

MCA 2013 – DETAILED SOLUTIONS

1. (2)
Total cost price of Scooter = ₹ 4,700 + ₹ 800 = ₹ 5,500
Selling price of Scooter = ₹ 5,800
Gain = ₹ 5,800 - ₹ 5,500 = ₹ 300
- $$\text{Profit / Gain Percent} = \frac{\text{Gain}}{\text{Cost Price}} \times 100$$
- ∴
- $$\text{Gain percent} = \frac{\text{Rs.}300}{\text{Rs.}5500} \times 100 = \frac{60}{11}\%$$
2. (2)
Let cost price of each article = ₹ 1
Then cost price of 20 articles = ₹ 20
Selling price of x articles = ₹ 20
∴ Gain = ₹ (20-x)
It is given that profit percent is 25
∴ Gain % = $\frac{\text{Gain}}{\text{Cost Price}} \times 100$
(i.e.) $25 = \frac{(20-x)}{x} \times 100$
 $25x = (20-x) 100$
 $\Rightarrow 125x = 2000$
 $\Rightarrow x = 16$
∴ Value of x = 16
3. (2)
Let cost price = ₹ x
Let selling price = ₹ y by given condition
 $3(y-x) = (2y-x)$
 $\Rightarrow y = 2x$
∴ Profit = ₹ (y-x) = ₹ (2x-x) = ₹ x (since y=2x)
∴ Profit % = $\frac{\text{Gain}}{\text{Cost Price}} \times 100$
 $= \left(\frac{x}{x} \times 100\right) = 100$
∴ Profit = 100%
4. (2)
Let us take the cost price = ₹ 100
Then the profit = ₹ 320

Selling price = ₹ 420

New cost price = 125% of ₹ 100 = 125

New Selling price = ₹ 420

∴ Profit = ₹ (420-125) = ₹ 295

∴ Profit % = $\frac{\text{Profit}}{\text{Cost Price}} \times 100$ Profit % = $\left(\frac{295}{420} \times 100\right)\%$ $= \frac{1475}{21}\%$ $= 70\%$ (approximately)

5. (4)
The ratio, in which the two types of rice X and Y mixed is not given in the question. This implies I and II together cannot give the answer.
∴ Both I and II are not sufficient to answer.
6. (1)
Profit percent = 20
given: Profit = (selling price - cost price) = ₹ 40
 \Rightarrow Statement I alone is sufficient while II alone is not sufficient to answer.
7. (1)
I. Let the list price = ₹ x
∴ Selling price = 95% of x
 $= \frac{95}{100} \times x = \frac{19}{20}x$
II. Let selling price = ₹ x
gain = 20%
Then the cost price = $\left(\frac{100}{100+20} \times x\right) = \frac{5x}{6}$
∴ Profit = $\left(\frac{19x}{20} - \frac{5x}{6}\right) = \frac{7x}{60}$
∴ Profit/Gain % = $\left(\frac{\frac{7x}{60} \times 100}{\frac{5x}{6}}\right)$
 $= \left(\frac{7x}{60} \times \frac{6}{5x} \times 100\right)\% = 14\%$
 \Rightarrow I and II only are necessary to answer.
8. (4)
I. Selling Price of almirah = ₹ 12,350
Profit % = 23.5%

$$\therefore \text{Cost Price} = \left(\frac{100}{123.5} \times 12350 \right)$$

$$= 10,000$$

II. Marked price = 130% of cost price

$$= \frac{130}{100} \times 10,000$$

$$= 13,000$$

from these, Discount = (13,000 - 10,000)

$$= 3,000$$

$$\therefore \text{Discount\%} = \left(\frac{3000}{10000} \times 100 \right)\% = 30\%$$

II and III cannot give the answer

Here, we require gain percentage with discount and gain percentage without discount

⇒ II and III are not sufficient Since from III,

$$\text{Cost price} = 10,000$$

From this I and III give the answer.

Correct option is

I and II (or)

I and III are necessary to answer the question.

9. (3)

I: Let the cost price = 7x
then labeled price = 130% of C.R

$$= \frac{130}{100}x = \left(\frac{13}{10}x \right)$$

III: Selling price = 90% of labeled price

∴ From I and III

$$\text{Selling price} = \left(\frac{90}{100} \times \frac{13x}{10} \right) = \left(\frac{117x}{100} \right)$$

$$\text{Profit} = \left(\frac{117x}{100} - x \right) = \left(\frac{17x}{100} \right)$$

∴ From I and III, profit percent can be found. Clearly M is redundant.

