.

29. Required average number of students in school A
 $\left(\frac{1 + 2 + 1.5 + 2.5 + 3 + 2.5}{6} \times 1000 \right)$
= 2090

30. Required difference
= (1 + 2 + 2.5) - 3 thousand
= 2500

31. Required number of all products
= (10 + 7.5 + 15 + 25 + 30 + 20) thousand = 107500

32. Average number of produced pen-drives
 $\left(\frac{15.75 + 15 + 30 + 17.5}{5} \right)$ thousand = 17000

33. Required difference
= (30 + 25 - 15) thousand = 40000

34. Required ratio = 15 : 30 : 15 = 1 : 2 : 1

35. Required ratio = 22.5 : 25
= 225 : 250 = 9 : 10

Reasoning

36-38:

Monday - B, H/E
Tuesday - D, E/H
Wednesday - F, A
Thursday - C
Friday - G

From the above schedule, all the conditions are satisfied.

36.(c) If he see D and G on the same day, the schedule will change satisfying all the conditions:

Monday - B, E
Tuesday - F, A
Wednesday - D, G

Thursday - C

Friday - H

He will see D and G on Wednesday

37.(c) If he see F on Wednesday, the schedule change satisfying all the conditions.

Monday - B, E/H

Tuesday - D, E/H

Wednesday - F, A

Thursday - C

Friday - G

I and III is true

38.(d) If he see D on Tuesday, the schedule will change satisfying all the conditions;

Monday - B, E/H

Tuesday - D, E/H

Wednesday - F, A

Thursday - C

Friday - G

He see G on Friday.

39.(b)

40.(d)

41.(d)

42.(a) Except option (1) all having vowels.

43.(d) $M \xrightarrow{+4} Q \xrightarrow{+3} T \xrightarrow{+4} X \xrightarrow{+3} A \xrightarrow{+4} E$
 $3 \xrightarrow{\times 2} 6 \xrightarrow{\times 3} 18 \xrightarrow{\times 4} 72 \xrightarrow{\times 5} 360 \xrightarrow{\times 6} 2160$
A → E → I → O → U → A

Last element of each term in given series is vowel in alphabetical order.

44.(b) $1 \xrightarrow{+4} 5 \xrightarrow{+6} 11 \xrightarrow{+8} 19 \xrightarrow{+10} 29$
 $\xrightarrow{+12} 41$

C $\xrightarrow{+3}$ F $\xrightarrow{+3}$ I $\xrightarrow{+3}$ L $\xrightarrow{+3}$ O $\xrightarrow{+3}$ R
V $\xrightarrow{-1}$ U $\xrightarrow{-1}$ T $\xrightarrow{-1}$ S $\xrightarrow{-1}$ R $\xrightarrow{-1}$ Q

45.(c) S → V → Y → B → E → H

97 $\xrightarrow{+3}$ 100 $\xrightarrow{+5}$ 105 $\xrightarrow{+7}$ 112 $\xrightarrow{+9}$ 121
 $\xrightarrow{+11}$ 132

46.(c)

V I B (R) A (N) T z (s) q (w) p k f

(R) E (N) T (w) (s) (p) m

So, for EXALT there will be two code letter different for X, L and consists of m because code of E is m.

Option, (3) has two code letter different e.g. hg code will be = p m h g f.

47.(d)

C (R) A F T (q) (w) (x) (n) g

(F) A T H E (R) (p) (x) (q) (w) (k) (n)

Code for R, A, F, T will be q, w, x, n.

Code for C is g.

So, for SCRIPT, there will be three code letter different for S, I, P and consists of g because code of C is g.

Option (4) has three code letter different i.e. L,v,f code will
be = inqqvf

48.(b)

DECO U R jpsde a

SCOPE hslmp

Code for E,C, O will be p,s,I.

So, for I M P U R E, there will be two code letter different
for I,M.

Option (1), (3) and (4) has only one code letter different.

Option (2) has two code letter different i.e. r,g code will
be = s a j m r g

49.(d) 50.(c) 51.(d) 52.(d) 53.(b) 54.(c) 55.(c)

56.(d) 57.(b)

58.(b) $12 \times 16 + 5 = 192 + 5 = 197$

$\rightarrow 16 \times 16 + 7 = 256 + 7 = 263$

$\rightarrow 18 \times 20 + ? = 356$

$\Rightarrow 360 + ? = 356$

? = -4

59.(d) $(6+3)-1=9-1=8$

$(4+2)-1=6-1=5$

$(5+1)-1=6-1=5$

60.(d)

61.(c)

Ans. (92-94): 'S' \Rightarrow '>'

'%' \Rightarrow '<'

'@' \Rightarrow '>'

'&' \Rightarrow '='

62.(b) $D < R \leq F > E$

63.(d) $M = D \geq T > N$

64.(a) $W \geq H > M \leq T$

65.(d)

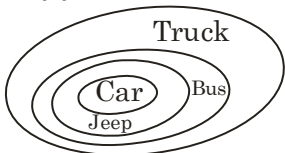
66.(d)

67.(a)

68.(c)



69.(d)



70.(b)