10. (4)

Total persons selected = 5 Options are: (3 men + 2 women) or (4 men + 1 woman) or (5 men)

∴ Required number of ways

$$= ({}^7C_3 \times {}^6C_2) + ({}^7C_4 \times {}^6C_1) + ({}^7C_5)$$

$$= \left(\frac{7 \times 6 \times 5}{3 \times 2 \times 1} \times \frac{6 \times 5}{1 \times 2} \right) + \left(\frac{7 \times 6 \times 5}{1 \times 2 \times 3} \times \frac{6}{1} \right) + \left(\frac{7 \times 6}{1 \times 2} \right)$$

$$\text{Since } nC_r = \frac{n(n-1)\dots 1}{r!(n-r)!}$$

$$= 52.5 + 210 + 21 = 283.5$$

11. (3)

Given word: LEADING

Total No. of letters = 7 (all are different)

Vowels are A, E, I, O, U

When vowels EAI are always together, they have to treat as one letter

⇒ It is necessary to arrange the letters

LNDG [EAI]

Now,

5(4+1=5) letters can be arranged in

(5×4×3×2×1) ways

(i.e.) 120 ways The three vowels EAI can be arranged among themselves in (3×2×1)

= 6 ways

∴ required number of ways = 120×6 = 720

12. (3)

Total no. of consonants = 7

vowels = 4

To select: 3 consonants out of 7

2 vowels out of 4

$$= {}^7C_3 \times {}^4C_2$$

$$= \left(\frac{7 \times 6 \times 5}{1 \times 2 \times 3} \times \frac{4 \times 3}{1 \times 2} \right) = 210$$

No. of ways of arranging 5 letters among themselves = 5×4×3×2×1

= 120 ways

∴ required number of ways

$$= 210 \times 120 = 25200$$

13. (3)

Given word : LEADER

Total no. of letters = 6

(i.e.) 1 time L

2 times E

1 time A

1 time D

1 time R

∴ required no. of ways for arrangement

$$= \frac{6!}{(1!)(2!)(1!)(1!)(1!)}$$

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

14. (3)

$$x^z = y^2 \text{ (given)}$$

$$\Rightarrow 10^{0.48z} = 10^{2 \times 0.70} = 10^{1.40}$$

$$\Rightarrow 0.48z = 1.40$$

$$z = \frac{140}{0.48} = \frac{140}{48} = \frac{35}{12}$$

$$= 2.9 \text{ (approximately)}$$

15. (1)

$$\text{Given: } 5^\alpha = 3125$$

$$\text{(i.e.) } 5^5 = 3125$$

$$\Rightarrow \alpha = 5$$

$$\therefore 5^{(\alpha-3)} = 5^{(5-3)} = 5^2 = 25$$

16. (3)

$$\text{Given } 3^{(x-y)} = 27 = 3^3$$

$$\Rightarrow x-y = 3 \quad \dots \text{ I}$$

$$\text{again it is given that } 3^{(x+y)} = 243 = 3^5$$

$$\Rightarrow x+y = 5 \quad \dots \text{ II}$$

$$\text{from I and II, } 2x = 8$$

$$\Rightarrow x = 4$$

17. (4)

Morning 8 'O clock to afternoon 2 'O clock

Total hours = 6

$$\therefore \text{required degree} = \left(\frac{360}{12} \times 6\right)^\circ = 180^\circ$$

18. (3)

In 12 hrs the hour hand traces angle 360°
 \therefore Angle traced by hour hand in 5 hrs. 10 min.

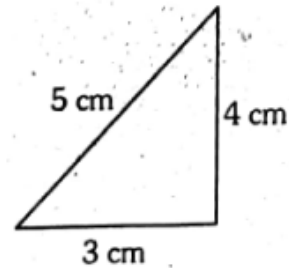
$$\text{(i.e.) } \frac{31}{6} \text{ hrs.}$$

$$= \left(\frac{360}{12} \times \frac{31}{6}\right)^\circ = 155^\circ$$

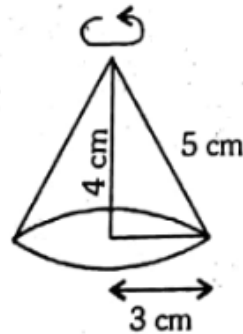
 $(\text{Since } 5 \text{ hrs.} + 10 \text{ min.} = 300 \text{ min } 10 \text{ min} = 310 \text{ min})$

$$= \frac{31}{6}$$

19. (1)



- Triangle



- Cone

radius = 3 cm

height = 4 cm

$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

$$\therefore \text{Volume} = \frac{1}{3} \times \pi \times 3 \times 3 \times 4 = 12\pi \text{ cm}^3$$

20. (2)

$$1 \text{ hectare} = (100 \times 100) \text{ m}^2 = 10000 \text{ m}^2 \dots$$

$$\therefore \text{Area} = (1.5 \times 10000) \text{ m}^2 = 15000 \text{ m}^2$$

rain falls 5 cm = depth

$$\therefore \text{Depth} = \frac{5}{100} \text{ m} = \frac{1}{20} \text{ m}$$

$$\therefore \text{Volume of water} = (\text{Area} \times \text{Depth})$$

$$= \left(15,000 \times \frac{1}{20}\right) \text{ m}^3 = 750 \text{ m}^3$$

21. (3)

Length of Hall = 15 m

Breadth of Hall = 12 m

Let height of hall = x m

By the given conditions

$$2(15 + 12) \times x - 2(15 \times 12)$$

$$\Rightarrow x = \frac{180}{27} \text{ m} = \frac{20}{3} \text{ m} = \text{height}$$

$$\therefore \text{Volume} = \text{Length} \times \text{breadth} \times \text{height}$$

$$= \left(15 \times 12 \times \frac{20}{3}\right) \text{ m}^3 = 1200 \text{ m}^3$$

22. (1)

Let the length of wire = x

Diameter = 1 mm

$$\therefore \text{radius} = \frac{1}{2} \text{ mm} = \frac{1}{20} \text{ cm}$$

$$\Rightarrow \frac{22}{7} \times \frac{1}{20} \times \frac{1}{20} \times x = 66$$

($\pi r^2 h$ = volume of cylinder)

(volume = 66 c.c. given)

$$\Rightarrow x = \left(\frac{66 \times 20 \times 20 \times 7}{22} \right) = 8400 \text{ cm}$$

Length of wire = 84 metres

23. (2)

Given:

$$\text{External radius} = \frac{\text{Diameter}}{2} = \frac{8 \text{ cm}}{2}$$

$$= 4 \text{ cm} = R$$

$$\text{Internal radius} = (4 \text{ cm} - 1 \text{ cm})$$

$$= 3 \text{ cm} = r$$

$$\text{Volume of Iron} = \pi \times (R^2 - r^2) \times \text{height}$$

$$= \pi \times (4^2 - 3^2) \times 21 = 462 \text{ cm}^3$$

$$\therefore \text{Weight of Iron} = (\text{Volume} \times 8) \text{ gm}$$

$$= (462 \times 8) \text{ gm} = 3696 \text{ gm} = 3.696 \text{ kg}$$

24. (2)

$$\text{Total amount with A and B} = \text{`} 1210$$

Given:

$$\frac{4}{15} A = \frac{2}{5} B$$

$$\Rightarrow A = \left(\frac{2}{5} \times \frac{15}{4} \right) B$$

$$\Rightarrow A = \frac{3}{2} B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{2}$$

$$\Rightarrow A : B = 3 : 2$$

$$\therefore \text{Share of B} = \left(1210 \times \frac{2}{3+2} \right)$$

$$= 1210 \times \frac{2}{5} = \text{`} 484$$

25. (3)

Let the third number be x

\therefore First number = (20% more of x)

$$\text{(i.e.) First number} = \frac{120x}{100} = \frac{6x}{5}$$

Second number = 50% more of x

$$= \frac{150x}{100} = \frac{3x}{2}$$

\therefore ratio of first two numbers

$$= \left(\frac{6x}{5} : \frac{3x}{2} \right)$$

$$= 12x : 15x = 4 : 5$$

26. (3)

Sum of ratios - $5+2+4+3 = 14$

C's share exceeds D by $(4-3) = 1$ parts

\therefore For every 14 parts

$$\text{Total sum} = 1000 \times \frac{14}{1} = 14000$$

$$\therefore \text{B's share} = 14,000 \times \frac{2}{(5+2+4+3)}$$

$$= 14,000 \times \frac{2}{14} = \text{`} 2,000$$

27. (1)

Let No. of seats for Maths = $5x$

Let No. of seats for Physics = $7x$

Let No. of Seats for Biology = $8x$

Maths seats are increased by 40%

$$\text{(i.e.)} \left(\frac{140}{100} \times 5x \right) \text{ (i.e.) } 7x$$

Physics seats are increased by 50%

$$\text{(i.e.)} \left(\frac{150}{100} \times 7x \right) \text{ (i.e.) } \frac{21}{2}x$$

Biology seats are increased by 75%

$$\text{(i.e.)} \left(\frac{175}{100} \times 8x \right) \text{ (i.e.) } 714x$$

\therefore required ratio are $7x, \frac{21}{2}x, 14x$

$$\text{(i.e.) } 14x, 21x, 28x \Rightarrow 2:3:4$$

28. (4)

$$\text{Amount of Milk} = \left(60 \times \frac{2}{2+1} \right) = 40 \text{ litres}$$

$$\therefore \text{Amount of water} = \left(60 \times \frac{1}{3} \right) = 20 \text{ litres}$$

New ratio should be 1 : 2

Let amount of water to be added to get the ratio 1 : 2 be x

$$\therefore \frac{40}{(20+x)} = \frac{1}{2}$$

$$\Rightarrow 80 = 20+x \Rightarrow x = 60 \text{ litres}$$

\therefore Amount of water to be added to get the ratio as 1 : 2 is 60 litres.

29. (4)

Since number of denominations of each is equal. Let us take no. of notes in each denomination as x

$$(x \times \text{`} 1) + (x \times \text{`} 5) + (x \times \text{`} 10) = 480$$

$$\Rightarrow (x+5x+10x) = 480$$

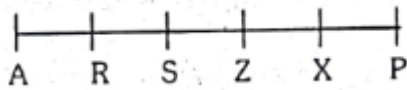
$$\Rightarrow 16x = 480$$

$$\Rightarrow x = 30$$

\therefore 30 notes are in $\text{`} 1$ denomination 30 notes are in $\text{`} 5$ denomination 30 notes are in $\text{`} 10$ denominations

- ∴ Total no. of notes = $30 + 30 + 30 = 90$
30. (1)
Given: $(a-b) = 3$... I
 $(a^2+b^2) = 29$... II
To find : ab
 $(a-b) = 3$
 $(a-b)^2 = (3)^2$
(i.e.) $a^2 + b^2 - 2ab = 9$ from II, we have
 $29 - 2ab = 9$
 $\Rightarrow 2ab = 29 - 9 = 20$
 $\Rightarrow ab = \frac{20}{2} = 10$
31. (3)
Father is E
Father has two sons and one daughter (unmarried) Wife of B is an officer E is father B is son
Engineer is A
Doctor is C
∴ A and B are brother S.
32. (1)
I. Japanese workers are taking over the jobs of Indian Industry
- False statement
III. Japanese investment are ceasing to end in the car industry.
- False statement Statements I and III are false.
33. (1)
I: The electronic device can avoid formation of the ice on the wings. I
- False statement
Other two statements II and III are true.
34. (1)
 $(Amar + Akbar + Anthony) = 80$ years
Three years ago sum of their ages
 $= (Amar-3) + (Akbar-3) + (Anthony-3)$
(i.e.) $= (Amar + Akbar + Anthony) - 9$
 $= 80 - 9 = 71$ years
35. (1)
Let total no. of girls = 50
∴ No. of girls participated = $\frac{1}{5} = 10$
Let total no. of boys = 80

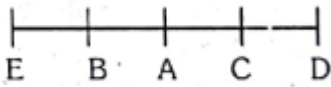
- ∴ No. of boys participated = $\frac{1}{8} = 10$
- ∴ Total no. of boys and girls = $50 + 80 = 130$
Total no. of boys and girls participated = $10 + 10 = 20$
∴ required fraction is $\frac{20}{130}$ (i.e.) $\frac{2}{13}$
36. (3)
Let the age of B = 10 years
∴ Age of A = 13 years
∴ Age of C = 16 years
∴ Age of D = 10 years (B and D are twins)
∴ C is 6 years older to D
37. (4)
In one minute the tailor can cut 45 cuts
∴ In 24 minutes he made 24×45 cuts (i.e.) 1080 cuts
∴ No. of rolls = $\frac{1080}{9} = 120$
Since, No. of cuts made to cut a roll into 10 pieces - 9
∴ In 24 minutes 120 rolls would be cutted.
38. (2)
No. of boys having more than 160 cm tall = 18
by given condition this is equal to $\frac{3}{4}$ of Boys.
(i.e.) $\frac{3}{4} B = 18$
 $\Rightarrow B = \frac{18 \times 4}{3} = 24$
No. of boys = 24
Again by given condition,
 $24 = \frac{2}{3} (\text{Total students})$
(i.e.) $24 = \frac{2}{3} (24+x)$
where x is the no. of girls.
 $\Rightarrow (24+x) = \frac{24 \times 3}{2} = 36$
 $\Rightarrow x = 36 - 24 = 12$
 \Rightarrow No. of girls = 12
39. (2)
According to the given conditions the arrangement is as follows.



R is sitting to the left of A
S and Z are in the centre
A and P are at the ends.
∴ X is sitting to the right of P.

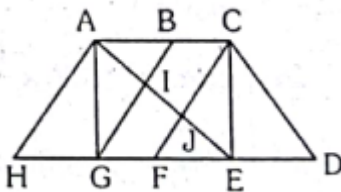
40. (2)

According to the given conditions the seating arrangement is as follows



From this it is clear that A is sitting in between B and C.

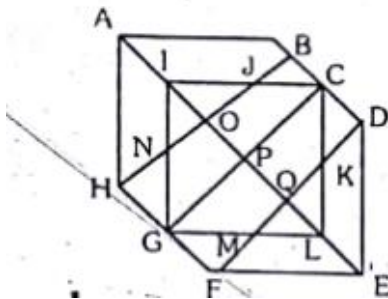
41. (4)



The inside Triangles are AHG, AIG, AIB, JFE, QJE, CED (6 numbers)
The triangles with two components are ABG, CFE, ACJ, EGI (4 numbers)
The triangles with three components are ACE, AGE, CFD (3 numbers)
The triangle with 4 components is AHE (1 number).

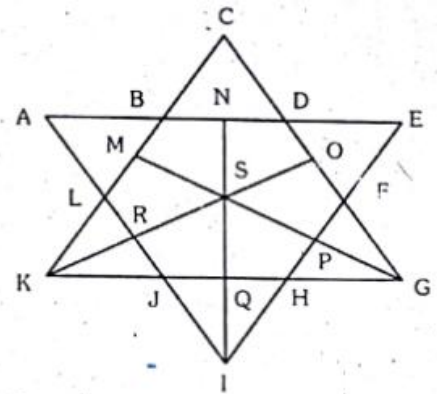
∴ Total no. of triangles = 14

42. (3)



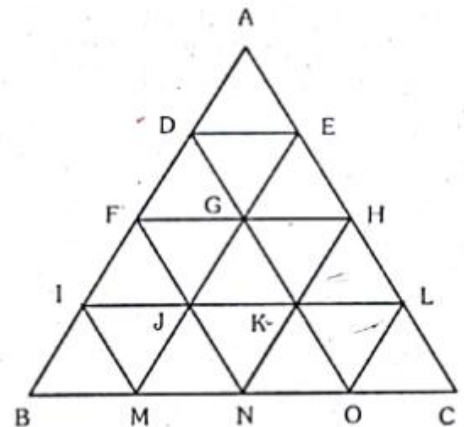
The 24 triangles are HAB, DBF, LGI, GIG, ICL, GLC. ABO, AHO, NIJ, IGR ICR DEQ, FEQ, KLM, LCP, LGR IJO, BCJ, CDK, KQL, MLQ, GFM, GHN and NIO.

43. (4)



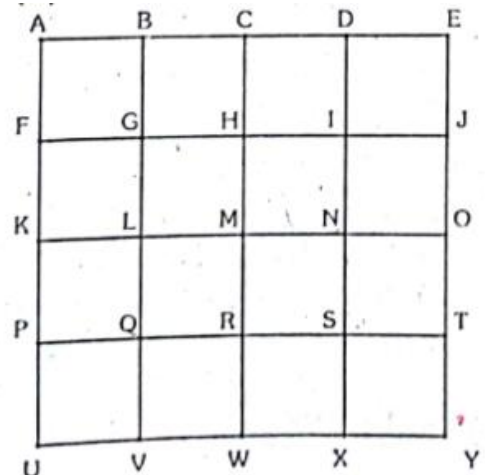
The 27 triangles are KCG, AEI, GMK, KOG, NEI, ANI, MCG, KCO, KSG, OSG, SGQ, SPI, SRI, KSQ, KMS, FGH, JHI, JKL, ABL, BCD. FGR DEF, PGH, QHI, JQI, KRJ, LRK

44. (2)



The minimum number of straight lines required to make the above figure is 11. They are: DE, FH, IL, BC, AC, DO, FN, IM, AB, EM, HN.

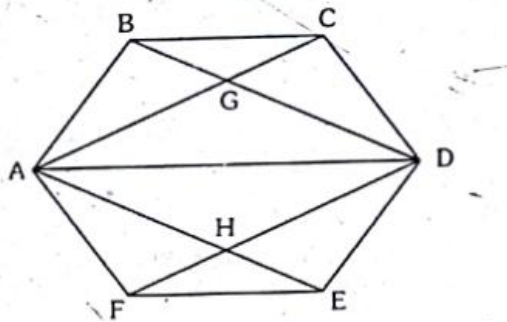
45. (2)



The 30 squares are as follows:

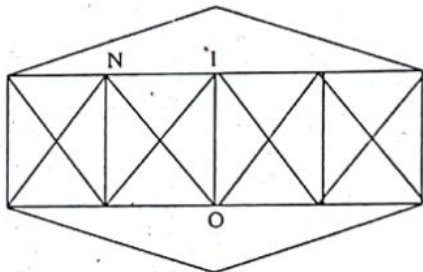
AEYU, ADSR, BETQ, FIXU, GJYV, ACMK, BDSE, CEOM, FHRP, GISQ, HJTR, KMWU, LNXV, MOYW, STYX, RSXW, QRWV, PQVU, NOTS, MNSR, LMRQ, KLQP, IJON, HINM, GHMI, FGLK, DEJI, CDIH, BCHG and ABGF.

46. (4)



There are 11 Quadrilaterals in the above figure. They are: AGDH, FAGD, DEFA, DEAG, CDFA, CDEA, CDHA, ABDH, ABDR, ABDE, ABCD.

47. (3)



There are 40 triangles and 7 squares.

48. (4)

In fig. (X), one dot lies in the portion common to the circle and the square. The next dot lies in the portion common to circle, square and triangle. Using this concept, it is not possible to find the portion common to square and circle only in the options (1), (2) and (3). Fig. (4) consists of both the types of portions.

⇒ required answer is fig. (4)

49. (4)

In fig. (X), one dot lies in the portion common to circle and square only. Second dot lies in the portion common to square, triangle and rectangle only. Third dot lies

in the portion common to Triangle and rectangle only.

There is no portion common to the square, Triangle and rectangle in figures (1), (2) and (3)

50. (1)

One of the dots lies in the portion common to circle and square. The second dot lies in the portion common to square, triangle and rectangle only. The third dot lies in the portion common to square, rectangle only.

In the fig. (3), there is no portion common to circle and square only. Hence it is ruled out.

In the fig. (2), there is no portion common to the square and the rectangle only. Hence it is ruled out.

In the fig. (4), there is no portion common to the square, triangle and rectangle only. Hence it is ruled out.

Only in fig. (1), we have all the three types of portions as in the fig. (X)

51. (3)

Since the two corners are folded and punched, we must have 4 dots as in figure 3.

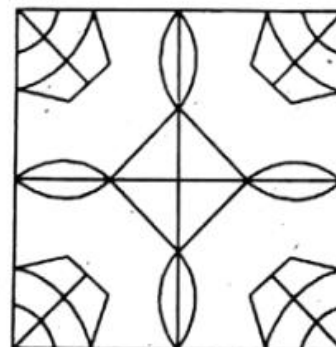
52. (3)

Since, the paper design is folded as rectangle and two dots are made we have the figure as in 3 when unfolded.

54. (3)

Vertex of triangle shape must be upwards and the lines should be as in figure (3).

55. (3)



56. (2)
Given series: 2, 1, $\left(\frac{1}{2}\right), \left(\frac{1}{4}\right), \dots$
(i.e.) $2 \div 2 = 1$
 $1 \div 2 = \frac{1}{2}$
 $\frac{1}{2} \div 2 = \frac{1}{4}$
Therefore, $\frac{1}{4} \div 2 = \frac{1}{8}$
 \therefore Next number in the series is $\frac{1}{8}$
57. (2)
Given series:
7, 10, 8, 11, 9, 12,
Series I : 7, 8, 9, 10,
Series II : 10, 11, 12, 13,
 \therefore Next number in the series is 10.
58. (1)
Given pattern:
28 25 5 21 18 5 14
 $28 - 3 = 25$
 $21 - 3 = 18$
 \therefore Next pattern is
 $14 - 3 = 11$
5 is placed after every two numbers required
 \therefore pair of numbers are 11 5
59. (2)
Given pattern:
11 21 15 18 21 22
Pattern I : $11+4 = 15$
 $15+3 = 18$
21 is placed after two numbers.
 \therefore Next number to 22 is $22+3 = 25$
Since $18+4 = 22$
 $22+3 = 25$
 \therefore required pair of numbers are
25 21
60. (3)
Given pattern:
42 40 38 35 33 31 28
 $42 - 7 = 35$
 $40 - 7 = 33$
 $38 - 7 = 31$
 $35 - 7 = 28$
- $\therefore 33 - 7 = \boxed{26}$
again
 $31 - 7 = \boxed{24}$
 \therefore required pair of numbers are
26 24
61. (4)
Given pattern:
6 10 14 18 22 26 30
(i.e.) $6 \xrightarrow{+4} 10 \xrightarrow{+4} 14 \xrightarrow{+4} 18$
 $18 \xrightarrow{+4} 22 \xrightarrow{+4} 26 \xrightarrow{+4} 30$
 \therefore Next pair is obtained as described above
(i.e.) $30 \xrightarrow{+4} \boxed{34} \xrightarrow{+4} \boxed{38}$
 \therefore required pair of numbers 34 38.
62. (4)
Given series:
664, 332, 340, 170, _____, 89
 $664 \div 2 = 332$
 $340 + 2 = 170$
 $\therefore x + 2 = 89$
 $\Rightarrow x = 89 \times 2 = \boxed{178}$
 \therefore required number is 178
63. (3)
Given pattern:
SCD, TEF, UGH, _____, WKL
 $S \xrightarrow{+1} T \xrightarrow{+1} U \xrightarrow{+1} \boxed{V} \xrightarrow{+1} W$
 $C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} \boxed{I} \xrightarrow{+2} K$
 $D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} \boxed{J} \xrightarrow{+2} L$
Middle pattern is \boxed{VIJ}
64. (2)
Given series:
 $B_2 CD, _, BCD_4, B_5 CD, BC_6 D$
In each term the number increases
(i.e.) 2, 3, 4, 5, 6 etc.
 \therefore required alphabet is having number 3 of
the given option $BC_3 D$ is correct.
65. (4)
Books are looking elegantly by binding.
Similarly, pictures are looking superbly by
framing
 \therefore BINDING:BOOK::FRAME:PICTURE

66. (4)
Parsley, Basi and Dill are all belongs to herbs. Where as Mayonnaise is not a Herb.
Ans. : Mayonnaise
67. (1)
Various types of bread are known as Loaf, sourdough and pumpernickel.
Where Rye is a wheat like cereal plant that tolerates poor soils and low temperature.
Ans : Rye
68. (4)
The result **Marriage** is obtained after wedding it ---- is essential **Love** happens before wedding but - it is not essential.
Wedding may happen anywhere - hence **Church** is not essential.
Ring is often used but it is not essential.
Ans : Marriage
69. (3)
Faculty - Group of Teachers
In a buildings. Faculty may work but buildings are not essential.
Faculty use textbook but it is also not essential. Faculty go for meeting, it is also not essential.
Ans : Teachers.
70. (4)
Given:
A + B \Rightarrow A is brother of B
A - B \Rightarrow A is sister of B
A \times B \Rightarrow A is father of B
M \times N \Rightarrow M is father of N
N - C \Rightarrow M is sister of C
C + F \Rightarrow C is brother of F
 \therefore M is the father of C or C is the son of M
71. (1)
Cousin - The child of one s aunt or uncle.
I. The Girl's uncle = Brother of Girl's Father
II. The Girl's uncle = Brother of Girl's Mother
 \therefore Of the given option Brother is correct.
72. (2)

Given:

A is the son of C

C and Q are sisters

\Rightarrow C is rnother of A

Z is mother of Q

P is son of Z

\Rightarrow Z is lady

\Rightarrow Z is the maternal grandmother of A

\Rightarrow P is the maternal uncle of A

73. (2)
tam ceno \Rightarrow sky blue
ceno rax \Rightarrow blue cheese
 \Rightarrow ceno \Rightarrow blue
tarn \Rightarrow sky
rax \Rightarrow cheese
Again it is given
apl mitl \Rightarrow star bright
 \therefore bright \Rightarrow either apl or mitl
sky \Rightarrow tam
 \therefore of the given option
bright sky \Rightarrow mitl tam

74. (2)
Informal gathering is situated in statement (2)
In statements (1) and (2), we may find that the gatherings are formal type
In statement (4), it is noted that it is a chance or coincidental kind of meeting.
 \therefore Correct option is statement (2).
75. (1)
Before publication of book, Richard died.
Statement (4) \Rightarrow receiving of award only.
It is not clear from statement (4) that whether the book was published before or after the death of Richard.
 \therefore Correct option is (1).
76. (1)
After fulfilling its own need only, India can export. So, India should encourage exports when most things are insufficient for internal use itself in order to earn foreign exchange.

77. (1)
Government's main aim is to improve the health of citizen of India.
Hence, the drugs manufactured in western countries be first tried out on sample basis before giving licence for sale to citizens in India.
∴ Only argument I is strong.
78. (1)
Solar energy is the cheapest form of energy.
Hence, India should make efforts to harness solar energy to fulfil its energy requirements.
Only argument I is strong.
79. (4)
The brain of any computer system is Control unit.
81. (1)
A technique used by codes to convert an analog signal into a digital bit stream is known as Pulse code modulation.
82. (1)
An optical input device that interprets pencil marks on paper media is O.M.R.
83. (1)
In COBOL programming, there are 4 divisions, viz
Identification Division
Environment Division
Data Division
Procedure Division
∴ Data Division is the third division in a COBOL program.
84. (3)
The access method used for cassette tape is sequential.
85. (1)
The arranging of data in a logical sequence is called Sorting.
86. (1)
Hashing scheme is used with Sequential file organisation.
87. (3)
Project; Special one-time operation that must be completed over a limited time period.
88. (4)
A device or system not directly connected to the CPU is called Off-line.
89. (2)
The Microprocessor of a computer cannot operate on any information if that information is not in its Main storage.
90. (3)
While working with MS-DOS RESTORE command is used to restore files that were backed up using the BACKUP command.
91. (4)
TSR - Terminate Stay Resident.
92. (2)
Residual error rate: The probability that one or more errors will be undetected when an error detection scheme is used.
93. (1)
An error detecting code inserted as a filed in a block of data to be transmitted is known as Frame Check Sequence.
94. (3)
Modem was invented in 1950 Modem was invented by USA
95. (4)
Communication network is a collection of interconnected functional units that provides a data communications service among stations attached to the Network.
96. (2)
Simple Mail Transfer Protocol SMTP is used between E-mail servers.
97. (4)
In a PC to telephone hookup for long distance communication, modem is connected between the telephone line and Asynchronous port.
98. (3)

Four bits are used for packet Sequence numbering in a sliding window protocol used in a computer network. The maximum window size is 15.

99. (3)
we command is used to count the total number of lines, words and characters contained in a line.

100. (4)
rmdir command is used to remove the directory. To remove the director the command used is rmdir.

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1.	2	2.	2	3.	2	4.	2	5.	4	6.	1	7.	1	8.	4	9.	3	10.	4
11.	3	12.	3	13.	3	14.	3	15.	1	16.	3	17.	4	18.	3	19.	1	20.	2
21.	3	22.	1	23.	2	24.	2	25.	3	26.	3	21.	1	28.	4	29.	4	30.	1
31.	3	32.	1	33.	1	34.	1	35.	1	36.	3	37.	4	38.	2	39.	2	40.	2
41.	4	42.	3	43.	4	44.	2	45.	2	46.	4	47.	3	48.	4	49.	4	50.	1
51.	3	52.	3	63.	2	54.	3	55.	3	56.	2	57.	2	58.	1	59.	2	60.	3
61.	4	62.	4	63.	3	64.	2	65.	4	66.	4	67.	1	68.	4	69.	3	70.	4
71.	1	72.	2	73.	2	74.	2	75.	1	76.	1	77.	1	78.	1	79.	4	80.	1
81.	1	82.	1	83.	1	84.	3	85.	1	86.	1	87.	3	88.	4	89.	2	90.	3
91.	4	92.	2	93.	1	94.	3	95.	4	96.	2	97.	4	98.	3	99.	3	100.	4

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